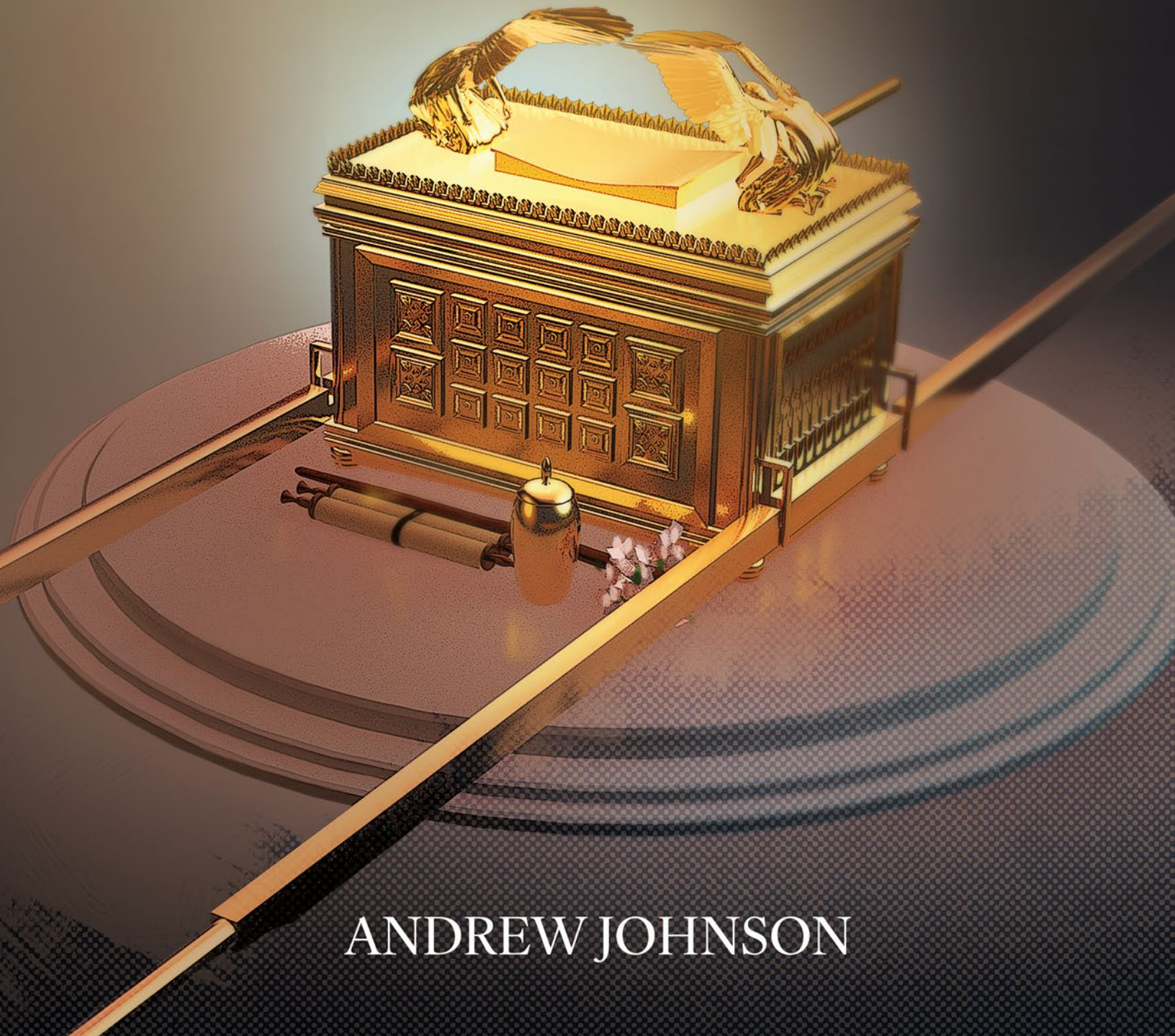
The SANCTUARY, UNSOLVED

Open Questions Regarding the Tabernacle and the Temple of Solomon



ANDREW JOHNSON

The Sanctuary, *Unsolved*

Open Questions Regarding the Tabernacle and the Temple of Solomon

Andrew Johnson

The Sanctuary, Unsolved

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This book began as a week-long class written for the Canadian Christadelphian Bible School.

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Your encouragement has helped turn a curiosity into part of my life's work, and I'm grateful to every one of you.

Bro. Andrew Johnson, Illinois Village Ecclesia, northwest suburbs of Chicago

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Introduction

My Story

The subjects in this book were all but settled for me until a little over eight years ago. I had few questions on these topics and did not hold any particular curiosity in exploring them further. Why? Well, solutions to these subjects had already been modeled in almost every reference I had at my disposal—Bible dictionaries, specialized expositional literature, YouTube videos, and even virtual tours available in online and app formats. The Tabernacle and the Temple of Solomon were known quantities; they were "solved." I presumed that there was not much room for further inquiry because experts had already provided all of the exposition anyone might ever need.

But what if one resource or another unintentionally misrepresented some of their assumptions as facts? What if there were open questions that weren't addressed? Or what if one resource said one thing, and another said something else entirely? What if some of those differing resources were actually popular translations of the Bible? What if even the greatest scholars throughout the ages were actually not sure about their assumptions—and could never be sure? Those possibilities hadn't occurred to me on the Tabernacle and the Temple—specifically because they were such prominent Bible subjects.

I am a commercial illustrator by trade. Part of my role in studio art is to do light-to-medium levels of research on subject matter before I draw it, because the best way to draw something accurately is to use solid references.

About eight years ago, I thought I might try my hand at creating some free Bible study illustrations for Bible classes. I decided to get things off to a quick start by generating artwork for some easy subjects that were already well-defined: the Ark of the Covenant, the Lampstand, and the Table of Showbread were first on my list.

As I researched the Ark, I noticed some variance in the models, and even in certain claims made about what was in the Ark. Then I got to the Lampstand. While the form of the Lampstand was mostly settled, the size wasn't. In most depictions, the Lampstand in the Tabernacle was sizable, similar to the one in Herod's Temple. Cursory research showed that this was not possible. By the time I got to the Table of Showbread, I was confused by the radical differences

in the models I found. As I continued research into related subjects, I was surprised to learn that somewhere between a quarter and a third of what I knew to be true about virtually all of these topics was either:

- Supposition
- Unsupported or incorrect, or
- Incomplete

Over time I noticed several reasons for this:

1) Scripture does not record all of the measurements or information for all furnishings of the Tabernacle or the Temple of Solomon, and even the broader structures that contain the furnishings are not fully fleshed out. This is easy to miss if one is casually reading the Bible.

2) As real places with dedicated functions, the logistics and performance of those functions are not explicitly spelled out in the Bible. Form often follows function, so since some specifics of these spaces can only ever be supposed, how they looked and operated remains in question.

3) The Bible does not neatly collate all passages about the Tabernacle and the Temple. Outside of passages that refer to fabrication of various elements, other Scriptures give information and clues directly and indirectly about how things may have looked or even worked.

Further, some Biblical descriptions differ in strange ways for reasons that are not always clear. In order to understand the spaces as a whole, Bible students must be more comprehensive and careful in their reading and study. Some of these passages are easy to miss, and many times they aren't considered when models are constructed for reference materials.

4) Some passages differ in translation from one version of the Bible to another. Sometimes this is because the words used don't appear to have a modern equivalent and remain sources of great speculation.

Other passages have been read one way, but those same verses may allow several other readings that haven't been carefully investigated.

5) Lastly, while scholars often share similar ideas on these subjects, it is possible that their views are not thoroughly vetted because the topics involve places, times, and things that no longer exist. Today, academic concepts on the Tabernacle and Temple are de-emphasized because their time has passed, and because Christ has come.

However, in my view, that is what makes the de-emphasis a shame. We are in a position to understand both the type and anti-type; we have so many resources to do so. A better understanding of both the Tabernacle and Temple, in part, helps describe "the Word made flesh" in the New Testament.

The Apple

Before going any further, let's try a Bible-related thought experiment: a statement, followed by a few questions. The statement is:

> *"Adam and Eve sinned when they ate the APPLE from the Tree of Knowledge of Good and Evil."*

Now, a few questions.

1) Do we know with certainty the identity of the fruit of the Tree of Knowledge?

2) Does making a claim on the identity of that fruit undermine or conflict with our doctrinal understanding of the Gospel message?

3) Does making a claim on the identity of that fruit undermine or conflict with our understanding of prophecy concerning the Gospel message?

We might suppose then, that this statement is not a big deal. It's just color added to what the Bible tells us. It's even widely understood culturally that the fruit is an apple thanks to medieval painters who popularized the idea. No significant meaning has been stripped from the text, and very little has been reshaped by the language. Most who hear this statement would understand what's meant.

However, we might also point out that the "apple" is a linguistic mirage. It's a technical preference that has been added. Over time and for many, it's a preferred understanding and even stated confidently as fact. However, preferred hypotheticals are still assumptions, and assumptions aren't always correct… so buyer beware.

Assumptions

Now, assumptions are a part of our problem-solving toolkit. When we're curious about a problem but the answer is not forthcoming, we create a stand-in solution. These proposals allow us to test our ideas, plan others, and help us gain insight into topics– even if we can't fully "see over the fence." Assumptions are not inherently problematic—in fact, I'll share many of my own in the pages that follow.

Assumptions become an issue when they evolve into dogma or are stated as a known truth. The result in either circumstance is the same; in this form, guesses become mechanisms that discourage further inquiry, curiosity, growth or exploration. It is another way of saying that a problem is solved, when it isn't.

In religious life, there are various types of assumptions, and not all of them are equal in scale, quality, or potential for benefit to the Bible student. There are advantages and challenges that come with each. We might break them down in this way:

- **Doctrinal:** These are suppositions (or presuppositions) about what the Bible teaches. While perhaps helpful in forming an approach to Scripture or getting one's bearings while learning, such assumptions have historically led to great spiritual danger and even personal cruelty when they become dogma.
- **Prophetic:** These are assumptions on the meanings and symbolism of Bible prophecy. Students of prophecy often seek to match patterns between Biblical text, history, and even current day events. Here, assumptions can sometimes provide a groundwork toward exploring possibility. Occasionally those possibilities create views that contrast sharply with others, which may sometimes lead to contention.
- **Technical:** Like our Edenic "apple," these are views that may or may not have any significant bearing on our broader understanding of things. Technical details might include proper translation, transliteration, reading, and even visualization of a particular topic. Some of these assumptions can be trivial, but others can redefine entire passages of Scripture and build up or destroy particular views.

The bottom line is that some suppositions shut doors of inquiry, while others open them. Some can't be tested, while others can. Some make little sense, while others are distinctly possible. Some deaden our understanding of Scripture, others may bring it to life.

As Bible students, it is a good thing to know when we are dealing with supposition versus fact. It's even better to have some context to understand the qualities of any proposal, how it might be tested, and what stakes it introduces to our understanding before we build upon it further.

This matters all the more in a book like this one. When we reconstruct something from a time far outside our own, supposition tends to stack up: one guess makes room for the next, and before long a whole model rests on assumptions. Supposition is useful. It helps us visualize. But we must remember that supposition is just that. Other views may be more accurate than mine, and an avid Bible student shouldn't settle, but seek them out. (I did!) I'll try to flag the places where my own guesses start to build on one another.

The same caution applies to the meaning of numbers. Many writers find symbolic meanings in biblical numbers: five for grace, seven for completion, and so on. Some of these readings are well established, and others are not. Where I mention them, I'll try to say whose idea they are, and I'd treat them as the weakest links in any argument, mine included.

About This Book

In this book I want to walk through some of the research I did over the years, show some of the issues I found while exploring, and even unpack some different models on topics that seem straightforward, but aren't.

Over the past eight years I've created a number of new study resources, including the charts and illustrations referred to throughout these pages. I'll give my own suggestions on these

topics using models I've created over this period. I have no idea if they are totally correct, but they might be a launching point for further study.

While this book discusses some of the spiritual lessons we can glean from the Tabernacle and Temple, my ultimate hope is to leave the reader with a more complete understanding of what we do and don't know on these topics. The Tabernacle and the Temple might appear to be overwhelmingly "solved," but there are many open questions about them. In these pages I want to un-solve these subjects and show various possibilities that exist within our study. I want to present the uncertain side—but to whatever extent possible, I want to demonstrate that uncertainty can sometimes build toward profoundly positive outcomes for us as Bible students.

Understanding and learning our Bibles will take the rest of our lives. Alas, that will not be enough time to draw every conclusion we'd like—but that does not mean that the pursuit of understanding is a wasted effort. On the contrary, solving the puzzles left for us in the Word of God can be fascinating, and even fun, right down to the technical details. It may even bring those puzzles to life in a way we didn't expect.

This book began as a week-long class. In these pages, though, the chapters follow the path a worshipper would have taken, from the gate inward:

Chapter 1: What's Broken?

Chapter 2: Setting Up the Tabernacle

Chapter 3: The Altar of Burnt Offering

Chapter 4: Water: The Laver, the Sea and the Basins

Chapter 5: Jachin, Boaz and the Porch

Chapter 6: The Lampstand

Chapter 7: The Table of Showbread

Chapter 8: The Altar of Incense and the Ark

Chapter 9: The Cherubim

Chapter 10: Two Sanctuaries

Each chapter closes with a short "Still Unsolved" section: open questions, with the passages behind them, for anyone who wants to go back to their Bible and dig further.

As we go, it's worth keeping one question in mind. Why would God give Israel two sanctuaries, so alike and yet so different? I'll offer my own suggestion at the end of the book. For now, I'd only ask that we watch for the differences.

All of the study materials mentioned in this book, including the measurement charts and illustrations, can be viewed or downloaded from my website, BiblicalToolbelt.com. Many are best viewed on a laptop or tablet alongside the text.

I pray that this study proves helpful and edifying, with food for thought long after the last page.

A Note on Measurements

The Bible measures the Tabernacle and the Temple in cubits. A cubit was the length of a man's forearm, from the elbow to the tip of the middle finger. In this book, unless I say otherwise, I've assumed a cubit of about 18 inches (45.7 cm). Ezekiel also uses a "long" cubit, "a cubit and an hand breadth" (Ezekiel 40:5; 43:13), which works out to about 21 inches (53 cm). Because the exact length of the cubit isn't certain, every conversion in this book is an estimate. A table of the units, along with the math behind the larger weight estimates, is at the back of the book in Appendix A, followed by a short glossary of unfamiliar terms.

CHAPTER ONE

What's Broken?

A Thought Experiment

Let's begin with another thought experiment.

Consider a place we've all been to before: the bank. Not any particular bank, just a generic bank.

What makes a bank a bank? What sorts of areas exist within the building?

- Teller counter
- Loan offices
- Bank manager's office
- Vault
- ATM/drive-through window
- Lockbox room
- Seating or waiting area
- Security room
- Storage/maintenance area
- Bathrooms
- Employee break area/ready room

We might even say that the design of these areas is extremely particular. For example, a teller window often has a screen or barrier between the customer and the teller. The bank manager's office might be more private. The vault might have special locks or security measures to prevent theft.

But what if we were to throw a curveball and ask something unusual: What if the bank had to pack up and leave its location every so often, go on the road, and set up shop elsewhere? Would the design be different? What sorts of new considerations would be required?

Now imagine that modern conveniences were not possible; that everything was carried either by hand or by a set number of ox-drawn carts. Would this further restrict the design of the bank? What sorts of additional adjustments would be required?

Envisioning the Sanctuary

We all know what a bank is and generally how they work, but when we add in layers of complexity and nuance, envisioning things becomes trickier. It's one thing to consider a bank in this context.

It's another thing to consider the Tabernacle and the Temple. We've never seen either, and they are not active locations of our culture. In fact, the particulars of the practice of the Law of Moses, so central to defining the function of either, are not something many of us know innately, and may require considerable study.

Yes, both the Tabernacle and the Temple seem straightforward when we look at chapters containing measurements, but this is like describing a bank using measurements to someone unfamiliar with the daily work of a bank. We might end up with the general form, but there's nothing "living" about the space that helps us truly grasp what it would be like to go there.

Even with more Scriptural context, envisioning an accurate or near accurate model for the Tabernacle and Temple is difficult. Why?

1) First, as mentioned, there's the business of the Law itself. We don't practice the law of Moses with all of its priestly inspections, sacrifices and offerings, feasts and customs. Much of the Law is fulfilled in Christ, so our attention is probably rightly weighted toward him at this point in time.

2) We aren't engineers or architects. Even if we were, we don't live the Bedouin lifestyle, and we don't know the particulars of what architectural technology was employed by Solomon.

3) Math. There are weights and measures to everything, and understanding what things weighed and how weight was supported is unclear. Physical properties and volumes of materials matter in transport, building, and daily use.

4) Then, there's the logistics. How were things built? How did they function? Were there mechanical or modular parts to some of the main features of these spaces?

5) The information on the Tabernacle and Temple is not neatly collated into one spot. Certain aspects of how these spaces were built or arranged can only be learned through additional study of other passages in other books, well outside the passages that speak about fabrication.

6) Different translations render the text differently when phrasing, words, or meaning is unclear or seems too difficult. It is not always clear which translation is the "correct" one.

7) What does Bible archaeology or practiced tradition have to say on any of this? New discoveries happen regularly, and we may or may not be aware of what's been found or the latest thought on the implications of that finding.

For some Bible students (probably including some professionals), the conclusion might be that this is an overwhelming amount of information to research and juggle. Since Christ has been revealed, is the "juice really worth the squeeze" in getting the details right?

Actually, I think the answer is YES. The juice is worth the squeeze for several reasons:

1) The Law is the precursor to Christ. The Law and its function are highly visual, and envisioning how things were done helps us better understand Christ, his sacrifice, and his coming kingdom. These things were written "aforetime for our learning" (Romans 15:4), and we should not shy away from them simply because certain rituals are largely out of practice, and the centers of worship are gone. Correctly understanding this cultural cornerstone of the Old Testament may prove profound and meaningful if we put in the work. Surely Paul and all of the Apostles would agree.

2) We may have some deficiencies in math, architecture, and engineering, but we also live in an age of technological wonder and an enormous amount of information, all of which can help make up for our gaps in knowledge. We have more access to writings and tools than at any other point in history, and many of us can access them from devices we keep in our pockets.

3) Learning how things may have been built, and learning more about Bible archaeology is fun and Bible-affirming because it makes the past feel more real and more relevant.

4) Studying our Bibles is paramount to our lives, and whether we believe in a particular interpretation or not, we should know and understand why different scholars made the choices they did. We're better off for it.

5) With the right approach, studies like this can bring the Bible to life in our minds and make real places and practices feel grounded as we do our Bible readings. The more accurate our understanding, the more safely we can build spiritual understandings from that subject.

Which Model?

Choosing the right model requires first gathering information. We need clarity on the hard facts: what we know and what we don't before we move forward.

I've collated the measurements and descriptions of the Tabernacle and Temple from the chapters that describe their fabrication, and they are available for review on BiblicalToolbelt.com. These are best viewed on a tablet or laptop. The charts are open and can be edited once downloaded, so readers may add or remove whatever they wish.

Now, beyond these facts, it might also be worthwhile to review a few other related considerations:

A) **Tabernacle & Temple:** While we won't be looking over the specifics of the priests' garments, we should note that the priests didn't wear sandals or other footwear, at least when they were on duty.

B) **Tabernacle & Temple:** After the deaths of Nadab and Abihu (Leviticus 10), there were only three priests, so they were probably always on duty, at least while Israel wandered in the wilderness for 40 years. At that time, the life of the priests was probably largely spent within the Court of the Tabernacle. What sorts of accommodations might be needed for this to happen? How would these accommodations change or improve under the Temple?

C) **Tabernacle & Temple:** Priests were busy. They didn't just deliver offerings to the Altar or tend to matters in the Holy Place. What other things did they do? There is a reason why the service of fellow Levites and even Nazarites (Samuel, a lifelong Nazarite, "ministered before the LORD" at Shiloh; 1 Samuel 1:11; 2:18) was critical to their work.

D) **Tabernacle & Temple:** The climate was mostly hot. There are serious realities to serving as a priest in this climate. This was not an easy job. It would have been physically demanding, and priests were working around a blazing fire. What sort of relief from these realities could priests expect?

E) **Tabernacle & Temple:** How much space was allotted for sacrifices and offerings? How many would have been offered each day? Space needed may help determine the layout of each location.

F) **Tabernacle & Temple:** Some meals were prepared, consumed, and shared in the Court. Sometimes, and possibly very often, this was in accordance with the Law. What accommodations were needed for this?

G) **Tabernacle:** The Temple was stationary, but the Tabernacle was not. The number of carts and oxen was limited: 6 carts and 12 oxen. Gershonites received 2 carts and 4 oxen, Merarites received 4 carts and 8 oxen. The amount of weight and the size of the items on these carts was limited (Numbers 7:1–9).

H) **Temple:** While the desert could absorb liquids, such as blood, wine, and water at the time of the Tabernacle, this was probably not the case in Solomon's Temple. How were splashed or discarded materials managed? Other things, such as the Water of Jealousy required dust taken from the floor of the tabernacle (Numbers 5:17). There was no earthen floor in the Temple. How did this work? Structure and practice may have varied from place to place simply because of terrain.

I) **Temple:** So much water was needed for the Sea and the mobile bronze basins. How were these reservoirs filled? How often?

J) **Temple:** We're told about a lot of much larger furnishings in the Temple (the Altar, the Bronze Sea, the mobile basins), but we aren't told how they worked exactly. Were they mechanical? Did they have surrounding structures?

These aren't always questions that pop into mind when we're doing our daily Bible readings, but they are all things I've wondered about, and perhaps others have too. Many fine models of the Tabernacle and the Temple can be found in Bible dictionaries, books and videos, and every one of them represents a great deal of time and effort. For a first look, they serve well. If anything is "broken," it isn't the models themselves. It's that, for those who want to dig deeper, questions like these open up possibilities that are less often explored, or less popular. When I built my own models, these are some of the questions I tried to explore.

My Tabernacle Model

See the illustration "The Tabernacle: the Ohel, the Mishkan and the Court," page 12.

Shade and Living Space

The Tabernacle is often pictured as a box in an open court, with a few furnishings set out in the middle of the desert. But this was the desert, and temperatures would have been high. The priests worked barefoot, there were only three of them, and the work was constant and physically exhausting. How could they keep that up every day? In Aaron's case it was for the rest of his life. Where would they get out of the sun?

This was more than a matter of comfort. At their consecration, Aaron and his sons were commanded to remain at the door of the tabernacle day and night for seven days (Leviticus 8:33–35), beginning their service on the eighth (Leviticus 9:1). They would have needed somewhere to eat, drink and sleep. In other words, somewhere to live, not just a patch of stony ground outside the mishkan.

So in my model, I've added several shaded areas around the court. There's a place for the priests to eat their portion of the offerings, and a small private area where they could change or confer. Off to the side is a place to set down the tools for the lampstand and the other furnishings. Toward the back is an area for record keeping, where the priests could note the people they saw and the offerings they received. They would have had a great deal to keep track of. Overall, my Tabernacle is meant to look less like a boxy tent in the wilderness and more like a Bedouin encampment.

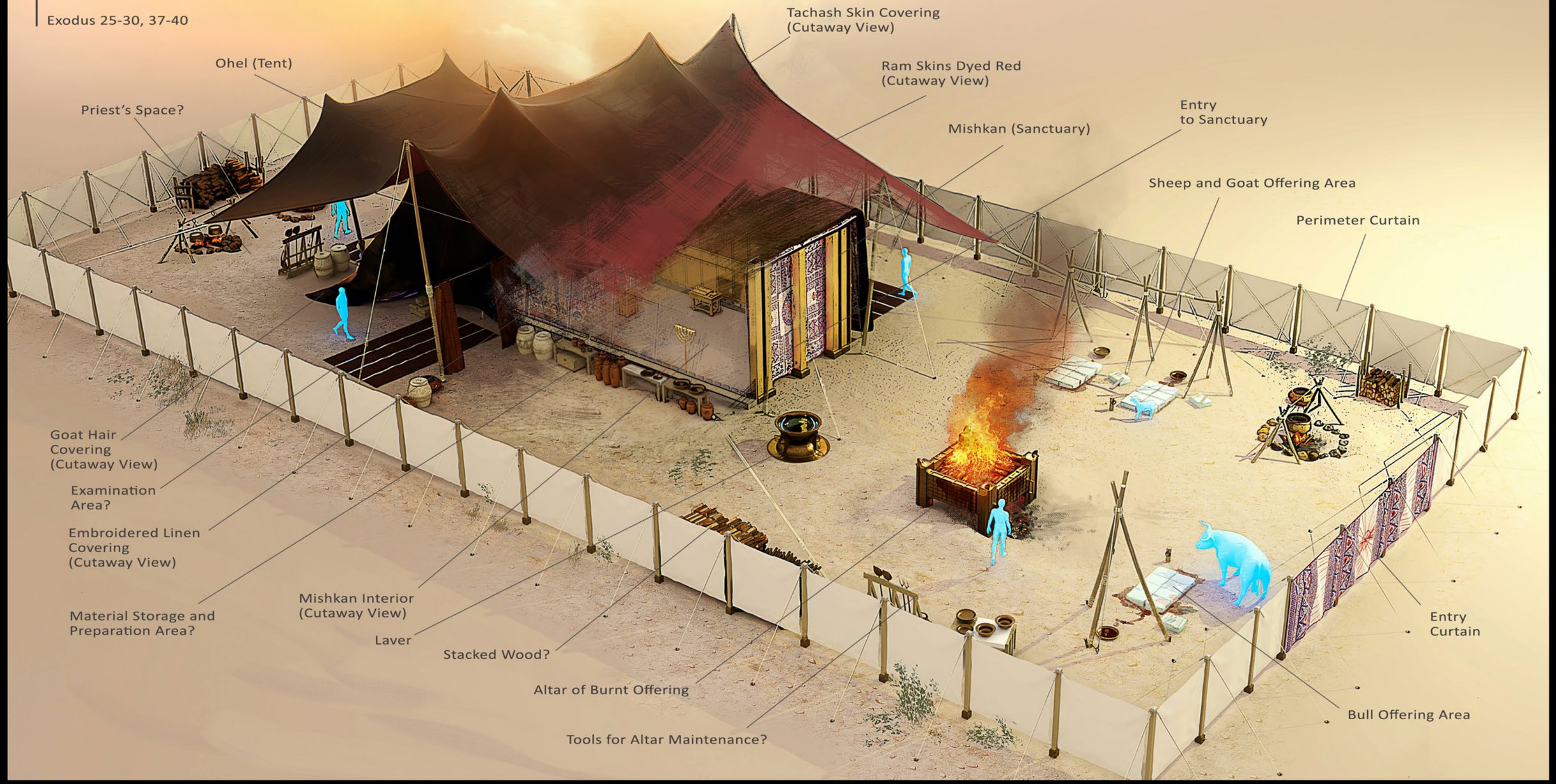
Sacrifice Stations

Blood had to be managed, even in the desert. In my model, each sacrifice station has a floor of polished cut stones and a place to hang the animal while it was bled and cut. The burnt

THE TABERNACLE | THE OHEL, MISHKAN & COURTYARD

TABERNACLE CUTAWAY VIEW

Exodus 25-30, 37-40



The Tabernacle: the Ohel, the Mishkan and the Court

offering's inwards and legs had to be washed in water (Leviticus 1:9), so there had to be a way to raise the animal up for washing.

Where the animal was divided is less certain. Tables were used, but what were they made of? I lean toward stone. Ezekiel's temple vision describes tables for the offerings, four of them "of hewn stone," with hooks fastened round about (Ezekiel 40:39–43). Stone could be laid out with channels for the blood, and it would be far easier to clean than wood. Wood would dry out in the desert heat, soak up blood, and soon become unclean and foul-smelling. It would have to be replaced constantly.

In my Tabernacle model, there's one processing area near the gate, by the Altar of Burnt Offering, where the oxen were killed. A few more stations stand on the north side for the sheep and goats (Leviticus 1:11).

Ohel and Mishkan

Scripture draws a distinction between two words. The *mishkan* is the sanctuary itself: the frames and the inner curtains of fine linen, worked with cherubim in blue, purple and scarlet (Exodus 26:1–6). Over it lay curtains of goats' hair, which Scripture calls the *ohel*, the tent (Exodus 26:7–13). Even so, these come with exact measurements and specifications, down to the number of curtains and the clasps of brass that joined them. So the Bible itself ties them closely to the sanctuary's design.

The outermost covering is different. The rams' skins dyed red and the skins of the *tachash*, whatever those were, get only a passing mention, with no dimensions at all (Exodus 26:14). That's odd, and my model takes a guess at why. Perhaps this outer tent was the kind everyone in the camp already knew how to put up, so it needed no description. If so, the sanctuary stood within a larger tent rather than simply having coverings laid over it. I can't be certain this is correct, but it's worth considering.

The Flow of Traffic

The court was a place of constant activity. Offerings arrived all day long, some as large as oxen, others rams, goats or doves. People came for many reasons: sin and trespass offerings, a mother bringing her offering after childbirth (Leviticus 12:6), someone with a skin disease coming to be examined by the priest (Leviticus 13). For some sin offerings, the fat was burned on the altar, but the rest of the animal was carried outside the camp and burned in a clean place (Leviticus 4:8–12). The Levites would have brought water, wood, oil and salt. Nazarites came to complete their vows (Numbers 6:13–18). Priests came and went.

So how was all that traffic managed? The altar is often pictured squarely in front of the gate. Exodus 40:6 does set the altar "before the door of the tabernacle," with the laver between the altar and the tent (verse 7). But "before" need not mean dead center. In my model, the altar and laver stand off to one side. When the gate opened, the first thing a worshipper saw was the

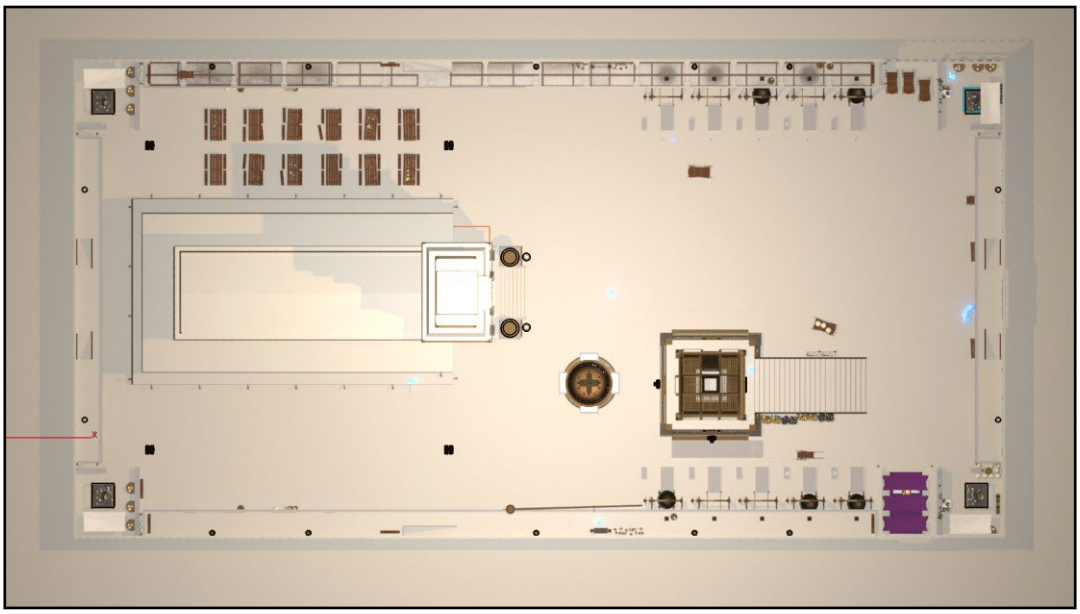
sanctuary itself, with open space through the middle of the court. Together with the sacrifice stations on the sides, this seems to me the most workable layout. It's only a guess, but it's worth considering.

My Temple of Solomon Model

See the illustration "The Temple of Solomon and Its Court," page 16.

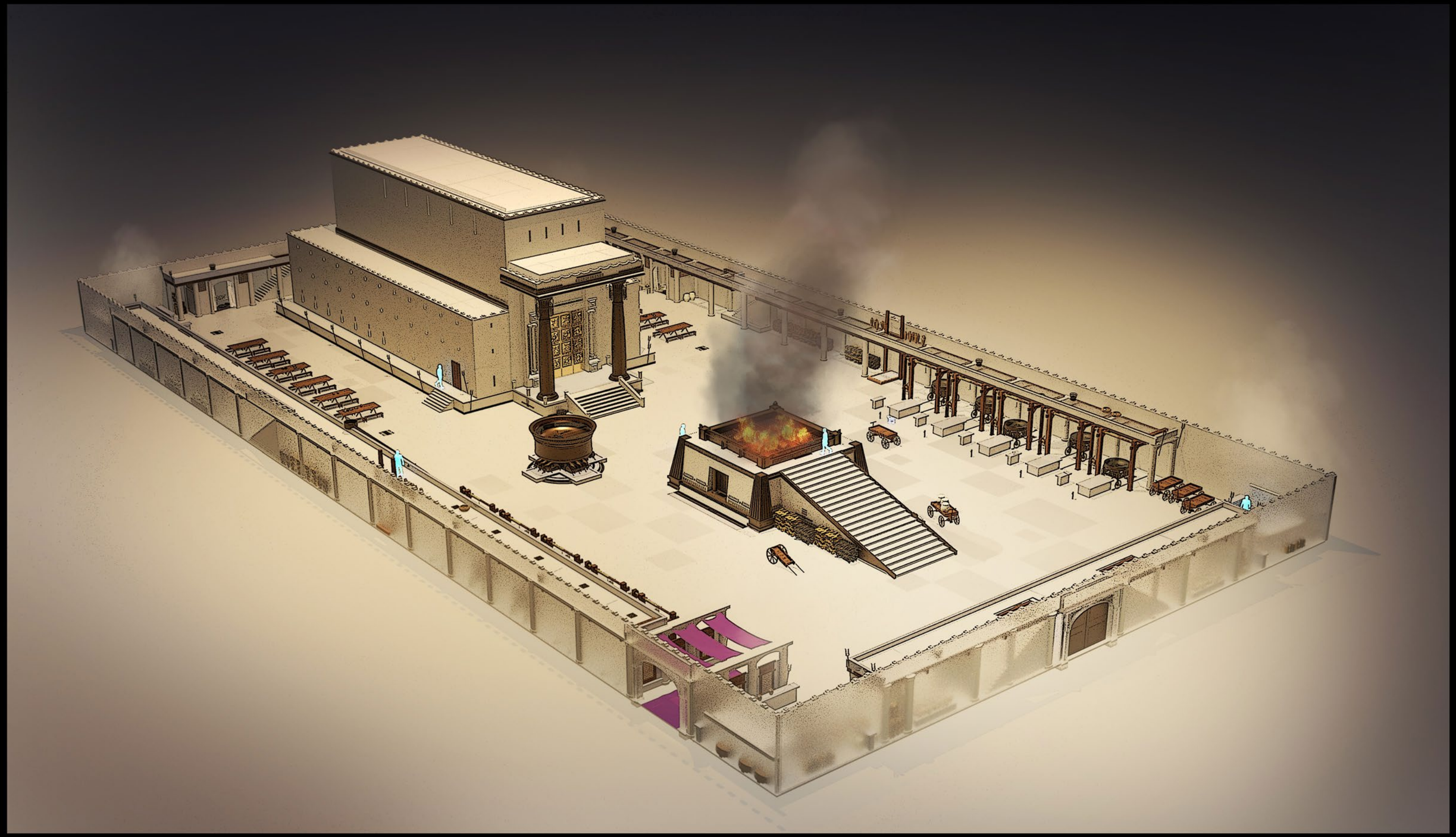
How Big Was the Court?

How big was the court of the Temple? The Tabernacle's court is defined precisely: a hundred cubits by fifty (about 150 by 75 feet, or 46 by 23 meters), with hangings five cubits high (Exodus 27:18). The Temple's court is not. We're told only that it was built with three rows of hewn stone and a row of cedar beams (1 Kings 6:36), and that there was a court of the priests and a great court (2 Chronicles 4:9).



My model of the Temple court, seen from above

Many scholars suggest the court was double the Tabernacle's. That fits a pattern inside the Temple, whose house was sixty cubits by twenty (1 Kings 6:2), twice the Tabernacle's length and breadth. I've worked with that assumption in my model, and I've made the walls around the court about twice the height of the Tabernacle's hangings. Whatever its size, the court had to fit on Mount Moriah, where the Temple was built (2 Chronicles 3:1), so that's one firm limit.



The Temple of Solomon and Its Court

Beyond that, Scripture simply doesn't give the court's dimensions, which suggests the court mattered less than what stood within it. My model works from the doubled size, but that assumption could be wrong.

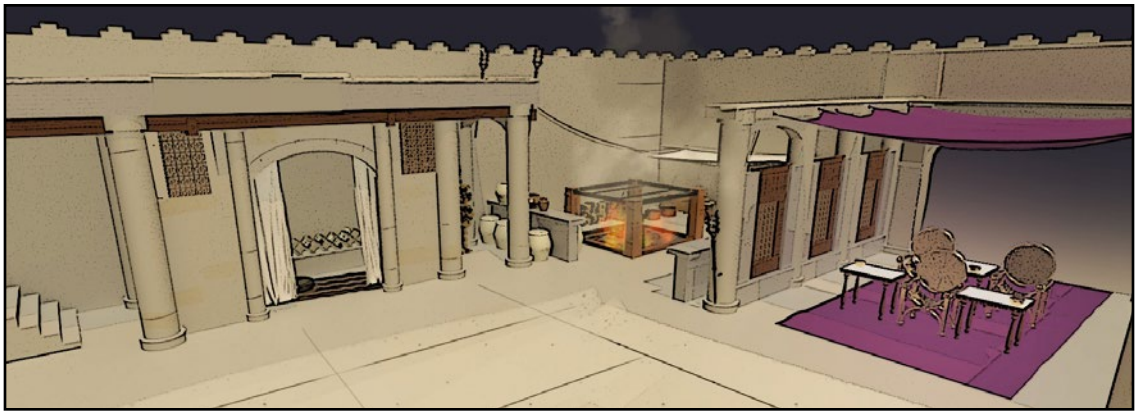
The King's Entry

The king had his own access to the Temple court. Archaeologists such as Leen Ritmeyer place the royal palace south of the Temple, with steps leading up to the court. Scripture supports this. The Queen of Sheba was impressed by Solomon's "ascent by which he went up unto the house of the LORD" (1 Kings 10:5). Later, Ahaz removed "the king's entry without" for the sake of the king of Assyria (2 Kings 16:18).

This feature isn't part of the Temple's building description, but the broader context of Scripture makes clear it was there, and my model includes it on the south side.

Priests' Quarters

By the time of the Temple, there were far more than three priests. David had divided them into twenty-four courses (1 Chronicles 24). They still needed space to keep records, to write, to rest and to step away from the constant activity of the court. Scripture hints at such rooms. The pattern David gave Solomon included "the chambers round about" (1 Chronicles 28:12), some Levites "lodged round about the house of God" (1 Chronicles 9:27), and Jeremiah mentions specific chambers in the house of the LORD (Jeremiah 35:4).



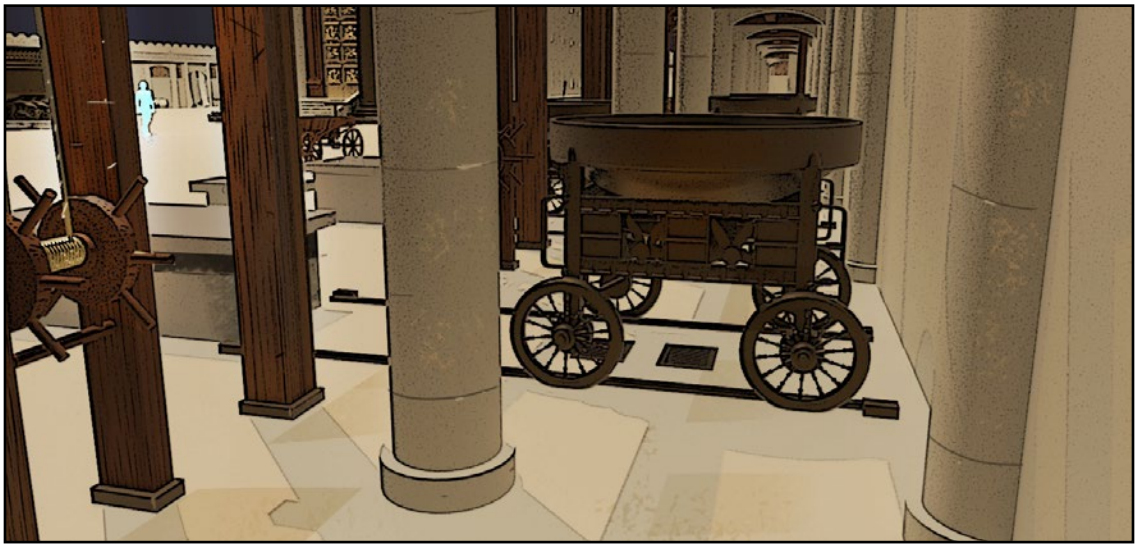
Priests' quarters along the side of the Temple court in my model

In my model, the priests' quarters are built into the wall around the court. I'm not sure that's correct, but it's an initial guess.

The Basins, the Sea and the Altar

Scripture gives the Sea's position only in general terms: "on the right side of the house eastward, over against the south" (1 Kings 7:39). It's often placed at the far southern edge of the

court, with the ten mobile basins parked along the sides of the Temple, on the assumption that the Sea refilled them.



A mobile basin on its track in the Temple court

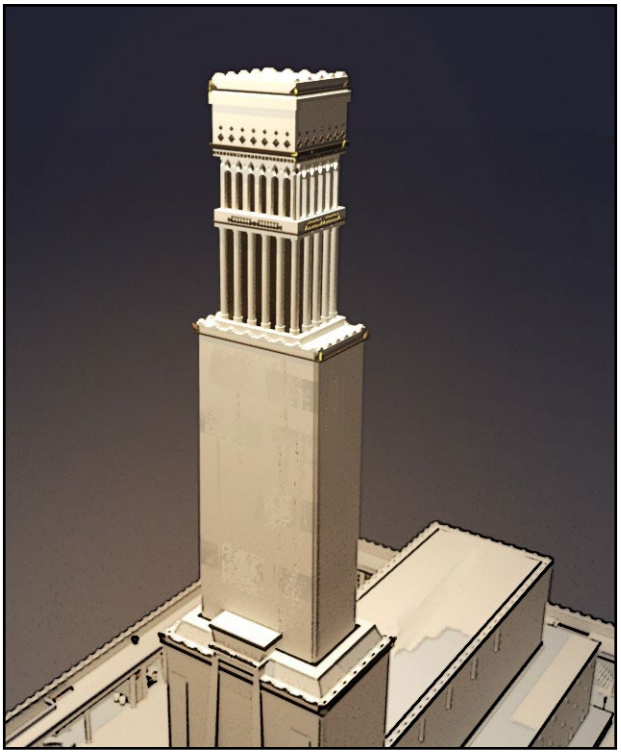
But 2 Chronicles 4:6 gives each a different job. The basins were for washing the offerings, "but the sea was for the priests to wash in." Exactly where these stood is hard to say. Still, their function suggests a layout. If the basins served the sacrifice stations, they likely stood near them, not lined up along the walls. I'll come back to this in chapter four.

Kitchens

As at the Tabernacle, the Temple needed places for the priests to cook the offerings. Scripture shows this was ongoing. At Shiloh, the flesh of the offerings was seething in a pot (1 Samuel 2:13–14). At Josiah's Passover, the holy offerings were boiled "in pots, and in caldrons, and in pans" (2 Chronicles 35:13). Ezekiel's prophesied temple includes boiling places for the priests and kitchens in the four corners of the court (Ezekiel 46:19–24). So Solomon's Temple likely had kitchens or boiling stations as well. My model includes them.

The Height of the Porch

How tall was the porch? 1 Kings 6:3 gives only its length and depth. The height comes from 2 Chronicles 3:4, and here the translations disagree. The KJV gives "an hundred and twenty" cubits; the NIV and others give twenty. I'll look at this more closely in chapter five. For now, it's enough to notice how much this one choice shapes any model.



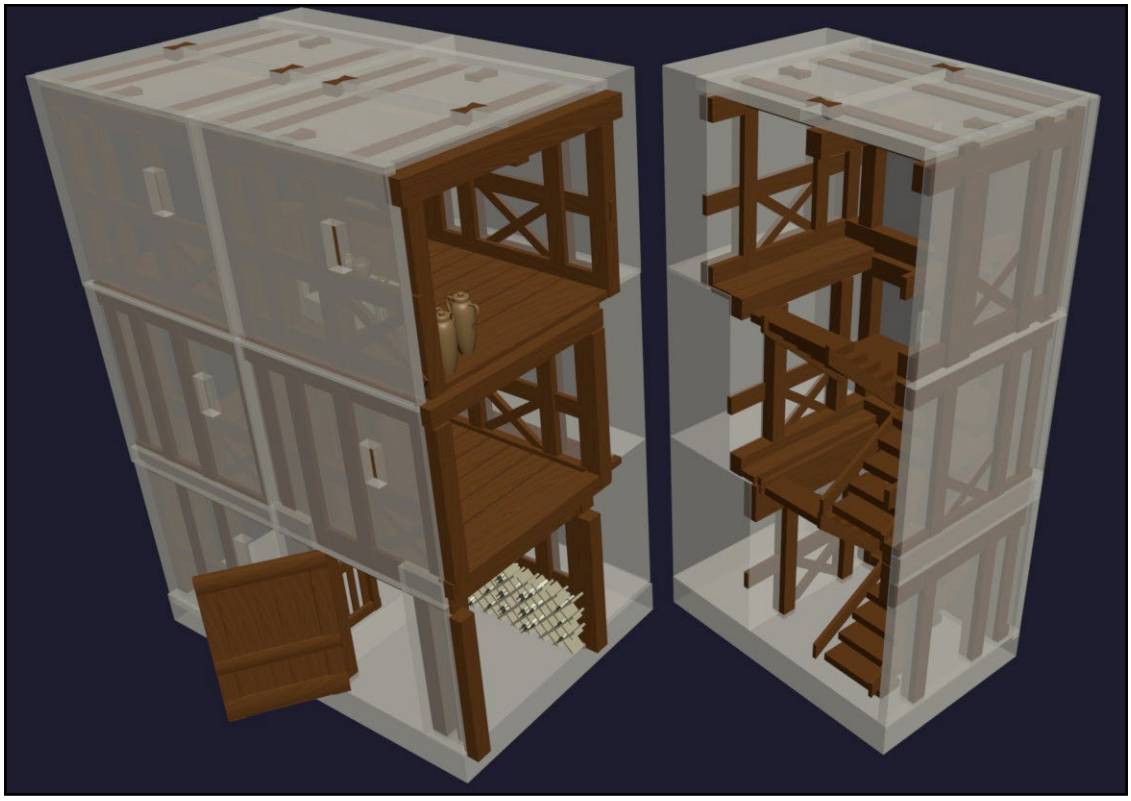
The porch as a tower of a hundred and twenty cubits in my model

The lower figure is the more popular choice, and it's easy to see why: it seems far more feasible. But in my research, the KJV appears to reflect the original Hebrew, which describes a tall tower rising over the porch. Why would such a tower be built? How could it stand, architecturally? I'll explore some possible answers in chapter five. But not having an easy answer is no reason to dismiss the original language.

For that reason, I've built two versions of my Temple model: one with a porch of 120 cubits and one with a porch of 20. Each has a different arrangement of features in the court, and readers can weigh them side by side.

The Side Chambers and Their Stairs

Around three sides of the house stood the side chambers, three stories high (1 Kings 6:5–6). The door to the middle chamber was "in the right side of the house," and "they went up with winding stairs" to the middle and third levels (1 Kings 6:8). The Temple faced east, so its right side is the south. In my model, that leaves really only one workable place for the stairs: the southeast corner of the building. A single winding staircase there connects all the levels of side chambers.



A cutaway of the side chambers and their stairs

It's a small detail, and the side chambers are hard to show completely, especially in cutaway drawings of the Temple. But this feature is more interesting than it first appears. Think of what was kept here (probably including a king, once!). The way it was built is worth noticing too: the chambers rest on ledges in the Temple wall, "that the beams should not be fastened in the walls of the house" (1 Kings 6:6). They lean on the house without being built into it. We'll come back to both ideas at the end of Chapter 2.

Water

The last question is a big one, and I'll come back to its details in chapter four. The Bronze Sea alone held two thousand baths (1 Kings 7:26), likely more than ten thousand gallons (about 44,000 liters). How was it refilled? The rest of the court needed water in abundance too: for the ten basins, for washing the offerings, and for cleaning up after the sacrifices.

Some of that water may have been drawn outside the Temple, at the pools of Jerusalem, and carried up. But there may have been more practical ways. Jerusalem sits over springs of water. The Gihon lay just below the city, where Solomon himself was anointed king (1 Kings 1:38–39). Later, Hezekiah "stopped the upper watercourse of Gihon, and brought it straight down to the west side of the city" (2 Chronicles 32:30), so the kings of Judah were clearly capable of serious water engineering. The Temple Mount is also riddled with ancient cisterns, though scholars still debate which of them go back to Solomon's day. Could some of that water have

been reached directly from the Temple Mount and brought straight into the court by a well or some other system?

My model proposes a well and water-drawing system built into the north and south walls of the court. Water could be drawn up as high as a walkway along the top of the wall. From there it would run through gutters and drains to refill the larger vessels in the court. How the court was supplied with water is a question that deserves more attention, and I'd love to see it explored further.

I can't be sure that everything pictured is accurate, in the right place, or even that some of the measurements are correct, but in the chapters ahead I want to go through these models in greater detail and explain why these models are my best guesses. As we explore, we'll learn a little more about the Law and revisit some passages that might repaint our impression of certain Biblical figures.

Still Unsolved

1. After Nadab and Abihu died, only three priests remained. How did they keep up the daily work of the court? See Leviticus 10:1–7 and Numbers 3:4.
2. The Water of Jealousy needed dust from the Tabernacle floor. How might that have worked in the stone-paved Temple? See Numbers 5:11–31.
3. The priests ate certain offerings in the court. Where, and with what? See Leviticus 6:16, 26.
4. Ashes were carried "without the camp" to a clean place. What did that look like day to day? See Leviticus 6:10–11.

CHAPTER TWO

Setting Up the Tabernacle

Chapter 1 took a quick tour of my Tabernacle model. This chapter slows down and looks at how the Tabernacle itself may have gone up: the sanctuary, the tents over it, and the court around it. When I started on my model, I thought this part would be quite simple (maybe even redundant), since so many good models of the Tabernacle already exist. What I found was a surprise. The biblical text is not as detailed as I remembered, and many measurements simply aren't given.

A Real Thing, Carried on Carts

Authors looking to create models are hampered by what the Bible doesn't say. Everyone must make assumptions to make a model work (I'm no exception!). The challenge is making assumptions that stay practical, given the logistics Scripture does give us.

For example, some of the heavier items could be carried on carts, but the number of carts and animals has been defined for us:

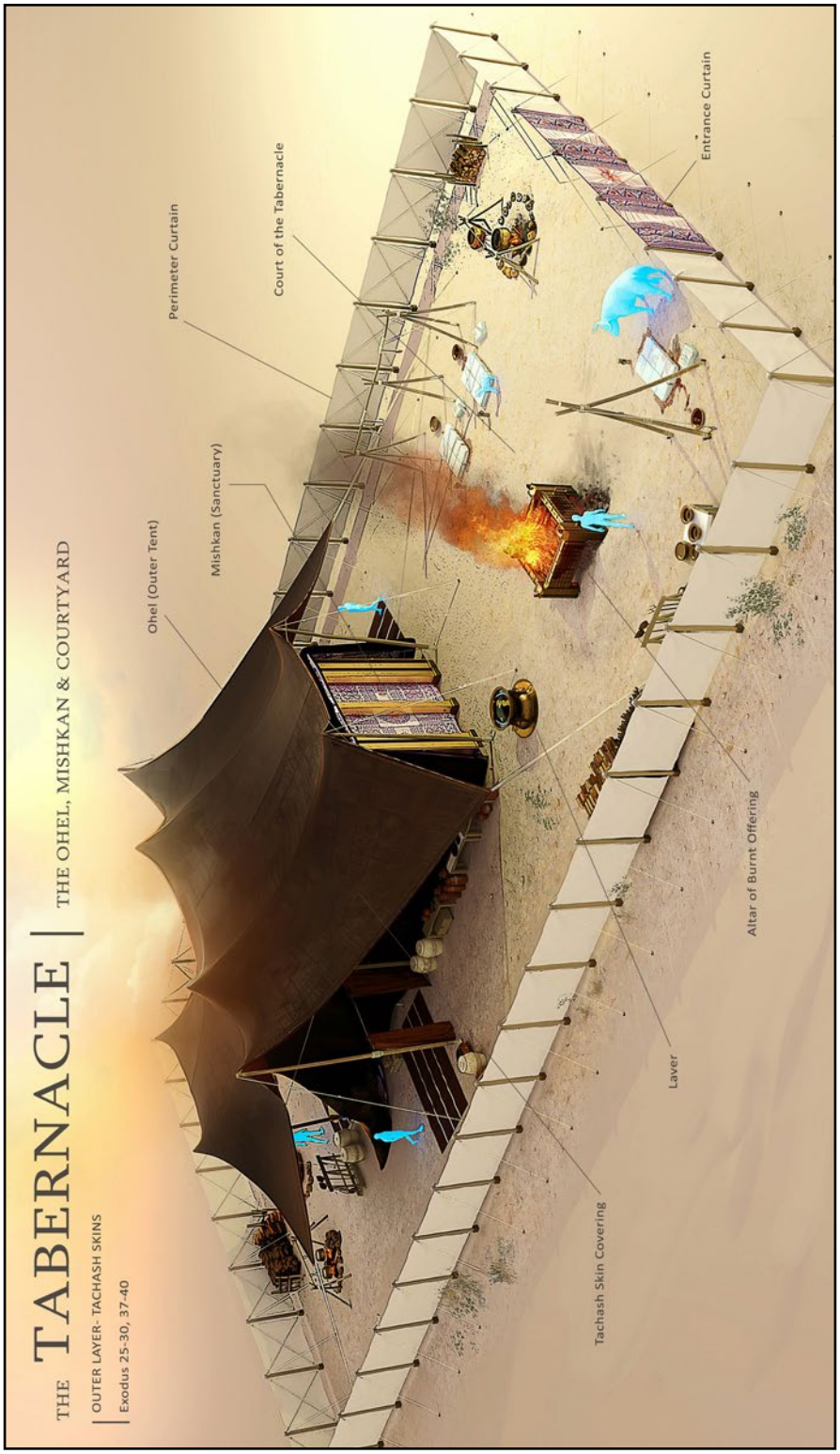
> [3] And they brought their offering before the LORD, six covered wagons, and twelve oxen; a wagon for two of the princes, and for each one an ox: and they brought them before the tabernacle.
>
> [7] Two wagons and four oxen he gave unto the sons of Gershon, according to their service:
>
> [8] And four wagons and eight oxen he gave unto the sons of Merari, according unto their service, under the hand of Ithamar the son of Aaron the priest.
>
> [9] But unto the sons of Kohath he gave none: because the service of the sanctuary belonging unto them was that they should bear upon their shoulders.
>
> *— Numbers 7:3, 7–9 (KJV)*

The four wagons of the Merarites carried the heaviest load of all: "the boards of the tabernacle, and the bars thereof, and the pillars thereof, and the sockets thereof," along with the pillars of the court and their sockets, pins and cords (Numbers 4:31–32). These logistics make the Tabernacle more than an unbounded spiritual lesson. It was also a real thing, made of physical materials that have size, weight and shape, and all of that must be accounted for.

I'll wave a red flag here. I'm not a tent-maker, and I work in the digital realm, not the physical. I don't fabricate structures, or work with wood, metal, fabric or embroidery. My only saving grace is that I'm a reasonably resourceful and imaginative studio artist. I also had help: the cloth simulation in free 3D programs such as Blender, which taught me a lot about how cloth behaves over a structure; AI tools as a final check on my math, which is one of my blind spots; and my father, Jay Johnson, a Bible student who has thought about the Tabernacle on and off for decades and knows his way around woodworking. Many of the solutions in this chapter are as much his as mine.

Two Structures

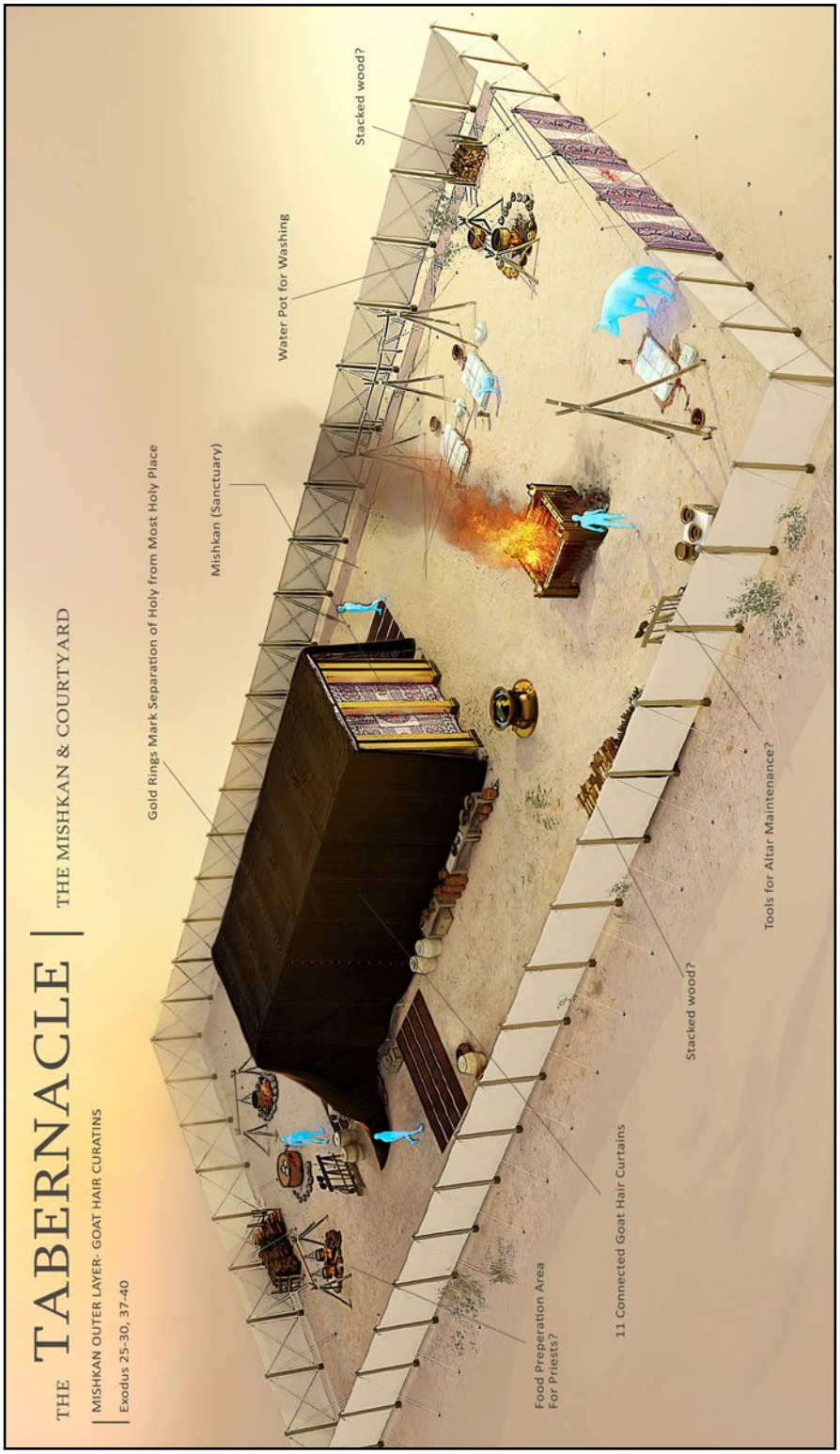
Exodus 40:2 reads, "On the first day of the first month shalt thou set up the tabernacle of the tent of the congregation." As Chapter 1 noted, the tabernacle (the *mishkan*) and the tent (the *ohel*) are two separate but related structures. The *mishkan* is the sanctuary itself: the frames and the inner curtains of fine linen, the space that holds the Holy and Most Holy Place. The *ohel* is the tent of goats' hair spread over it, and over the tent went the coverings of rams' skins and *tachash* skins (Exodus 26:7, 14). Let's take them from the inside out.



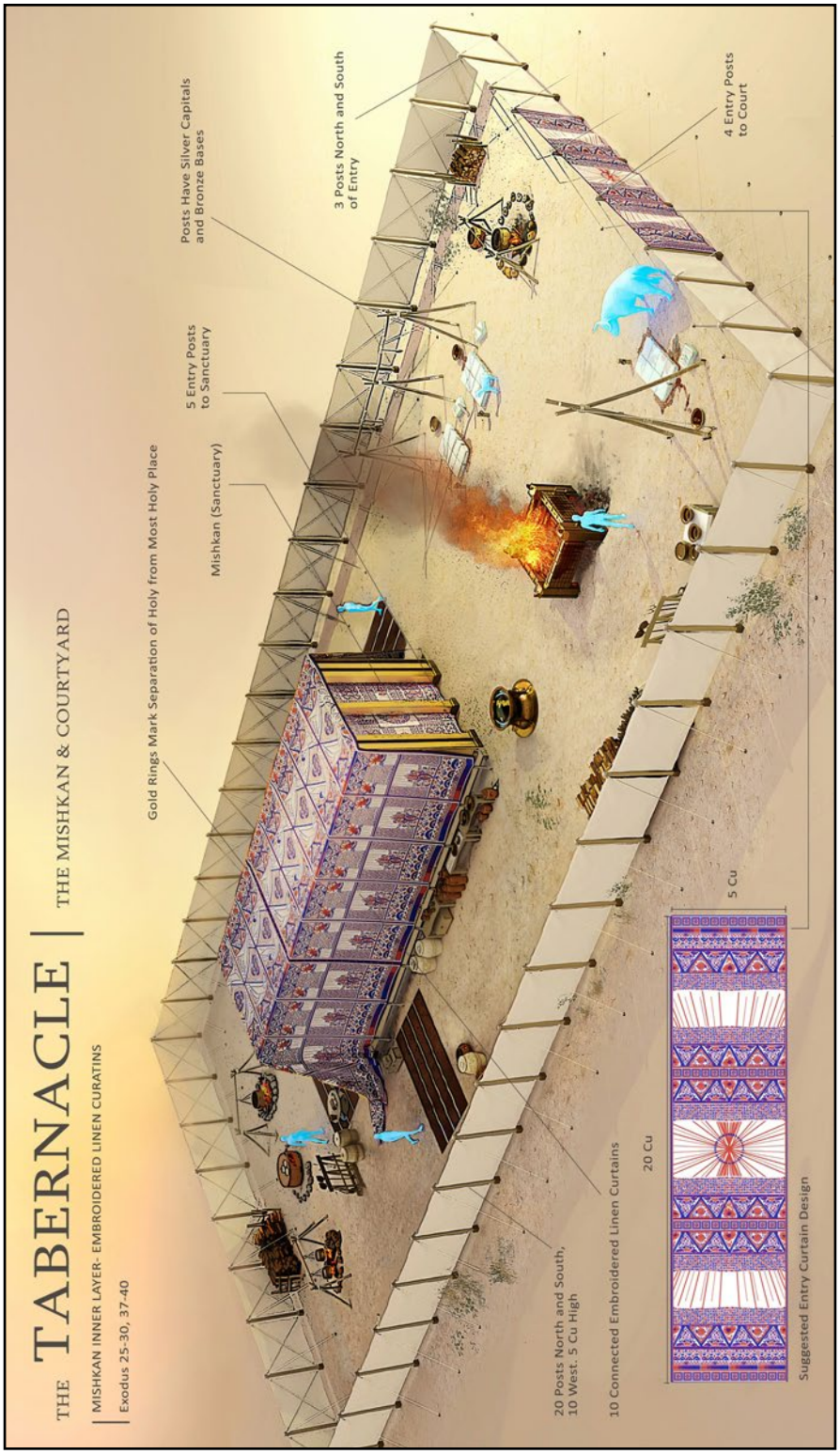
The Tabernacle from the outside in (1 of 6): the tachash skins



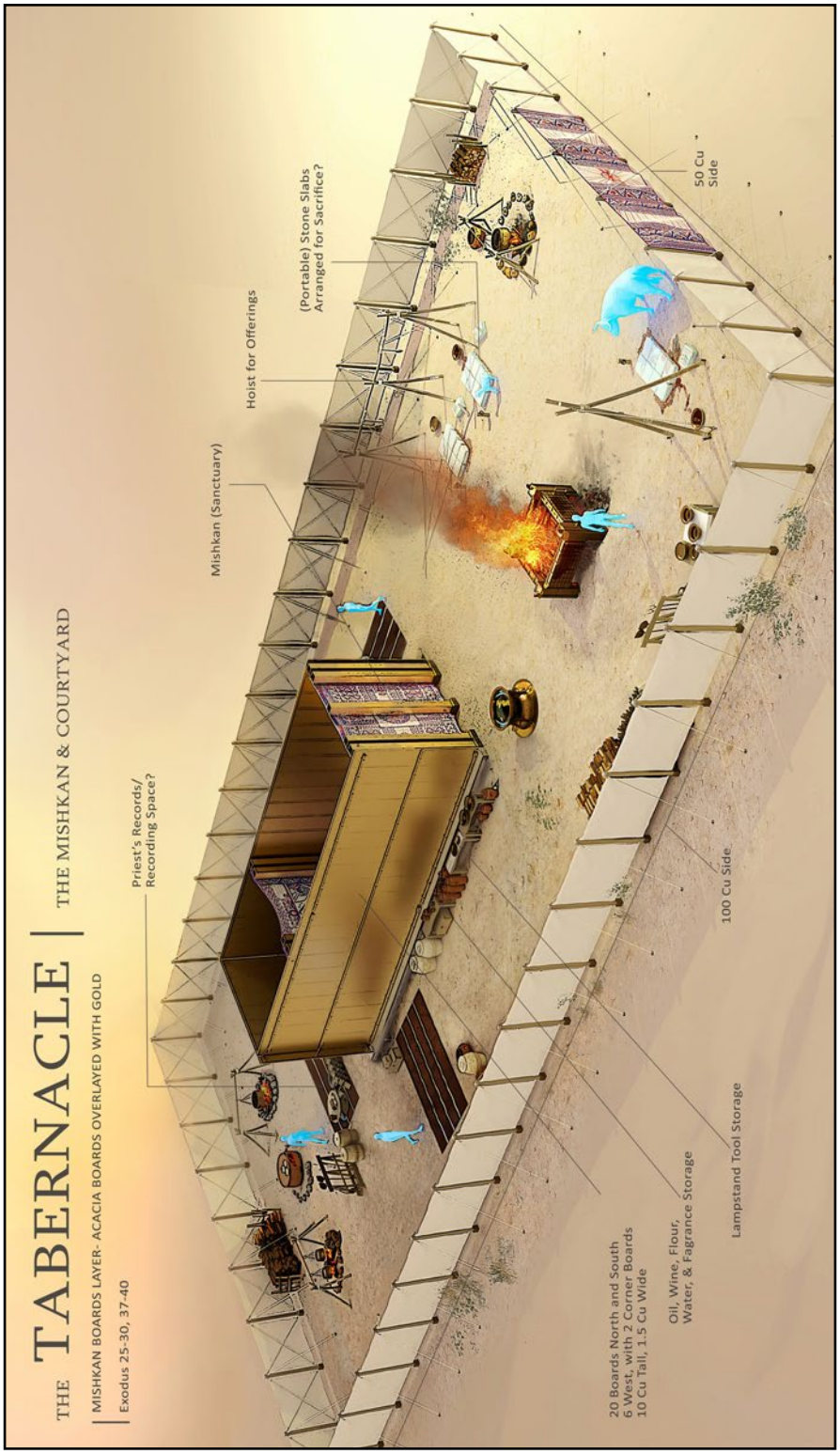
The Tabernacle from the outside in (2 of 6): the rams' skins dyed red



The Tabernacle from the outside in (3 of 6): the goats' hair tent



The Tabernacle from the outside in (4 of 6): the linen covering



The Tabernacle from the outside in (5 of 6): the boards



The Tabernacle from the outside in (6 of 6): the furnishings within

The Mishkan

See the illustration "The Mishkan, Layer by Layer," page 32.

The Linen Covering

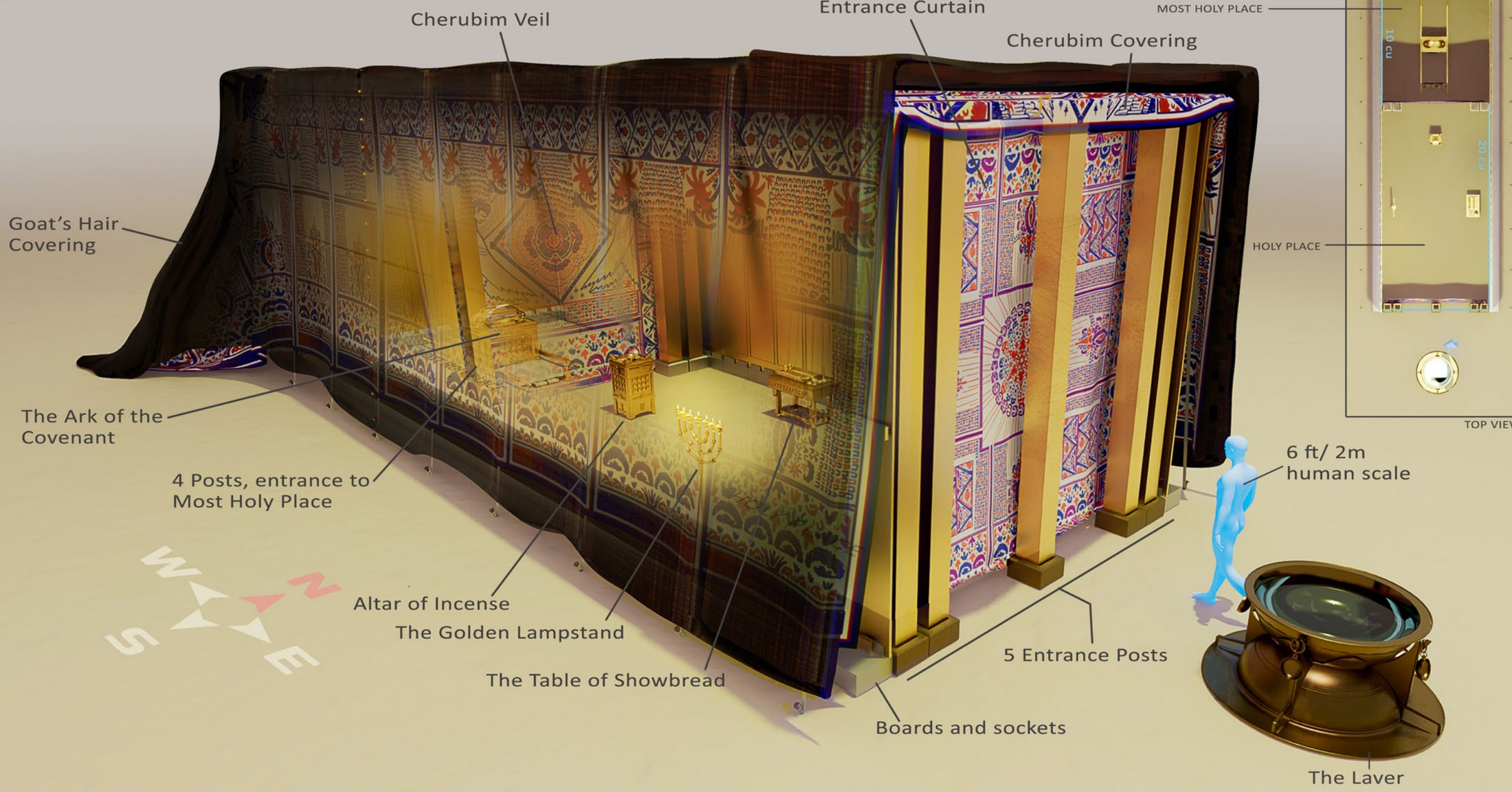
> [1] Moreover thou shalt make the tabernacle with ten curtains of fine twined linen, and blue, and purple, and scarlet: with cherubims of cunning work shalt thou make them.
>
> *— Exodus 26:1 (KJV)*

Each of the ten curtains was 28 cubits long and 4 cubits wide, about 42 by 6 feet (12.8 by 1.8 m). They were sewn into two sections of five, and the two sections were joined by fifty loops and fifty clasps ("taches") of gold (Exodus 26:2–6).

THE TABERNACLE | THE MISHKAN (SANCTUARY)

MISHKAN- TRANSPARENCY VIEW COMPOSITE

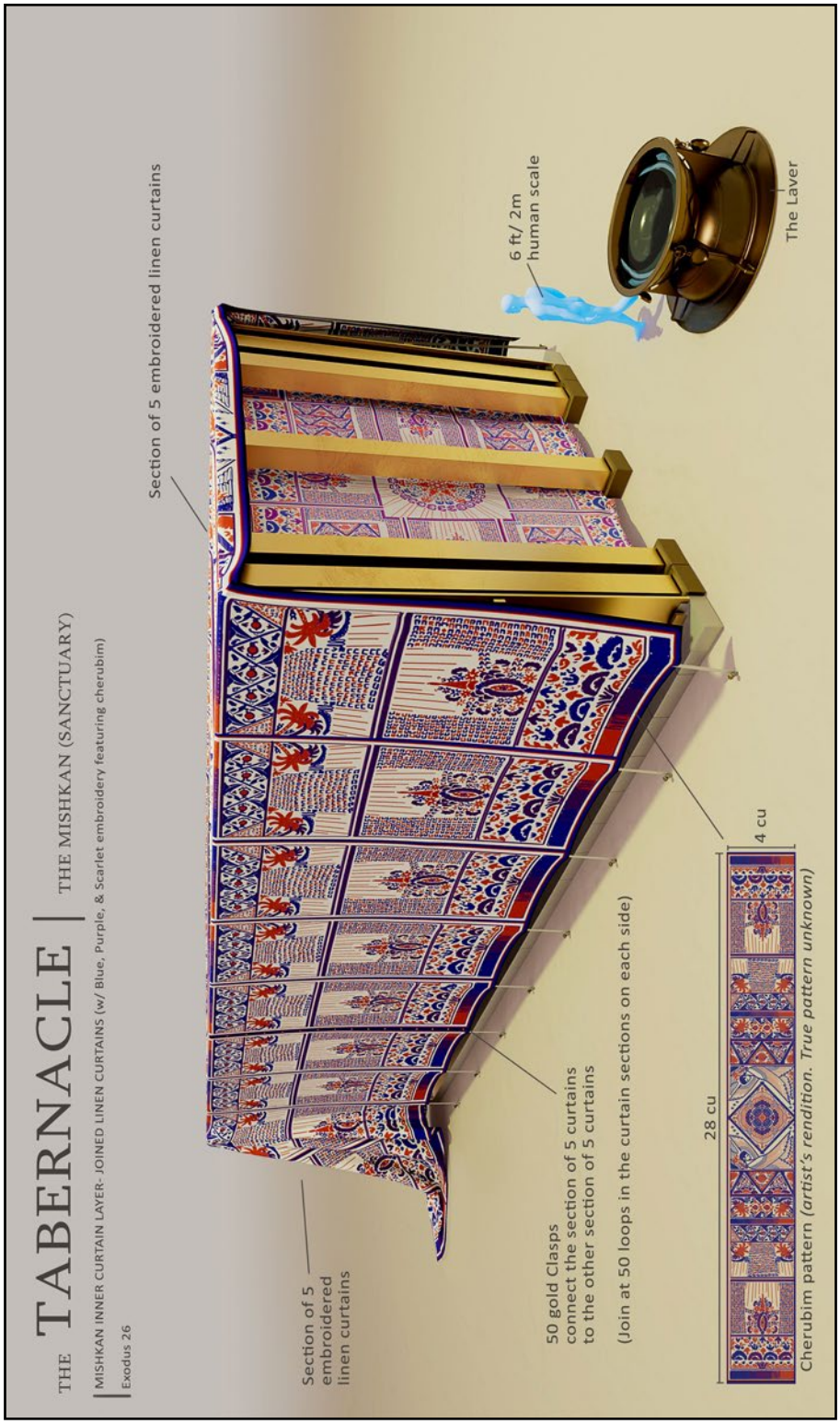
Exodus 26



The Mishkan, Layer by Layer



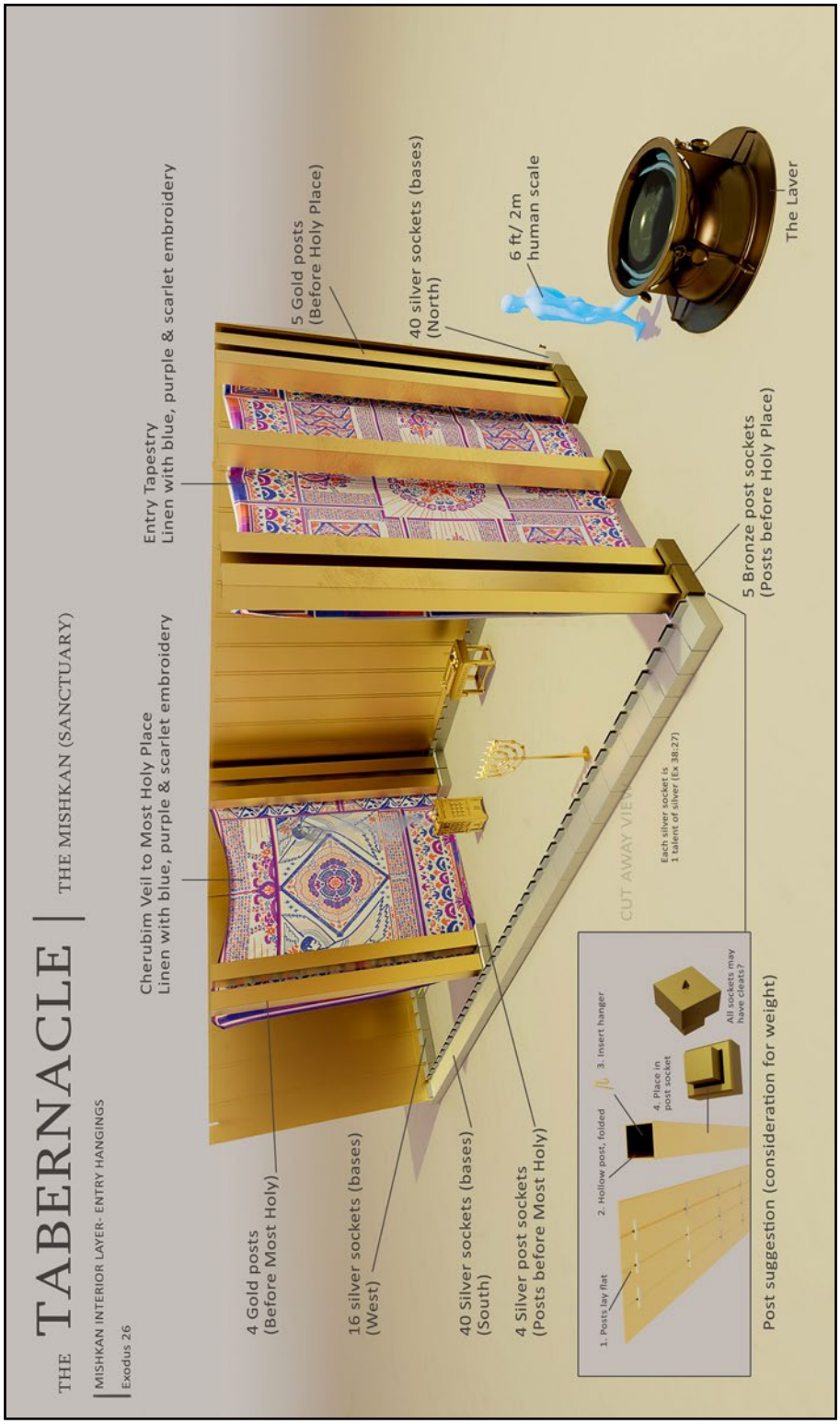
The mishkan, layer by layer (1 of 5): the goats' hair curtains



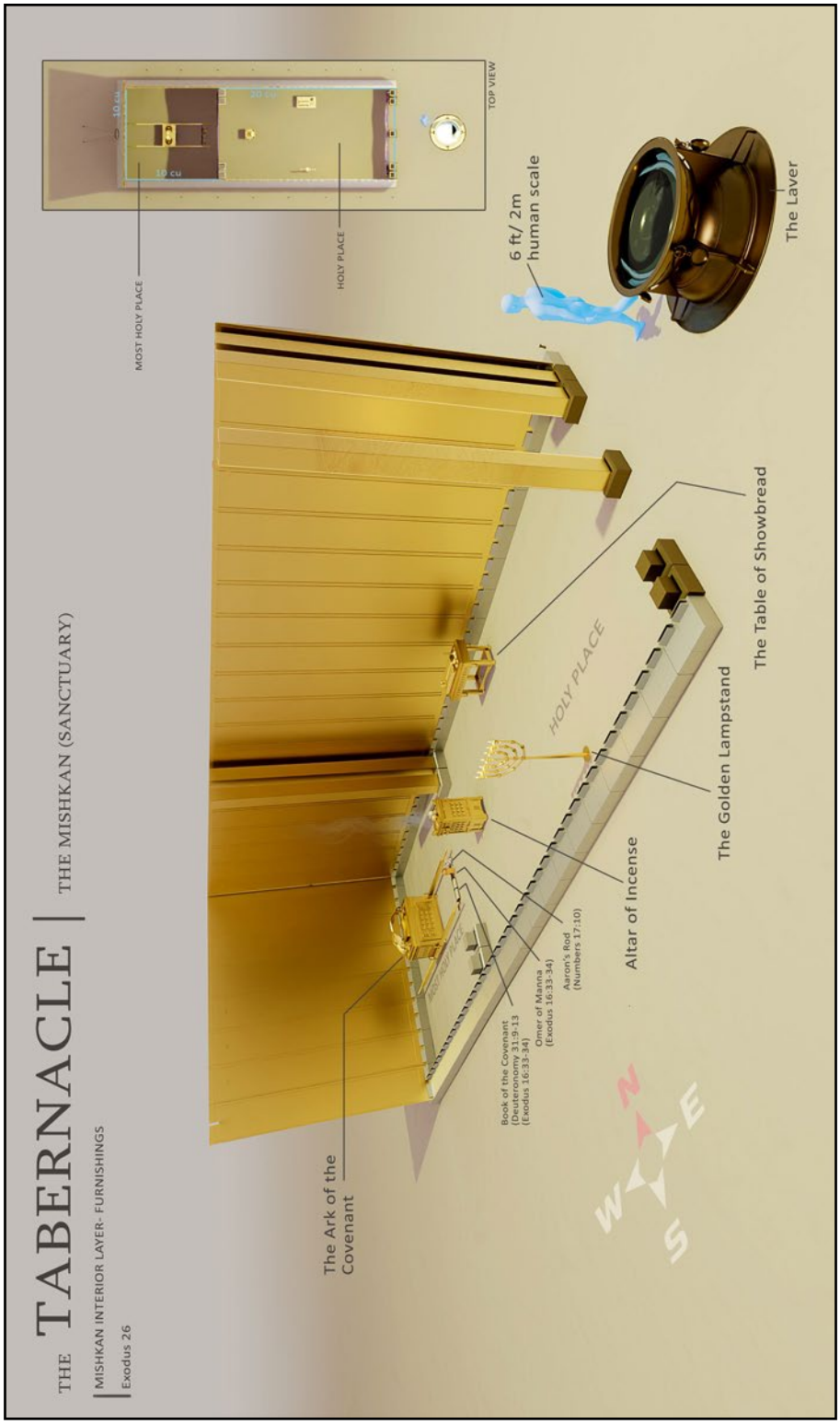
The mishkan, layer by layer (2 of 5): the linen covering with its cherubim



The mishkan, layer by layer (3 of 5): the boards, bars and sockets



The mishkan, layer by layer (4 of 5): the veil and the entrance hanging



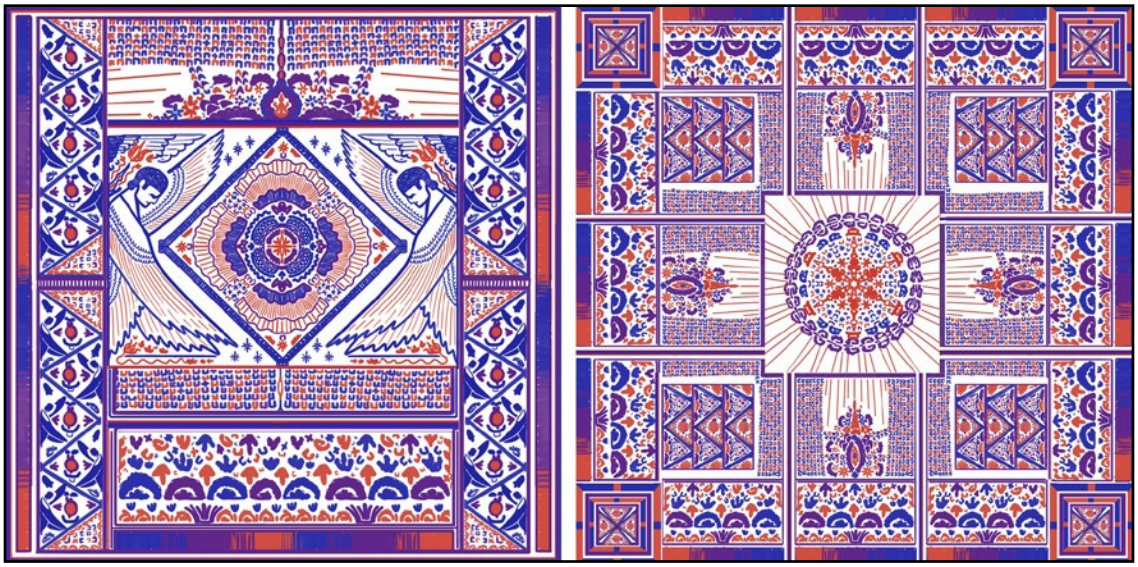
The mishkan, layer by layer (5 of 5): the furnishings within

When I laid these out in my model, I noticed that the clasps joining the two sections run directly over the division between the Holy and the Most Holy Place. Scripture confirms it: "thou shalt hang up the vail under the taches, that thou mayest bring in thither within the vail the ark of the testimony" (Exodus 26:33). The seam of the ceiling sits right above the veil.

The math of the covering is interesting too. If the structure was about ten cubits wide, the 28-cubit curtains would cover the roof and hang about nine cubits down each side, stopping a little short of the ground. The forty cubits of joined curtains would run the 30-cubit length of the house and drape ten cubits down the back.

The Embroidery

The specific designs of the embroidery aren't given in Scripture, but whatever they were, they required great skill. The work seems to have fallen to a team of artisans under Aholiab of the tribe of Dan, "an engraver, and a cunning workman, and an embroiderer in blue, and in purple, and in scarlet, and fine linen" (Exodus 38:23; see also 31:6).



My designs for the veil (left) and the entrance hanging (right): an artist's rendition only

This became my primary research limitation, since Hebrew tapestry from that time no longer survives. Instead, I looked for a Middle Eastern design that would be complex but could be made with simple stitching, that had repeating patterns, and that would look good with only a handful of colors. From a traditional embroidered textile, I created my own designs for the cherubim covering, the veil to the Most Holy Place, and the entrance to the sanctuary. They are an artist's rendition only. The true pattern is unknown.

A Ceiling That Sags

The Bible does not describe any ceiling structure to the sanctuary whatsoever, nor are any beams described as connecting the posts of the entryways. However, when I ran a cloth simulation, the linen mostly kept to the sides of the model, but the ceiling drooped noticeably. It reminded me a bit of the blanket forts I used to make as a child, and it seemed a little odd. To counter this, I made some assumptions that seemed reasonable:

1) Not every part of the Tabernacle is described in the Torah, only the parts that are spiritually relevant. Ropes, stakes and tackle, for example, aren't mentioned, but must have been used.

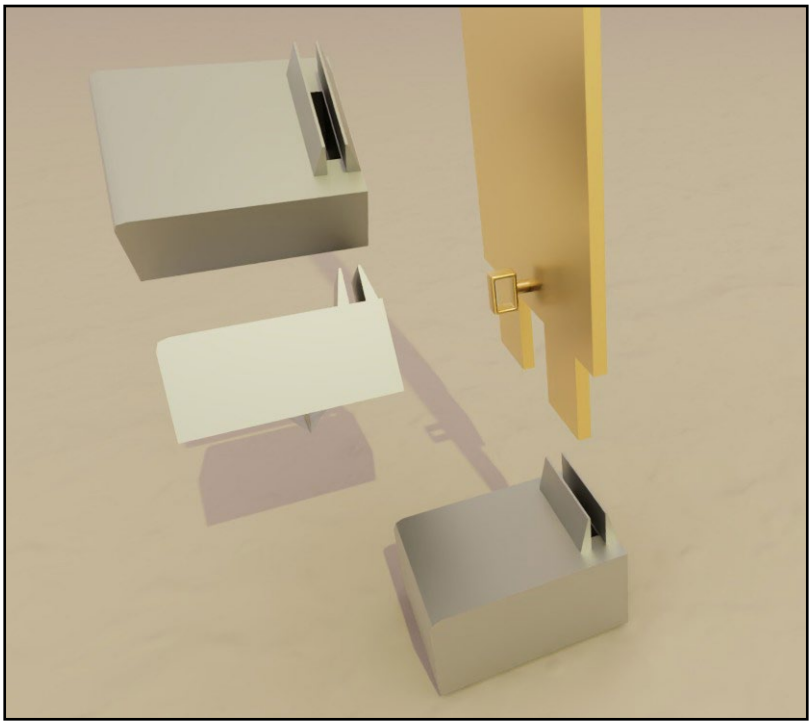
2) Could something like ropes or straps have supported a fabric ceiling? Not only would this give support, but it would also be far lighter to carry.

3) If so, the supports should probably cross the ceiling only at the seams of the covering, so as not to cross the beautiful embroidery and mar the image.

4) A strap seems more likely than a rope. The boards forming the walls were not secured at the top, and a flat strap crossing the tops of the boards would be less likely to catch between them than the round cross-section of a rope.

Boards and Sockets

The wall boards and their sockets are a significant question for Bible students to consider.



A close-up of the sockets and tenons

> [15] And thou shalt make boards for the tabernacle of shittim wood standing up.
>
> [16] Ten cubits shall be the length of a board, and a cubit and a half shall be the breadth of one board.
>
> [17] Two tenons shall there be in one board, set in order one against another: thus shalt thou make for all the boards of the tabernacle.
>
> [18] And thou shalt make the boards for the tabernacle, twenty boards on the south side southward.
>
> [19] And thou shalt make forty sockets of silver under the twenty boards; two sockets under one board for his two tenons, and two sockets under another board for his two tenons.
>
> *— Exodus 26:15–19 (KJV)*

We know the length and width of the acacia boards, 10 cubits by 1½ (about 15 by 2¼ feet, or 4.6 by 0.7 m), but the thickness is never given. Some have suggested the boards were up to a cubit thick, but this seems unlikely. Each board would be more like a massive beam, about a ton apiece, and there would be no way to carry 48 of them on four ox-carts along with everything else the Merarites carried.

The sockets are also a mystery. We only know two things about them, other than their function:

1) Each one weighed a talent of silver, about 75 pounds (34 kg) (Exodus 38:27).

2) Each one could not have been wider than three quarters of a cubit, since there were two to a board and each had to receive one tenon.

A talent of silver is smaller than we might expect. Silver is so dense that a talent fills only about 200 cubic inches (about 3¼ liters): a solid block about 13½ inches long, 6 inches wide and 2½ inches high (34 by 15 by 6 cm), for example. The sockets may well have been larger and hollow, but either way, there was a lot of weight in a small space.

A note on the illustration: when I built my model, I was working from a different estimate of silver's density. Unless the sockets were hollow, the ones pictured are probably too large. I've left them as they are for now, as a visual reminder that the sockets are there, until I can revisit the model. Whatever their size, each socket weighed a talent, and that's the frame we have to work within.

Each board, then, stood on about 150 pounds (68 kg) of silver. My assumption is that the sockets were there to anchor the boards, so a board probably didn't weigh much more than the silver beneath it. Working back from the density of acacia wood, a board 1 inch thick would weigh about 127 pounds (57 kg), and one 1½ cm thick about 75 pounds (34 kg). (The working is in Appendix A.) Thin boards like these could flex a little, but at any real thickness, acacia is strong and stiff.

One issue thin boards create is that the middle bar is often pictured running through the inside of thicker boards:

> [26] And thou shalt make bars of shittim wood; five for the boards of the one side of the tabernacle,
>
> [27] And five bars for the boards of the other side of the tabernacle, and five bars for the boards of the side of the tabernacle, for the two sides westward.
>
> [28] And the middle bar in the midst of the boards shall reach from end to end.
>
> *— Exodus 26:26–28 (KJV)*

This issue can be resolved easily. Four bars run along the outside of the boards on each long wall, two at the top and two at the bottom, each spanning about half the wall, while the middle bar runs the full length of the wall across its middle. All of them could be held in gold rings on the outside of the boards (Exodus 26:29).

The Corner Boards

The west wall poses a problem, depending on which version of Exodus 26:24 we happen to be reading:



The rope-and-ring corner my father suggested

> [23] And two boards shalt thou make for the corners of the tabernacle in the two sides.
>
> [24] And they shall be coupled together beneath, and they shall be coupled together above the head of it unto one ring: thus shall it be for them both; they shall be for the two corners.

— Exodus 26:23–24 (KJV)

The NIV says the corner frames "must be double from the bottom all the way to the top and fitted into a single ring." The ESV says nearly the opposite: "they shall be separate beneath, but joined at the top, at the first ring." Looking into the Hebrew didn't settle it, and other translations are equally muddy. Here is what I think may be true:

1) The corner boards appear to be like the other boards, with some minor changes. They still have to fit into two silver sockets, just like every other board (Exodus 26:25).

2) The two corner boards are identical: "thus shall it be for them both."

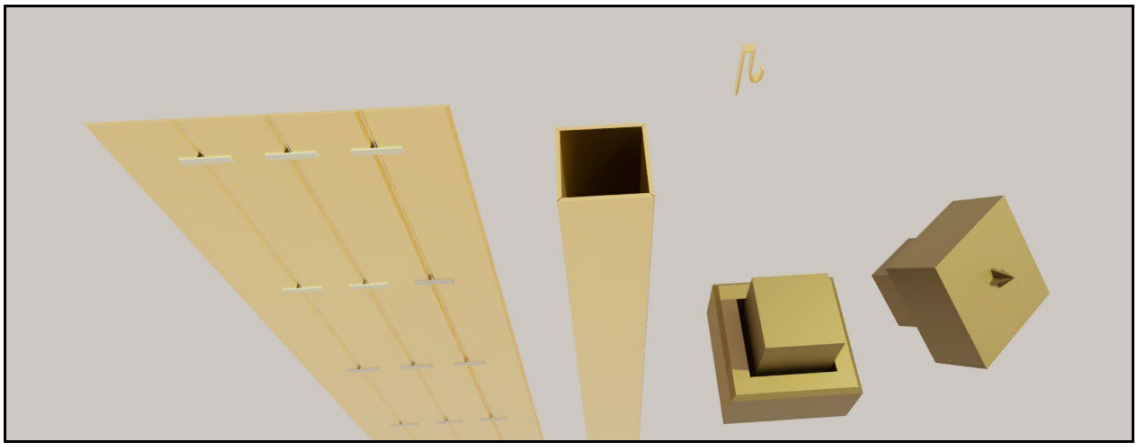
3) Functionally, the corner boards must keep tension between the north, south and west walls.

4) They are joined to a ring of some sort.

My father suggested a solution, and I've built it into my model. A rope wraps around the corner and is locked in place by a crossbar. A notch in the top center of each corner board lets the rope pass through to a large bronze ring outside, where the rope from the other wall meets it. The ring is pulled to a tension point and staked to the ground, locking the corner in place. If the sockets and boards are sized correctly, the corner sockets would sit flush with the end of the west wall, and the notch could sit so that it isn't visible from inside the Most Holy Place.

The Posts

If my assumptions about the boards are correct, how much did the posts weigh? The veil hung on four pillars (Exodus 26:32), and the door of the tent on five (Exodus 26:37). My thought is that the posts might have been hollow, weighing only slightly more than the boards. If they were joined on the inside with something like hinges or cloth straps, and if their sockets differed from the board sockets (they must have), they might even fold flat for travel. They may also have had hooks at the top for hanging the veil and the door hanging.



A hollow post that folds flat for travel, with its socket

The arrangement of the posts isn't given, but my suggestion is that they were not equally spaced. Here is why:

1) **The veil.** When the camp set out, "Aaron shall come, and his sons, and they shall take down the covering vail, and cover the ark of testimony with it" (Numbers 4:5). To me, this suggests the Ark stood in the center, with the veil's four posts set two on the north and two on the south, leaving the middle clear. The priests could unhook the veil and simply walk it forward over the Ark. My cloth simulation suggests the top of the veil would droop slightly across the gap. It may have been reinforced with rope or twine, but that information is not given (compare the loops on the curtains of the *mishkan*).

2) **The door.** The entrance needed a path in and out, so that anyone entering the sanctuary didn't run into someone leaving it. The priests could be carrying blood, oil or showbread as they did their daily and weekly duties. Five posts set two, one and two would give two lanes, one in and one out.

Inside the Mishkan

The interior of the sanctuary, as described, would have been sparse, with a dirt floor. We can be fairly sure there was no flooring because of the water of jealousy, which was made with "the dust that is in the floor of the tabernacle" (Numbers 5:17). It was holy ground, in the most literal sense. The air would probably have been hazy with incense smoke, and the only light came from the Lampstand, which we'll come to in Chapter 6.



Inside the Holy Place of the Tabernacle

The Ohel and Its Coverings

The Goats' Hair Tent

Over the *mishkan* went eleven curtains of goats' hair, each 30 cubits long and 4 wide, about 45 by 6 feet (13.7 by 1.8 m), joined with loops and clasps of bronze (Exodus 26:7–11). Scripture calls this the tent, the *ohel*. The sixth curtain was doubled over at the front (Exodus 26:9), and the leftover half curtain hung down over the back of the tabernacle (Exodus 26:12). In my model I let it hang. That's partly an aesthetic choice, since to me it looks regal, but the text supports it.

The Skins

The outer coverings are a different matter. "And thou shalt make a covering for the tent of rams' skins dyed red, and a covering above of badgers' skins" (Exodus 26:14). That's all we're told: no measurements, no loops, no clasps. No one is quite sure what the *tachash* skins were. The KJV renders them "badgers' skins," while other versions suggest porpoise or dolphin skins, or simply "durable leather." It's also possible the word describes a treated leather that protected the tent (and everything under it) from the elements. Some form of waterproofing would be ideal, since the pillar of cloud rested on or above the tabernacle. Beneath the *tachash* were the rams' skins dyed red, which, if treated properly, would have been extremely pliable leather.

If these leather coverings were pulled close to the ground, as they're frequently pictured, I wonder about a few things:

1) Everyone is in the wilderness. Is there enough room to get out of the sun? The work of a priest was active and hot!

2) Leather makes for a stuffy tent, even out of the sun. It doesn't breathe like fabric.

3) The guy lines needed to hold everything in place would take a long time to stake down and would take up a lot of the court. Between these lines and the lines bracing the poles of the court's fence (not described, but extremely likely), the back half of the court would be almost unusable. That wouldn't be terrible, except that a great deal went on in the court, as we'll see.

A Pavilion?

How were these coverings set up? The goats' hair curtains give us a clue. They were 30 cubits long, which is exactly 10 cubits up one side, 10 across the roof and 10 down the other. If the *mishkan* was about ten cubits wide and its boards ten cubits high, the goats' hair tent would fit like a drape right over it, down to the ground. So the *ohel* itself probably rested on the *mishkan*.

The skins are another matter. They come with no measurements at all, and the *tachash* skins are called "a covering above" (Exodus 26:14). They may have been draped over the goats' hair as well, as they're often pictured. But one other possibility is worth considering. I wondered whether pliable leather might be used to make a stretch tent, raised on poles like the tents still used by Bedouin nomads today. In my research, which included checking my own doubts with AI tools, such a tent seemed feasible, though leather is heavier and less stretchy than modern tent fabric, and it needs regular treatment to stay supple.

A raised pavilion like this would address the issues above. It wouldn't need to touch the ground, and it probably wouldn't need many guy lines. It could go up quickly and give shade for the rest of the work of setting up the *mishkan*. Raised edges would also keep it from getting stuffy, while still giving enough shade and light for the work underneath. As Chapter 1 suggested, this outer covering may have been the kind everyone in the camp already knew how to put up, which might explain why it needed no description.

I have my own reservations about this model. I can't know how much the leather weighed, I'm not familiar with the technology that would have held it up, and I can only guess at the height of the poles. A pavilion over a sanctuary about 45 feet (14 m) long would be bigger than any Bedouin tent I've seen pictured. But like the height and purpose of Solomon's porch, which we'll come back to later, if it's possible, it's worth considering, because we don't know. Open questions like these are an important part of Bible study. They keep us curious and imagining, and they turn measurements that might be tedious to read into something vivid in our minds.

Two questions naturally follow. First, why doesn't the Bible mention the poles, if there were poles? Not every detail of the Tabernacle is given. In the case of the outer coverings, nothing but the materials is given. Ropes and stakes aren't mentioned either, which suggests that the only things recorded are the parts of the construction that carry spiritual significance. Second, how can we be sure of the height? We can't. The height, the number of poles and the rest are an educated guess, based on what I found as I assembled my model.

Where Did the Wood Come From?

The same practical questions apply to the wood. Desert acacias are not large trees, so a board a cubit and a half wide was likely made from several planks joined together. Not all of the wood may have come from the wilderness, either. Exodus 35:24 says that "every man, with whom was found shittim wood for any work of the service, brought it." Rashi even repeats a tradition that Jacob planted the trees in Egypt for this very purpose.

Poles, too, could have been made in sections, much like the jointed poles of modern tents. That was well within reach of ancient craftsmen. The canopy of Queen Hetepheres of Egypt, from more than a thousand years before Moses, was a wooden frame cased in gold that came apart at its joints for travel.

Why All the Extra Space?

See the illustration "The Court of the Tabernacle from Behind," page 48.

One of the most important reasons to lift the outer tent off the ground is to make room around the sanctuary for everything else that happened there. It's easy to picture the court as used only for sacrifice and for maintaining the sanctuary, but Scripture suggests much more. Chapter 1 touched on a few of the court's other uses. Here is a fuller list, some stated outright and others implied:

1) **Eating and cooking.** At their consecration, Aaron and his sons were told to "boil the flesh at the door of the tabernacle of the congregation: and there eat it with the bread that is in the basket of consecrations" (Leviticus 8:31). The priests' portions of the sin and trespass offerings were to be eaten "in the holy place, in the court of the tabernacle" (Leviticus 6:16, 26; see also Numbers 18:9–10).

2) **Rest and changing.** The priests stayed at the door of the tabernacle "day and night seven days" at their consecration (Leviticus 8:33–35), and on the Day of Atonement the High Priest had to wash and change his garments (Leviticus 16:4, 23–24). With only three priests on duty perpetually, there must have been some private or semi-private place to change, clean up and rest.

3) **Record keeping.** Someone with a suspected skin disease was shut up for seven days and examined again, sometimes twice (Leviticus 13:4–6), and the cleansing itself had a seven-day count (Leviticus 14:8–9). With nearly two million people in the camp, how did the priests keep track? My view is that there was very likely some form of record keeping, so that anything on a schedule was dealt with on time. That would need space, light (abundant at night, from the pillar of fire), and storage, probably on site.

4) **Examinations and private matters.** Examinations for skin disease took place at the entrance of the tabernacle, but other private matters may also have been handled there, away from prying eyes and ears.

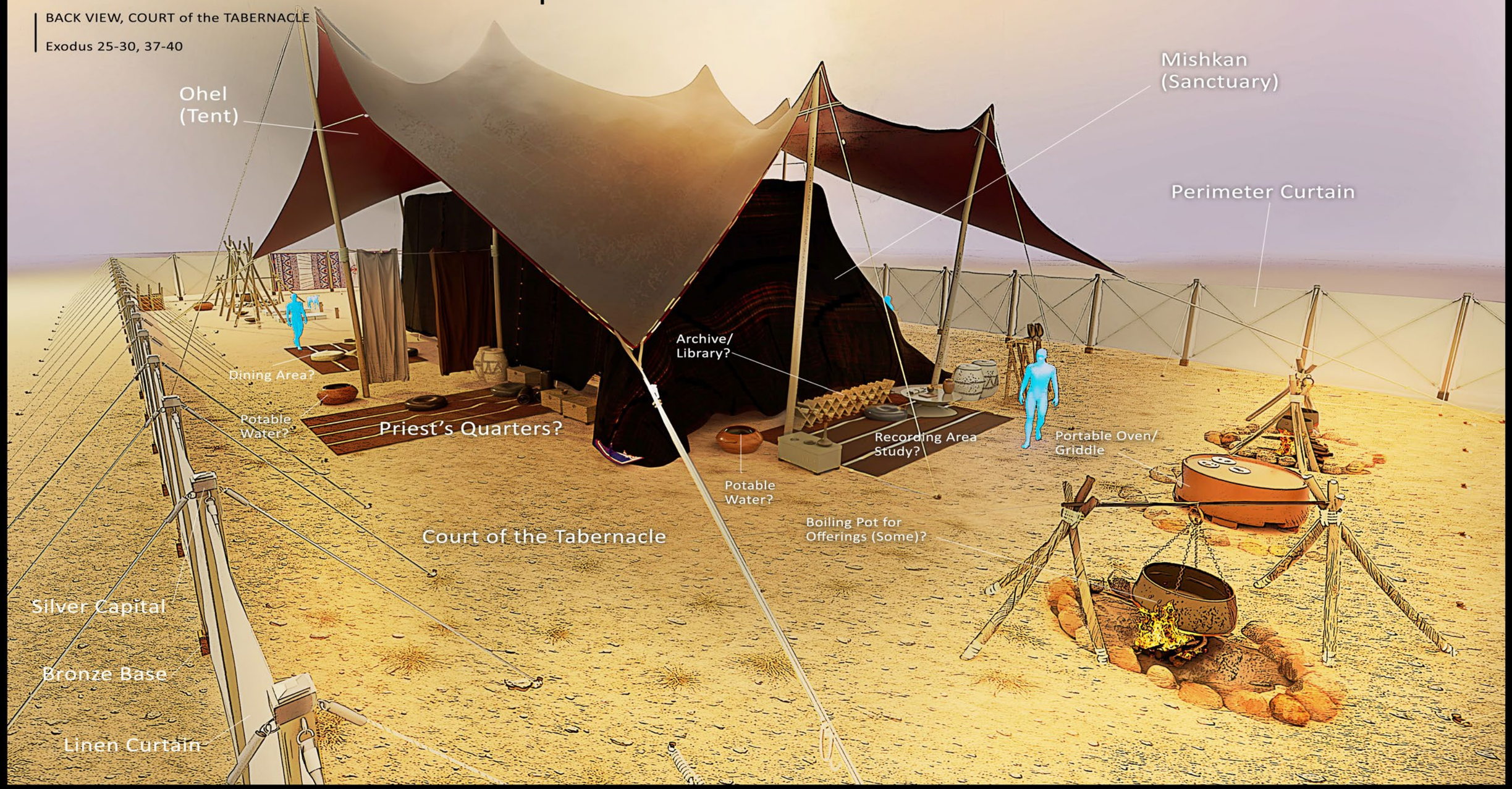
5) **Storage.** The priests received flour, unleavened bread and money through the offerings (Leviticus 2–6). Every grain offering was seasoned with salt (Leviticus 2:13), and some needed frankincense, oil or wine (Numbers 15:4–10). In the sanctuary, incense had to be burned, the lamps kept lit with oil, and the showbread baked and brought in weekly. On top of all that came the constant need for wood for the Altar (and possibly for small cooking fires elsewhere in the court), and water for drinking and everyday uses, since the laver was only for the priests to wash their hands and feet (Exodus 30:17–21).

Where was all of this material kept, so that it was close at hand the moment it was needed? My view is that the court played a major role in meeting all of these needs, but there had to be space for all of it.

THE TABERNACLE | THE OHEL, MISHKAN & COURTYARD

BACK VIEW, COURT of the TABERNACLE

Exodus 25-30, 37-40



The Court of the Tabernacle from Behind

The Entry and the Court

See the illustration "The Court of the Tabernacle from the Entry," page 52.

When I started this project (indeed, when I designed my *mishkan* model), I assumed that the Altar of Burnt Offering and the laver stood centered with the sanctuary. I'm not sure that's correct.

One of the logistical issues is traffic. The gate of the court was a hanging twenty cubits wide, about 30 feet (9.1 m), hung on four pillars (Exodus 27:16), which gives three openings. Bulls were to be offered at the door of the tabernacle (Leviticus 1:3–5), and sheep and goats on the north side of the altar (Leviticus 1:11). Levites and Nazarites came and went as they assisted the priests and brought in supplies. Others came for examinations at the entrance. With all those people moving in and out of the court, and a curtain blocking the view inside, how was order kept so that everyone got where they were going?

Placing the Altar and the laver dead center poses a problem, because it blocks the central entrance and forces all traffic north or south. Since animals could be processed on both the north and the south, and the priests had to walk back and forth to bring those offerings to the altar, this doesn't seem like an ideal setup.

History may agree. Later Jewish tradition placed the slaughtering area of Herod's Temple on the north side of the altar, and Leen Ritmeyer's plans of that Temple show the altar toward the south of the court, leaving the priests a straight path to the house. If something like this was true at the Tabernacle, the central opening of the gate could stay clear for the heaviest traffic, the south opening could serve the cattle, and the north the sheep and goats, and perhaps the examinations as well.

Anyone approaching the sanctuary, or crossing from the north side of the court to the south, would then have to walk between the Altar and the laver: a reminder that their business revolved around the two forms of cleansing God had appointed, the blood and the water.

The Side Chambers of the Temple

Chapter 1 mentioned the side chambers around Solomon's Temple. Let's take a closer look at them, since they echo the way the camp was arranged around the Tabernacle (1 Kings 6:5–10). There were three layers of rooms, each about 7½ feet (2.3 m) high, and each a little wider than the one below it: five cubits wide on the bottom floor, six in the middle and seven at the top (1 Kings 6:6).



Inside the side chambers of the Temple

We might remember the story of Athaliah killing the royal household, with only one surviving prince who was hidden away. This was King Joash, and he was hidden in the house of the LORD for six years (2 Kings 11:1–3). Where? Probably in these storage rooms. Imagine the irony: Athaliah was literally right next door to the king's hiding place and never knew. One might wonder if she ever visited the Temple at all, and if her lack of piety toward the God of Israel was already so well known that it made the hiding place secure.

Beyond a hidden king, what else was stored there? Scripture gives us some clues. Solomon brought the silver, gold and vessels David had dedicated into "the treasures of the house of the LORD" (1 Kings 7:51). Certain Levites were placed over "the chambers and treasuries of the house of God," along with the flour, wine, oil, frankincense and spices (1 Chronicles 9:26–29). Centuries later, Nehemiah describes a great chamber where the meal offerings, frankincense, vessels and tithes had been kept (Nehemiah 13:5).

What was the equivalent in the wilderness? There, the Levites camped around three sides of the Tabernacle: the Gershonites on the west, the Kohathites on the south and the Merarites on the north (Numbers 3:23, 29, 35). Moses and Aaron camped at the front, toward the east (Numbers 3:38). The side chambers wrapped around the same three sides of the Temple. One possibility, then, is that the whole Levitical house was brought into the Temple itself. The chambers lean on the sanctuary as an annex to the real thing, just as the Levites' tents once surrounded the Tabernacle.

There's a lesson here for us. "In my Father's house are many mansions" (John 14:2). We are the treasure that will find a home there, leaning on Christ. In the same way, we are "lively stones"

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FRONT VIEW, COURT of the TABERNACLE

Exodus 25-30, 37-40



The Court of the Tabernacle from the Entry

built up into a spiritual house (1 Peter 2:5–6), resting on him, though he alone is the chief cornerstone.

Still Unsolved

1. How thick were the boards, and how did four wagons carry them along with the bars, pillars and silver sockets? See Exodus 26:15–30, Numbers 4:31–32 and Numbers 7:8.
2. What exactly were the corner boards, and how did they hold the walls together? Compare Exodus 26:23–25 in several translations.
3. Was there anything holding up the linen ceiling of the sanctuary? See Exodus 26:1–6.
4. How were the four posts of the veil and the five posts of the door arranged? See Exodus 26:31–37 and Numbers 4:5.
5. What were the *tachash* skins, and how was the outermost covering set up? See Exodus 26:14 and 36:19.
6. Where did the Altar and the laver stand in the court: centered on the gate, or off to one side? See Exodus 40:6–7, 29–30.
7. The Most Holy Place appears to be a perfect cube: 10 cubits in the Tabernacle, 20 in Solomon's Temple. Ezekiel's is 20 cubits square, and the holy city of Revelation is equal in length, breadth and height. The size grows, but the shape stays the same. What are we meant to learn from these proportions? The measurements in Scripture can be tedious to read, but they weren't given only so we could build models. See Exodus 26:15–33, 1 Kings 6:20, Ezekiel 41:4 and Revelation 21:16.
8. The Tabernacle had only one way in, through the hanging at the east gate. Solomon's Temple had more than one entrance, including the king's entry. Ezekiel's temple has three gates to its outer court, and the holy city of Revelation has twelve, three on every side. Why only one way into the Tabernacle, and why more later? See Exodus 27:16, 2 Kings 16:18, Ezekiel 40:6, 20 and 24, and Revelation 21:12–13.
9. Joash was hidden in the house of the Lord for six years. Where, and what else was stored there? See 2 Kings 11:1–3 and 1 Kings 6:5–10.

CHAPTER THREE

The Altar of Burnt Offering

This chapter and the next explore the bronze furnishings of the Tabernacle and Temple. Some of these furnishings are described in great detail, and others—for one reason or another—are barely mentioned. We'll start with the Altar of Burnt Offering, and then turn in the next chapter to the bronze vessels for water.

We'll begin our journey back in Exodus, not with the fabrication of the bronze Altar of Burnt Offering, but at Sinai. After the people heard God speak and begged Moses to speak to them instead, God gave His first instructions for an altar:

> [24] An altar of earth thou shalt make unto me, and shalt sacrifice thereon thy burnt offerings, and thy peace offerings, thy sheep, and thine oxen: in all places where I record my name I will come unto thee, and I will bless thee.
>
> [25] And if thou wilt make me an altar of stone, thou shalt not build it of hewn stone: for if thou lift up thy tool upon it, thou hast polluted it.
>
> [26] Neither shalt thou go up by steps unto mine altar, that thy nakedness be not discovered thereon.
>
> *— Exodus 20:24–26 (KJV)*

Before the Altar of Burnt Offering and the Aaronic Priesthood, altars were made from earth or stones, as it likely had been since the beginning. A couple of things to keep in mind that will carry forward later: stones of the Altar were not to be cut, and priests were not to go up to the Altar by steps.

Later, the priesthood was selected during the episode of the Golden Calf in Exodus 32:

> [22] "Do not be angry, my lord," Aaron answered. "You know how prone these people are to evil. [23] They said to me, 'Make us gods who will go before us. As for this fellow Moses who brought us up out of Egypt, we don't know what has happened to him.' [24] So I told them, 'Whoever has any gold jewelry, take it off.' Then they gave me the gold, and I threw it into the fire, and out came this calf!"
>
> *— Exodus 32:22–24 (NIV, for clarity)*

Moses called out, "Who is on the LORD's side?" The Levites rallied to him and carried out judgment on the camp, and about three thousand died that day (verses 25–28).

> [29] Then Moses said, "You have been set apart to the LORD today, for you were against your own sons and brothers, and he has blessed you this day."
>
> *— Exodus 32:29 (NIV)*

While we might understand that the Levites were selected for a special inheritance for destroying idolaters, we might also wonder why Aaron was selected as High Priest, given his role in this very serious matter.

Understanding this requires comparing assumptions about what Aaron was saying—and how he was saying it when Moses confronted him.

Was he passing responsibility? "You know how the people are! I have no idea what happened!"

Or… did it dawn on him as he talked with his brother what he had done—that he was just as prone to evil as those around him. Was he in tears as he ashamedly admitted "out came this calf"?

If it was the latter, then Aaron's commission as first High Priest might make more sense. He had been given the opportunity to reverse (to some extent) the harm he had done by spending the remainder of his life devoted to bringing people closer to the Lord instead of tearing them away.

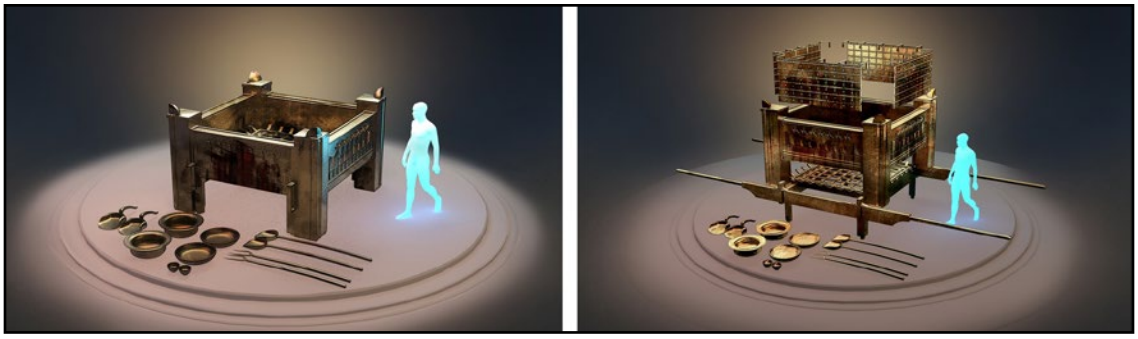
This duty would require courage, decisive action, attention to detail and the right attitude constantly, and we might all agree that Aaron largely rose to this task—one that others might have forfeited out of exhaustion during times of rebellion, insult, and the difficulty of 40 years of observance and service of the Law.

The role of the priests would have required constant commitment. In the wilderness, Nadab and Abihu tragically offered strange fire before the Lord at the end of their consecration—an act that destroyed them and placed the burden of restoring the relationship of the congregation to the Lord on three people, with Aaron removed from certain activities that could have made him unclean. It is no wonder that God emphasizes the role of the Levites as a help to the priests, or the vow of the Nazarite as "exceptional" (Numbers 6:2)—the priests needed help as they worked continuously to mend the relationships between God and the nearly 2 million individuals in the congregation.

When it came to sacrifices alone, we might wonder how this was even possible at all. To explore, we'll need a reasonable model of the Altar, a basic understanding of what the offerings entailed, and some basic logistical information about how many offerings could go on the Altar during the day.

The Model

When God gives plans for the Altar of Burnt Offering, we learn about its size and construction. Let's take a look at what God required in Exodus 27:



The Tabernacle's Altar of Burnt Offering with its tools: assembled (left) and with the grate lifted out (right)

[1] And thou shalt make an altar of shittim wood, five cubits long, and five cubits broad; the altar shall be foursquare: and the height thereof shall be three cubits.

We see right away that the altar was large, but not enormous. Again, we might wonder how all the offerings were done.

[2] And thou shalt make the horns of it upon the four corners thereof: his horns shall be of the same: and thou shalt overlay it with brass.

This is the main frame of the Altar.

[3] And thou shalt make his pans to receive his ashes, and his shovels, and his basons, and his fleshhooks, and his firepans: all the vessels thereof thou shalt make of brass.

Here we learn about tools.

[4] And thou shalt make for it a grate of network of brass; and upon the net shalt thou make four brasen rings in the four corners thereof.

[5] And thou shalt put it under the compass of the altar beneath, that the net may be even to the midst of the altar.

This appears to be a separate section of the Altar, constructed of bronze only, that connects to the staves, with the Altar frame resting on it.

[6] And thou shalt make staves for the altar, staves of shittim wood, and overlay them with brass.

[7] And the staves shall be put into the rings, and the staves shall be upon the two sides of the altar, to bear it.

[8] Hollow with boards shalt thou make it: as it was shewed thee in the mount, so shall they make it.

— Exodus 27:1–8 (KJV)

So the Altar was about 7½ feet (2.3 m) square and 4½ feet (1.4 m) high.

I propose that the bottom was open for ease of cleaning the ash, minimizing weight, and helping create a stronger updraft to keep the fire blazing hot.

The main frame of the Altar has four "horns." The construction was probably bronze sleeves filled with cut acacia boards. This was likely a distinct piece that sat on a bronze log grate, with rings so it could be lifted for carrying.

When we think of rings and poles, we might think of something round or hooplike, with a pipe thrust through. In reality, those carrying this Altar by hand (we don't know how many, but certainly more than four people—maybe 12 Levites?) would have been walking on uneven terrain with a very heavy bronze frame. They wouldn't have wanted it sliding around on poles, so it seems more likely to me that the rings were rectangular and that the poles had grooves that locked into the rings when lifted.

We don't know if the Altar had any decoration, but we do know that later there would be a key feature seen on the sides of the Altar: the 250 censers of Korah's company. From Numbers 16:

> [36] Then the LORD spoke to Moses, saying, [37] "Tell Eleazar the son of Aaron the priest to take up the censers out of the blaze. Then scatter the fire far and wide, for they have become holy. [38] As for the censers of these men who have sinned at the cost of their lives, let them be made into hammered plates as a covering for the altar, for they offered them before the LORD, and they became holy. Thus they shall be a sign to the people of Israel." [39] So Eleazar the priest took the bronze censers, which those who were burned had offered, and they were hammered out as a covering for the altar, [40] to be a reminder to the people of Israel, so that no outsider, who is not of the descendants of Aaron, should draw near to burn incense before the LORD, lest he become like Korah and his company—as the LORD said to him through Moses.
>
> *— Numbers 16:36–40 (ESV, for clarity)*

One suggestion is that these censers were beaten into a patchwork of bronze that formed an additional layer on the Altar, but I wonder whether that's right, because the Altar would have been burning continuously, and it may not have been in a position to receive an overhaul with a new facade. One possibility is that the censers were heated and beaten into equally sized plates, chained together with simple links, and then affixed to hangers that fit over the sides of the Altar.

But what about use? What do we know about the offerings themselves?

The Offerings

Six altar offerings are discussed in the Law (Leviticus 1–7; for the drink offering, see Numbers 15). Here is how I understand what each one expressed. These are my own suggestions, drawn from the purpose the Law gives each offering, not settled meanings, and other Bible students read them differently:

1. **Sin offering:** Admission of a sinful state under the plea of ignorance.

2. **Burnt offering:** Expression of desire to fully dedicate all but fleshly inclinations to God.

3. **Guilt offering:** Expression of desire to restore that which was taken unjustly.

4. **Meal offering:** Expression of thanks for provision, and desire that God would bless the good works of the offeror.

5. **Drink offering:** Expression of desire to pour out one's life and labor for the joy to come.

6. **Peace offering:** Expression of desire for peace and fellowship between God and man.

For more on the offerings and how they worked, including a step-by-step guide to each one, who did what, and the rules that applied across them all, see Appendix B.

With the exception of the sin and guilt offerings, these were intended to arise as "a sweet savour" to the Lord (Leviticus 1:9; 2:2; 3:5). Appendix B looks at the one apparent exception, Leviticus 4:31. While the sin and guilt offerings were given as admission of sin or injustice, most of the offerings were intended as an earnest expression of desire toward dedication and peace with God—and with His servants, the priests. What made an offering a "sweet savour"? Scripture doesn't spell it out, but my suggestion is that this relationship arose not as acrid smoke to God, but as a sweet-smelling savor, because the offeror was choosing to act on outcomes leading to life, not death—and they were doing it at great personal—and perhaps emotional—expense.

This was not the offering of a pagan, looking to barter with the gods—it was an aspirational expression of hope in the salvation of the Lord.

To do this, an offeror was mostly responsible for killing, cleaning, and processing their offering. Typically, blood sacrifices included oxen, sheep, goats, or doves.

Priests were responsible for maintaining the fire and coals on the Altar, for blood placement—either splashed on the sides of the Altar or carefully placed on the horns of the Altar—and for placing processed animals or animal parts on the wood to burn. Additionally, smaller sacrifices, such as doves or pigeons, were given to the priest to both kill and offer. The Altar was not a grill. Things that went on the Altar did not come off, except as smoke and ash.

Oxen for the burnt offering were killed at the door of the Tabernacle (Leviticus 1:3–5), while sheep and goats were killed on the north side of the Altar (Leviticus 1:10–11). While blood and ash would have been manageable on desert ground during the time of the Tabernacle, there is some question about how much space was allotted in the court of the Tabernacle for killing and processing the offerings, and what sorts of tools might have been used for the operation of cleaning and butchering the animals.

How much room was needed might also depend on the logistics of how long it would take for the animals to become ash on the Altar, and how many offerings could have been received in a day.

Logistics

Processing larger animals would have taken about an hour, but burn time was longer for some animals than others.

In my research, I checked burn times against several sources, including AI tools (after assuring them that I didn't intend to harm any animals!). The estimates suggest that cattle (for something like a burnt offering) would take somewhere between about 6 and 12 hours each, while smaller animals, such as sheep or goats, might take 2 to 7 hours to reduce to ash. The exact numbers matter less than the conclusion: the Altar could only handle so much in a day. This tracks with the idea of leaving a burnt offering on the Altar to burn all night before a new one is offered in the morning. Appendix A compares these figures with modern experiments, so readers can check them.

Some offerings depended on others. For example, a peace offering could not be provided unless a burnt offering existed first (Leviticus 3:5). This was probably because the statement of the offeror was continuous in the form of the offerings provided: "Lord, I give you everything except my sinful flesh" (burnt offering); "You provide me with all things and have blessed my work" (meal offering); "I wish to find peace with you and your servants" (peace offering).

In total? If these estimates are close, there were probably only 3–5 large burnt offerings (if cattle) and perhaps 3–6 smaller ones on a typical day, assuming offerings were made only during daylight hours, as the morning and evening offerings of Leviticus 6 seem to imply. Only a handful of stations to process the offerings would have been needed. There may have been room for 3–4 stations for killing, cleaning, and processing the offerings.

So—the Altar didn't need to be large, because the 2 million Israelites couldn't all offer at the same time. There may have been a schedule for tribes or even families in those tribes during the year to come forward and bring their offerings, similar to the tribes coming forward with their gifts day by day early in the book of Numbers.

While the three priests had a difficult job, we also see that they would probably have had time to do all that was required of them through the Law, because there were logistical limitations built into the physical realities of the Altar itself.

The Altar of Solomon's Temple

See the illustration "The Altar of Burnt Offering of Solomon's Temple," page 62.

Now, the Altar at the Temple is very interesting—but the interest lies largely in the world of supposition because so little is known about it.



Close-ups of my model: the hearth sections from above (left) and one tilting section of the grate (right)

In fact, the fabrication of the Altar of Burnt Offering is described in only one verse in the Bible, 2 Chronicles 4:1:

> Moreover he made an altar of brass, twenty cubits the length thereof, and twenty cubits the breadth thereof, and ten cubits the height thereof.
>
> *— 2 Chronicles 4:1 (KJV)*

This is a surprisingly small amount of information on such an important part of the Temple. We're left with lots of questions if we want to understand the progression of how offerings worked in the Temple versus the Tabernacle.

1) The Altar is 15 feet (4.6 m) high. How does one get up there, especially since we remember God's command in Exodus 20 "[26] Neither shalt thou go up by steps unto mine altar, that thy nakedness be not discovered thereon." Many models include steps going to the Altar—why is this not a conflict?

2) The Altar is made of bronze. If priests had to access the fire at the top, and they had to do it barefoot, how did they avoid scalding themselves while they carried the offerings?

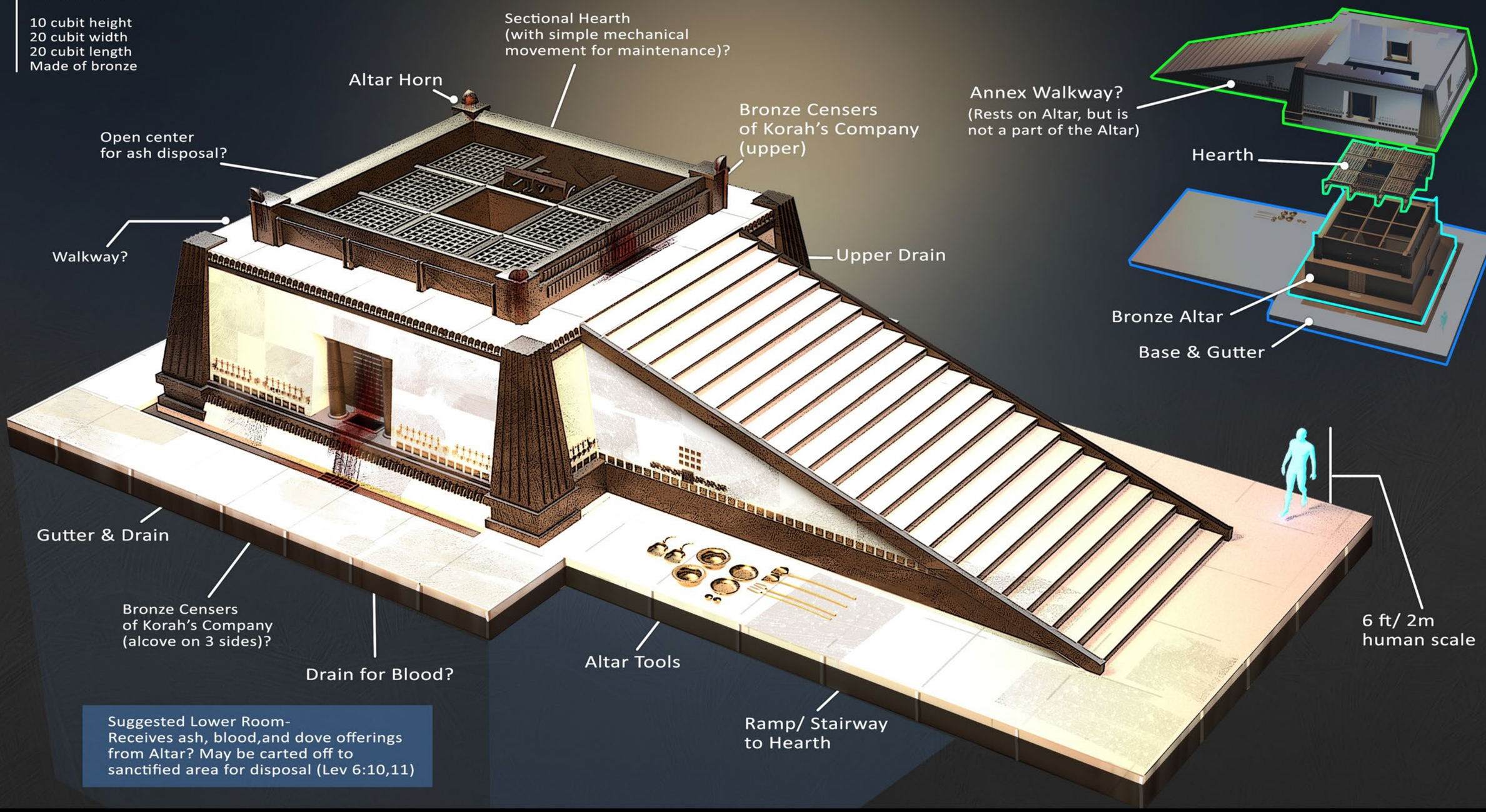
3) Some models suggest the Altar was surrounded by a stone walkway made from cut stones. Was that correct? This is an assumption, but even if it was correct, how is this not a violation of the other ordinance in Exodus 20: "[25] And if thou wilt make me an altar of stone, thou shalt not build it of hewn stone: for if thou lift up thy tool upon it, thou hast polluted it."

4) The wood-holding grate at the top would have been much larger than the original Altar. It sounds like it could hold more offerings for sure, but how is that scale helpful? How do priests manage the center of the Altar?

THE ALTAR OF BURNT OFFERING OF SOLOMON'S TEMPLE

II Chronicles 4:1

10 cubit height
20 cubit width
20 cubit length
Made of bronze



The Altar of Burnt Offering of Solomon's Temple

5) Providing offerings means offering doves, splashing a lot of blood, pouring out drink offerings, managing ash, and regular maintenance of the Altar. How was this done? Desert soil could absorb some of this, but the court of the Temple was stone. How did priests and offerors avoid slipping or falling?

6) What lessons can we learn from a model of how all of this looked? This is an example of how assumptions can sometimes give us a glimpse over the horizon… provided we are correct.

First: steps up to the Altar. God's stated concern is that "thy nakedness be not discovered thereon." It makes sense that priests should not dishonor God's Altar by exposing themselves toward it, but what exactly does this mean? If the priests are wearing long tunics, how could this happen, with or without steps?

It's not clear, but we should remember a couple of things:

1) At the time this ordinance was given, the priests had not been selected or clothed, and

2) Probably the only way nakedness could be exposed would be through a ladder.

If this is the case, a ramp or steps up to Solomon's Altar would not necessarily be in violation of the ordinance any more than a dirt mound giving the priest a boost for the Altar at the Tabernacle.

Second: the Altar was made of bronze, but that does not mean that the Altar was fully exposed to the sun. Here's where some more supposition comes in. When we look at the Altar in the Temple of Ezekiel's Prophecy for additional clues, we get some additional information that might inform aspects of Solomon's Altar—remember, Ezekiel had a priestly background and this would have resonated with him in some way. We read:

> [13] These are the measurements of the altar in long cubits, that cubit being a cubit and a handbreadth: Its gutter is a cubit deep and a cubit wide, with a rim of one span around the edge. And this is the height of the altar: [14] From the gutter on the ground up to the lower ledge that goes around the altar it is two cubits high, and the ledge is a cubit wide. From this lower ledge to the upper ledge that goes around the altar it is four cubits high, and that ledge is also a cubit wide. [15] Above that, the altar hearth is four cubits high, and four horns project upward from the hearth. [16] The altar hearth is square, twelve cubits long and twelve cubits wide. [17] The upper ledge also is square, fourteen cubits long and fourteen cubits wide. All around the altar is a gutter of one cubit with a rim of half a cubit. The steps of the altar face east.
>
> *— Ezekiel 43:13–17 (NIV, for clarity)*

So, this Altar has ledges that are the height of a man and only about 22 inches (55 cm) wide, so they aren't used for maintaining the Altar. What's the point of the ledges? One possibility is that this is similar to the step pattern of settles between the Temple and the storage rooms around the side. The rooms rest on the Temple as an annex, but are not a part of the Temple.

Could this also be the case with the Altar? The step pattern of settles could hold a stone annex around it. Since the annex would not be part of the Altar specifically, could the stones be hewn to create flat and even walkways? Maybe.

Sources state that under Herod, the Altar had such an annex and ramp, and that they were made out of uncut stones as indicated in Exodus 20. What's interesting is that Solomon's Temple building is built from stones that aren't processed on site—they are finished elsewhere and installed. The description of the Temple being built quietly (1 Kings 6:7) may have less to do with the noise level than with the curious fact that the stones were finished when they arrived. While they have been cut, it might have appeared to those in Jerusalem that they had been "cut without hands." It may be that, in this way, the same stones creating the face of the Temple were also used to enclose the Altar.

Now, the hearth. Ezekiel's hearth is about 21 feet (6.4 m) square in this case, and it has steps that face east. This clarifies that altars can have steps, and that the hearth of the Altar, though large, is not necessarily the same width as the Altar base measurement. It also means the hearth is roughly 8 times the size of the original Altar of Burnt Offering. Overall, though, Ezekiel's altar, about 31½ feet (9.6 m) across at its base, is close to the size of Solomon's twenty-cubit altar, about 30 feet (9.1 m).

We also know that the Altar has a gutter. From this we can gather that blood runs into a controlled area in these larger altars. This implies the existence of a room below to receive blood, offerings, and ash. More on this shortly.

So… can we apply any of this to Solomon's Altar? A word of caution first: from here, each idea builds on the one before it, so the further we go, the more tentative it gets.

Maybe the altars were similar?

Let's assume that since gutters exist to receive things like blood, they might also receive drink offerings and even dove sacrifices. Let's assume that all of this goes into a room located under the Altar. How would ash be collected? Possibly there was a funnel system under the altar to collect ash. It's possible that the grate at the top was actually several grates that had a simple lever mechanism like a trap door that allowed for wood and ash to drop into a funnel below. From there, it might fall onto a cart, where it could be rolled away and managed appropriately. The center of the altar might have had no grate for the hearth so that, alternatively, ash could be pushed forward to an empty center and removed.

Above, the Altar might have had display alcoves that held the bronze censers of Korah's rebellion and kept them withdrawn from sun and rain. These would be target areas to splash with blood as priests walked around the base. At the top of the steps would be an alternate arrangement of censer panels and gutters that would have helped manage the Altar.

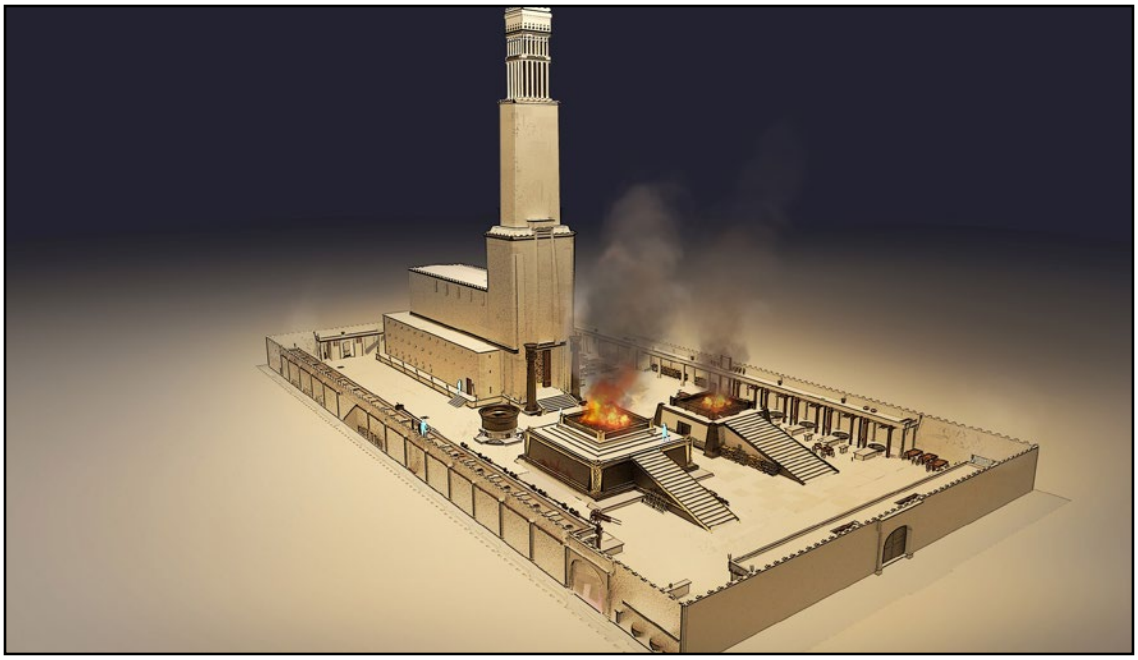
As offerings were provided and burned, priests could sequentially position the next sacrifice on the Altar, going around the Altar, perhaps in a circle, every day with new offerings. It's also

possible that certain sections of the Altar were dedicated to particular tribes, or even particular stages of burning.

Now, this is all speculation, and it's mostly built on logistical problem solving. If it's correct, it makes one passage in 2 Kings stand out even more. It's a chapter about King Hezekiah's father—King Ahaz.

King Ahaz

In 2 Kings 16, King Ahaz made some changes to the Temple. Why? Well, Rezin, king of Syria, along with Pekah, king of the northern kingdom of Israel, besieged Jerusalem. To save Jerusalem, Ahaz decided on a course of action—strip all the treasure from the Lord's house, and his own, and send it to Assyria. Assyria did indeed come to his aid, and Jerusalem was spared. Ahaz went north to meet the Assyrian king, Tiglath-pileser, in Damascus, and it was there that he was inspired to make a range of changes to the Temple of Solomon.



The Temple court in my model, with Ahaz's new altar beside the bronze one

12 And when the king was come from Damascus, the king saw the altar: and the king approached to the altar, and offered thereon.

13 And he burnt his burnt offering and his meat offering, and poured his drink offering, and sprinkled the blood of his peace offerings, upon the altar.

14 And he brought also the brasen altar, which was before the LORD, from the forefront of the house, from between the altar and the house of the LORD, and put it on the north side of the altar.

> [15] And king Ahaz commanded Urijah the priest, saying, Upon the great altar burn the morning burnt offering, and the evening meat offering, and the king's burnt sacrifice, and his meat offering, with the burnt offering of all the people of the land, and their meat offering, and their drink offerings; and sprinkle upon it all the blood of the burnt offering, and all the blood of the sacrifice: and the brasen altar shall be for me to enquire by.
>
> [16] Thus did Urijah the priest, according to all that king Ahaz commanded.
>
> *— 2 Kings 16:12–16 (KJV)*

There are more changes too, but we will discuss them in due time. For now, consider this:

Ahaz *moved* the Altar of Burnt Offering north of a second altar that he had made that also resided in the Court. Think about moving that altar—especially if our assumptions are true.

This wouldn't have been like moving heavy furniture. It would have been like rearranging a house with a full basement from one location to another, then putting in another house with a basement. No one commanded this; he just thought it might be a nice way to show deference to the king of Assyria. We also know something else from this passage: the Altar of Burnt Offering was not originally on the north side.

It appears that the new Altar of Ahaz was built in the middle of the court. This could be because the middle of the court was sanctified at one time to hold at least one other Altar (1 Kings 8):

> [63] And Solomon offered a sacrifice of peace offerings, which he offered unto the LORD, two and twenty thousand oxen, and an hundred and twenty thousand sheep. So the king and all the children of Israel dedicated the house of the LORD.
>
> [64] The same day did the king hallow the middle of the court that was before the house of the LORD: for there he offered burnt offerings, and meat offerings, and the fat of the peace offerings: because the brasen altar that was before the LORD was too little to receive the burnt offerings, and meat offerings, and the fat of the peace offerings.
>
> *— 1 Kings 8:63–64 (KJV)*

So Ahaz decided that *two* permanent altars in the Court was the right number. The one he invented was for regular sacrifice. Solomon's Altar was for the king alone, for his own, private inquiry. Unlike Solomon's supplemental altar or altars for offering an overflow of sacrifice from the main Altar, Ahaz ascribed different meanings and uses to the Altars. While moving the Altars may not have been like moving furniture, it seems that he thought of the Altars as his to remake however he saw fit, denying his kingdom access to the one true Altar and replacing it with his own invention.

Sure, he could use the bronze altar to inquire of the Lord—but when was the last time he did that? It stands to reason that under Ahaz, the Altar of Burnt Offering—which had seen a fire carried through the wilderness to its final resting place in Jerusalem, which housed the censers of Korah's rebellion, and which was a type of the Messiah himself—had been sidelined

as a cold, forgotten monument used only for ceremony and show. Not only that—the priests whose origin had been in turning the people from idolatry to the Lord had been complicit with the king's command to turn the people from the Lord to an order of men's devising.

But that wasn't the end of the story. I suspect much of the bronze Ahaz stripped from the court never left the Temple grounds. It may well have gone into his new altar, built after the pattern he saw in Damascus. If so, when Ahaz's own son Hezekiah opened the doors of the house of the Lord in the first month of his reign (2 Chronicles 29:3), the materials were still close at hand. Perhaps even the original forms for Huram's castings had been kept. The priests reported that every vessel Ahaz cast away had been "prepared and sanctified," and set once again "before the altar of the LORD" (2 Chronicles 29:18–19). For all his effort to remake the Temple as he saw fit, Ahaz may have left behind everything needed to restore it.

It's a pattern worth remembering. Men can sideline what God has appointed, but they can't erase it. And for us, there is still one altar: "We have an altar" (Hebrews 13:10), and it is found in Christ alone.

Still Unsolved

1. Why was Aaron chosen as high priest after the golden calf? Compare Exodus 32:21–24 with Exodus 28:1.
2. How did the priests reach the top of Solomon's ten-cubit altar without the steps forbidden in Exodus 20:26? See 2 Chronicles 4:1, and note the linen breeches in Exodus 28:42.
3. How were the censers of Korah's company fixed onto the altar? See Numbers 16:36–40.
4. The Law emphasizes one altar for burnt offerings, yet Solomon hallowed the middle of the court for additional offerings when the bronze altar was too small. How could more than one altar stand on the same site? See 1 Kings 8:63–64, alongside Exodus 27:1–8 and Deuteronomy 12:13–14.
5. Where did Ahaz put his new altar, and where did the bronze altar end up? See 2 Kings 16:10–16.

CHAPTER FOUR

Water: The Laver, the Sea and the Basins

King Ahaz had taken a proverbial jackhammer to the Altar of Burnt Offering, but he didn't stop there. Among the so-called improvements made at the Temple: the remodeling and probable destruction of some of the most beautiful elements of the Court.

While the Altar of Burnt Offering has only one verse offering a description, the ornate vessels holding water in the Court receive many. These could hardly be called vessels, really. They were more like reservoirs, and their use poses many interesting questions and possibilities.

The reservoirs were sculpted and cast by an extraordinary artisan named Huram. Huram was half gentile. His mother was an Israelite, but his father was a man of Tyre, and Solomon sent for him from Tyre (1 Kings 7:13–14). Even here, gentiles had a part in God's house, and not only by their skill. Hiram, king of Tyre, blessed "the LORD God of Israel, that made heaven and earth" (2 Chronicles 2:12). Centuries later, Cyrus, Darius and Artaxerxes would do the same for the second Temple, and Ezra carried their gifts to Jerusalem without an armed guard (Ezra 1:2; 6:8–10; 7:27; 8:22). Huram's work in the court is given great detail.

Before we consider possible models of his work, it's worth taking a moment to understand the process and materials used for fabrication.

Bronze is a durable, attractive, corrosion-resistant copper-tin alloy that is heavy and offers a good balance of strength, castability, and moderate flexibility. It's still widely used today in sculptures, bearings, marine hardware, musical instruments, and architectural fittings.

Its relative stability to withstand fire and water seems to be one of the reasons it is often associated with "total dedication to God" within Scripture. Bronze is unyielding under the test of elements, and it is probably why, as a symbol:

A) Bronze is the standard metal of the court. One must pass by the enduring symbols of Sacrifice (the Altar) and the Water (the Laver and the Sea) before one can behold the true, golden riches within the Temple itself.

B) The Serpent in the Wilderness was bronze—an enduring judgment on sin (Numbers 21:9)

C) Jeremiah was made "brasen walls" against the land (Jeremiah 1:18)

D) The angel that showed Ezekiel the Temple vision is described as a man whose appearance was "like the appearance of brass" (Ezekiel 40:3)

E) The vision of Christ in Revelation 1 reveals feet "like unto fine brass, as if they burned in a furnace" (Revelation 1:15)

Casting the work for the Temple was not a simple effort. It required great skill to create the forms and negatives, then actually cast the bronze in those forms. Each detail of the works described in this chapter would have been its own sculpture project—from the forms of cattle to lily flowers, lions, cherubim, and more. Each sculpt had to be planned mathematically and artistically, sculpted, and then used within the larger whole.

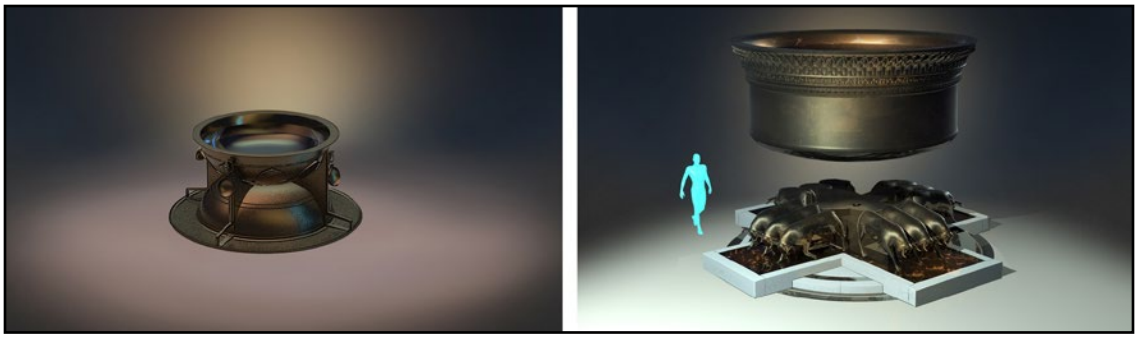
Much of that elegant detail does not seem to be associated with the Altar of Burnt Offering—it is likely that the Altar was much simpler in appearance and that it was constructed more like a building than a sculpture—which may have contributed to Ahaz finding appeal in the appearance of other altars than his own. Regardless, it doesn't appear that Huram worked on the Altar, only other works that required strong artistic and technical skill.

One such extraordinary work was the Bronze (or Molten) Sea.

The Bronze Sea and the Laver

See the illustration "The Bronze Sea," page 72.

The Sea is the counterpart of the Laver of the Tabernacle. Of the Laver there is little to say. It is another example of Scripture providing only minimal detail of appearance and use.



The Tabernacle's laver (left) and Solomon's Bronze Sea lifted above its twelve oxen (right)

Our first description is in Exodus 30:17–21:

> [17] Then the LORD spoke to Moses, saying: [18] "You shall also make a laver of bronze, with its base also of bronze, for washing. You shall put it between the tabernacle of meeting and the altar. And you shall put water in it, [19] for Aaron and his sons shall wash their hands and their feet in water from it. [20] When they go into the tabernacle of meeting, or

> when they come near the altar to minister, to burn an offering made by fire to the LORD, they shall wash with water, lest they die. [21] So they shall wash their hands and their feet, lest they die. And it shall be a statute forever to them—to him and his descendants throughout their generations."
>
> *— Exodus 30:17–21 (NKJV, for clarity)*

Later we learn a little more in Exodus 38:

> [8] He made the laver of bronze and its base of bronze, from the bronze mirrors of the serving women who assembled at the door of the tabernacle of meeting.
>
> *— Exodus 38:8 (NKJV)*

And the last passage with a passing description is in Leviticus 8:

> [11] And he sprinkled thereof upon the altar seven times, and anointed the altar and all his vessels, both the laver and his foot, to sanctify them.
>
> *— Leviticus 8:11 (KJV)*

So—the Laver was built as two main parts—a basin and stand—that likely separate and possibly stack for travel. Its size and water capacity are not given. It does not appear to be part of the Levitical procession of the Kohathites. It was formed from the bronze mirrors of women who served at the door of the Tabernacle. The laver would sit between the Altar and the Sanctuary, and it was a place for priests to wash their hands and feet before entry into the Holy Place.

The use is specific—the court was distinct and less ritually clean than the Holy Place, and its residue had to be removed from the priest entering a space near the presence of the Lord. This was probably not done by plunging hands and feet into a basin. There may have been cups or bowls used to remove the water and pour it so that the water would remain clean.

The statute declaring death to those who did not wash shows that the water in the laver was special. At least in a sense, it was the water of life. As the priest looked down into the water, he may have seen himself reflected back in that basin—the one who had been delivered by this modest cleansing.

While we know little about what the Laver looked like, the Bronze Sea is described in some detail. It is a massive fixture.

Size: The Sea is described as 5 cubits high (about 7½ feet, or 2.3 meters) and 30 cubits in circumference (about 45 feet, or 13.7 meters). In my interpretation, this height refers to the Sea's basin only, not the total height of the Sea atop the base of 12 oxen. This is an assumption on my part. I made the assumption because the base appears to be described separately from the basin and its specific dimensions are not specified.

Capacity: The basin of the Sea appears to hold 2,000 baths according to 1 Kings 7:26, but 2 Chronicles 4:5 describes it as holding 3,000 baths of water. This is a significant difference! It

THE BRONZE SEA (MOLTEN SEA) OF SOLOMON'S TEMPLE

I Kings 7:23-25,39, II Chronicles 4:2-10

5 cubit height
30 cubit circumference
1 handbreadth thick
2000-3000 bath capacity



The Bronze Sea

is possible that there was a transcription error in one of these passages over the ages, but it is also possible that both are correct depending on the Sea's design.

Ornamentation: The Sea had a brim like that of a cup, and had lily work all around the brim. This was a great cup of water, but it was also like an open water flower. Below it:

> ...there were knops compassing it, ten in a cubit, compassing the sea round about: the knops were cast in two rows, when it was cast.
>
> *— 1 Kings 7:24 (KJV)*

And also:

> ...under it was the similitude of oxen, which did compass it round about: ten in a cubit, compassing the sea round about. Two rows of oxen were cast, when it was cast.
>
> *— 2 Chronicles 4:3 (KJV)*

My understanding is that these are not two distinct rings of ten knops, but one ring made up of two rows. The same would be true for the oxen. If this is correct, the number of knops and oxen surrounding the Sea would be 300 each (30 cubits of circumference × 10 images per cubit), making them appear as fine details around the Bronze Sea.

The weight of the basin alone was massive: somewhere between about 22 and 52 metric tons (roughly 48,000 to 115,000 pounds), depending on the length of the cubit and the shape of the bowl. Math is one of my blind spots, so I checked this calculation with AI tools; the working is in Appendix A. It was a massive cup of "living water" totally dedicated in service to God. Not only that, the ornamentation told a story: it was an open water flower in the prime of its beauty, bringing life to new buds—the knops forming a ring below the flower petals. It was also a ring of strength and service to the users (the rows of cattle).

Further, this great vessel was borne on the backs of 12 oxen—perhaps calling to mind the 12 oxen from the 12 tribes used for transporting the Tabernacle in Numbers (Numbers 7:1–9). If the 12 oxen from the base were to fit under the basin, it appears that they would have been about half the size (or less) of a real ox.

But all of this leads to some logistical questions:

1) How was the Sea used? How could the priests receive the water? Some sources believe the Sea had a stairway and platform and that it was used essentially as a baptismal. Was this the case?

2) We haven't looked at the rolling lavers of the Temple just yet, but many scholarly sources make the claim that these were filled by the Bronze Sea, hence the need for the enormous size of the reservoir. Is this correct?

3) How could anyone fill or refill the Sea?

1 & 2) We know just how the Sea was used from one verse, 2 Chronicles 4:6:

> He made also ten lavers, and put five on the right hand, and five on the left, to wash in them: such things as they offered for the burnt offering they washed in them; but the sea was for the priests to wash in.
>
> *— 2 Chronicles 4:6 (KJV)*

The priests used the Sea for washing their hands and feet. There is no evidence of using it as a baptismal, and it wouldn't make sense anyway. Imagine walking into the golden interior of the Temple soaking wet! Or having to replace thousands of gallons of water because of blood leached off dirty priestly garments!

Additionally, there is no evidence that the Sea was used to feed the rolling lavers which had a different (and also beautiful) purpose.

To use the Sea, there were probably some simple mechanics—maybe a pipe and shutoff running from the basin to a small enclosed pool around the oxen. This would also account for the variance in the amount of water the Sea could hold. Some water would be in the basin (measured one way), and some in the pool below (measured with the basin and the pool together). In this low pool, priests had an almost unlimited supply of water to scoop and pour on their hands and feet before entering the Temple.

3) How to refill this? It might not have been so complicated. If there was a wall around the Temple with well access, water could have been poured into a simple gutter arm and into the top. The refilling would not have to be constant—surely it would rain from time to time, but the light use of the priests combined with the help of Levites or Nazarites could have kept the Sea full in perpetuity.

The Mobile Bronze Basins

See the illustration "The Mobile Bronze Basins," page 76.

As we've just read, the mobile bronze basins, five on the north and five on the south, were used for washing the offerings.

Originally, I assumed that these were refilled with the Sea and carted around, but there are a few problems with this:

1) The first is weight.

I worked out the depth of each basin, checking my math with AI tools, from the volume of water and the diameter of the bowl. The water would have been only about a foot (30 cm) deep. Assuming the bronze was about an inch (2.5 cm) thick, the basin alone would weigh about a metric ton (2,200 pounds). Add its bronze stand and the water, and a full cart could weigh 3 to 5 metric tons (6,600 to 11,000 pounds). The working is in Appendix A.

THE MOBILE BRONZE BASINS OF SOLOMON'S TEMPLE

I Kings 7:27; II Chronicles 4:6
Jeremiah 52:21

4 cubits wide
3 cubits high

Interior collar under basin: 1 cubit
Support for basin collar: 0.5 cubits
Wheel diameter: 1.5 cubits

Top band: 0.5 cubits

Water capacity: 40 baths

Made from cast bronze.

Used for washing things associated with the burnt offerings.



Collar under Basin w/ Supports

Underside View

40 bath water capacity
(232 Gallons/ 880 L)

Basin with 4 cubit diameter

0.5 cubit Top band

Corner handles

Drain release?

1.5 cubit "chariot" wheels

6 ft/ 2m
human scale

Side panels with oxen,
lions, cherubim, wreaths, and palms

Sculpted uprights
with oxen, cherubim,
lions and wreaths

The Mobile Bronze Basins

Moving these carts would be like pushing a car. I highly doubt these were wheeled "wherever needed."

2) The second is steering. Given the overall size, including the size of the wheels, it does not appear that the carts could have turned.

If that's correct, the carts were bidirectional, and may have run on tracks or in grooves with stops at either end.

3) The basins are tall. They are not so tall that one couldn't touch the water inside, but tall enough that filling them and accessing water would be difficult.

However, everything might come together when we consider the use. Remember 2 Chronicles 4:6:

> He made also ten lavers, and put five on the right hand, and five on the left, to wash in them: such things as they offered for the burnt offering they washed in them…
>
> *— 2 Chronicles 4:6 (KJV)*

These were not used for washing hands; they were for dipping the offerings to clean them and leach away the blood. This practice is still used in kosher butchery today.

How were the offerings lifted and placed into the water? Well, I wonder if these didn't run under a dressing or hoist system near where the offerings were processed. The carcass could be lifted, then dipped in the water, cleaned, then lifted again, while the mobile basin was removed to another spot where it could be drained, cleaned, and refilled.

With an understanding of where the offerings were killed and processed, the northern and southern division makes sense. These were probably not parked along the sides of the Temple, but at stations used for processing bulls on the south and sheep and goats on the north.

From here, my guesses start to build on one another, so take what follows as one possible picture. When we take the relative size of these basins along with their use, plus the space needed to process the offerings and the need for refilling, I'd argue that the basins were stored under a walkway on the wall. If water could be drawn from the wall or carried up the walkway, vessels could be staged above the basins and poured down below for refilling. If we presume that the offerings were hoisted and dipped into the basins, then it's possible that the hoists were also built into a wooden understructure supporting the wall. I suspect this is alluded to in 1 Kings 6:

> [36] And he built the inner courtyard of three courses of dressed stone and one course of trimmed cedar beams.
>
> *— 1 Kings 6:36 (NIV)*

To be clear, there's a lot of conjecture here, but it's not baseless. If it's correct, the amazing thing is that what little is described could define not just the mobile basins, but large sections of the wall around the court as well.

Mechanisms

Looking back at the basin itself, the cubit-long circular "collar" described under the basin, along with its supports, indicates (to my mind) that this may have been housing for a drain, and perhaps even simple mechanics for operating it. It is described as being "engraved," but it is unclear why, since such an engraving would have been difficult to see.



The underside of a mobile basin

One possibility is that the engraving is not "etched" into the metal, but punctures the metal housing to create some sort of simple "lock" for a drain mechanism.

These mobile basins were incredibly ornate, and were surely far more beautiful than what I have created.

When we look at the language in the text we see that among the details were wreaths. "Wreaths" is a translational guess based on something that means "thin work" or perhaps "woven" or "spiral" work. I see no issue with "wreaths," but the indication seems to be that whatever was sculpted here was highly detailed and required great skill on the part of the artisan, Huram.

It appears that there was a great deal of detail all over the surface of these elaborate carts—patterns that included oxen, lions, cherubim, palms, and wreaths. It is unclear if these were smaller panels cast separately and joined together later as I have in my image, or if the panel work was even more involved and artistic (I suspect that may be the case).

In either case, these intricacies have a point—as we look at the picture, we can imagine it. This is a vessel totally dedicated to the Lord, bearing the water of life. It is adorned with images

uniting the divine (the cherubim) with kings (the lions), victory (wreaths and palms), and strength in service (the oxen). It was removed from its place with the help of dedicated servants and came to the offeror to receive the offering.

The offering was a symbol of the offeror, and so there seems to be the hint of prophecy looking forward to Christ taking away the sin of the world—coming to where we are, receiving our sacrifice, removing our sin, and repeating for anyone seeking a connection with the heavenly Father.

All the worse, then, to read that King Ahaz took these beautiful furnishings and cut them for scrap in deference to foreign kings. 2 Kings 16 says:

> [17] King Ahaz cut off the side panels and removed the basins from the movable stands. He removed the Sea from the bronze bulls that supported it and set it on a stone base.
>
> *— 2 Kings 16:17 (NIV)*

This Temple overhaul effectively removed the laver carts from service. One wonders if the ritual cleansing for the offering changed in some way because of this.

Regardless, we do know that the basins were restored at some point because they were listed as one of the things the Babylonians spoiled in Jeremiah 52:17–20.

What were the faithful under the law to do in this case? If the offering couldn't be dipped in the living water, then maybe the offerors themselves could be dipped in water with the help of a priest; a ritual washing coinciding with repentance and commitment to God. A statement that one wished to be washed of their sins, within and without, so that they might be presentable before the Lord.

It's only a guess, but baptism may have become a ritual in this very way around the Babylonian captivity. If so, there is some harmony with Paul's message to us in Romans 12:

> [1] I beseech you therefore, brethren, by the mercies of God, that ye present your bodies a living sacrifice, holy, acceptable unto God, which is your reasonable service.
>
> [2] And be not conformed to this world: but be ye transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect, will of God.
>
> *— Romans 12:1–2 (KJV)*

Still Unsolved

1. Did the Sea hold two thousand baths or three thousand? Compare 1 Kings 7:26 with 2 Chronicles 4:5. Even two thousand baths won't fit a bowl measured in 18-inch cubits; see Appendix A.
2. How did the priests actually wash from the Sea? See 2 Chronicles 4:6 and Exodus 30:17–21.
3. How were the ten mobile basins filled, moved and used? See 1 Kings 7:27–39.
4. Why was the Tabernacle's laver made from the mirrors of the serving women? See Exodus 38:8.

5. How was the Sea filled and refilled? Its bowl alone was five cubits deep (about 7½ feet, or 2.3 m), it held about 11,600 gallons (44,000 L) or more, and it stood on the backs of twelve oxen. The mobile basins could be filled from above or wheeled to water, but the Sea could not move. Was water carried up by hand, piped in from a spring or cistern, or brought in some other way? See 1 Kings 7:23–26 and 2 Chronicles 4:2–6.
6. Ahaz cut off the panels of the basins and took down the Sea. When were they restored? See 2 Kings 16:17, 2 Chronicles 29:18–19 and Jeremiah 52:17–20.

CHAPTER FIVE

Jachin, Boaz and the Porch

Ahaz didn't ruin all of Huram's work. He appears to have had the sense to leave the porch of the Temple mostly intact.

The entry would have been grand for those very rare few able to access it. How grand is a matter of debate. Mostly the questions revolve around how the porch was set up, and how high it was.

Jachin and Boaz

See the illustration "Jachin and Boaz," page 84.

The previous two chapters discussed the bronze of the court. One last thing appears in the Temple of Solomon that doesn't seem to have an analog in the Tabernacle—the pillars: Jachin and Boaz.

Like Huram's other work, these were cast in the clay ground near the Jordan.

> In the plain of Jordan did the king cast them, in the clay ground between Succoth and Zarthan.
>
> *— 1 Kings 7:46 (KJV)*

And like so much of Huram's other work, these pillars were stunning. Even so, models of the pillars often vary because descriptions between 1 Kings and 2 Chronicles also vary. It's unclear if the pillars were decorative and freestanding or if they were load-bearing and part of the architecture of the porch.

However, it's easy to forget that there is another passage elsewhere that discusses particulars of the pillars. This passage is in Jeremiah 52:17–23.

Let's compare the descriptions given:

Pillars

To start with, there appears to be a discrepancy between 1 Kings and 2 Chronicles regarding the height of the pillars. Were they 18 cubits high or 35 cubits high?

One passage reads: "For he cast two pillars of brass, of eighteen cubits high apiece" (1 Kings 7:15).

The other reads: "Also he made before the house two pillars of thirty and five cubits high" (2 Chronicles 3:15).

My assumption is that the measurements in 1 Kings or 2 Chronicles (or both) are close approximations, not exact sizes. If that assumption is correct, then both pillars may have been 17.5–18 cubits, and if laid end to end—perhaps this is how they were cast in the ground?—we'd have our figure of about 35 cubits. Height may simply refer to a common axis of measurement, not the height of the pillars when they are standing at the Temple.

We also read: "and a line of twelve cubits did compass either of them about" (1 Kings 7:15). With the perimeter known, we can estimate the diameter of the pillars. 12 cubits is about 18 feet or 5.5 meters. My assumption is that this is the widest the pillars would be, probably at the capitals. The widest diameter would be about 5 feet 9 inches (1.75 m).

Capitals and Abacus

> …and the chapiter that was on the top of each of them was five cubits.
>
> *— 1 Kings 7:16 (KJV)*

> And the chapiters that were upon the top of the pillars were of lily work in the porch, four cubits.
>
> *— 1 Kings 7:19 (KJV)*

My view is that the capitals were 5 cubits tall, with 4 of the cubits being dedicated to the main lily sculpt of the capital. This would make the uppermost section of the capital about a cubit in height. As I'll point out, this too appears to have had some sort of lily sculpt to it.

Decoration on the Capitals: Lily Work

> The capitals on top of the pillars in the portico were in the shape of lilies, four cubits high.
>
> *— 1 Kings 7:19 (NIV)*

> The capitals on top were in the shape of lilies.
>
> *— 1 Kings 7:22 (NIV)*

Verses 19 and 22 seem to say the same things in 1 Kings 7, but I think they may be referring to the ornamentation of two different sections of the capital on each pillar.

JACHIN & BOAZ

PILLARS OF SOLOMON'S TEMPLE

I Kings 7:15-22; II Chronicles 3:15-17
Jeremiah 52:21

~18 cubits high (each)
12 cubits circumference

BREAKDOWN:
13 Cubits, base and column
4 cubits of lily work on capital
1 cubit abacus
4 fingers thick (hollow construction)
7 Chain networks adorn the capitals

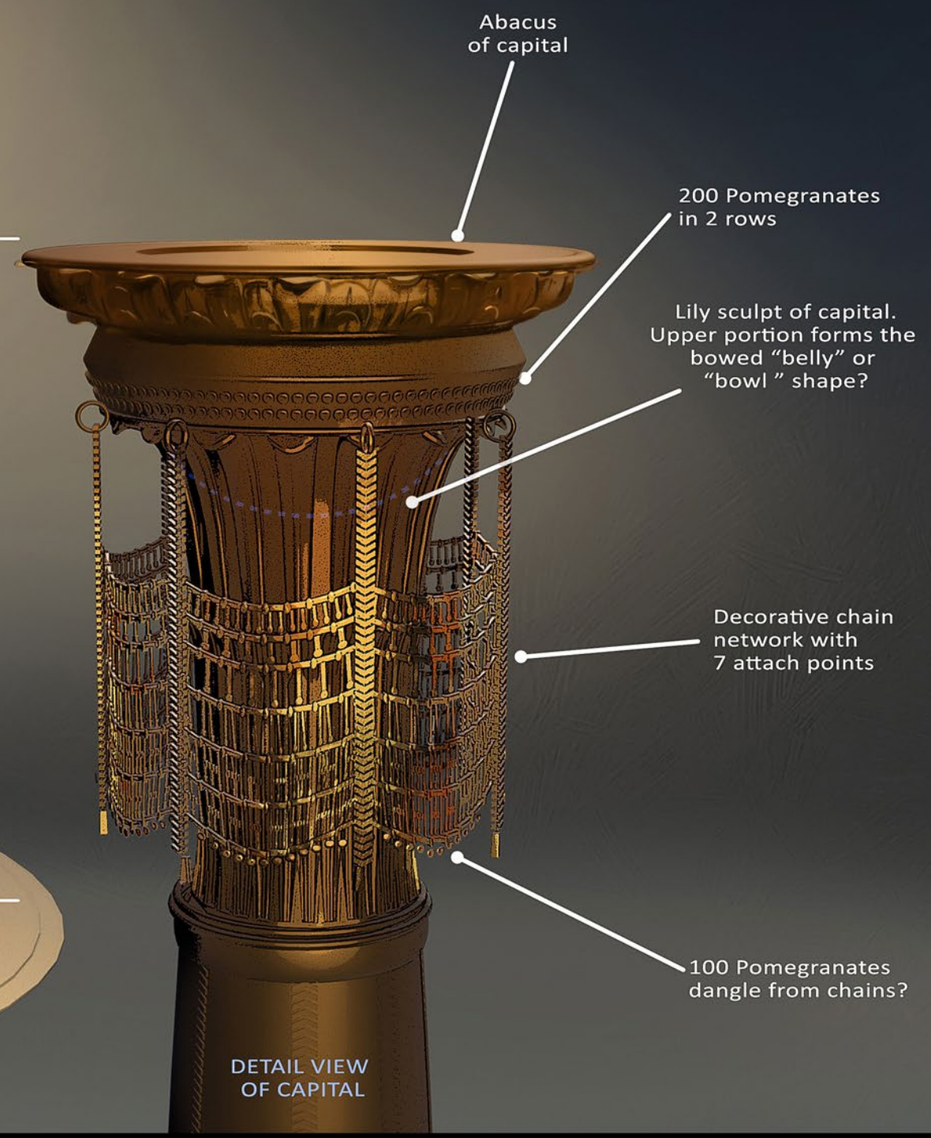
Made from cast bronze.

Pillar on the RIGHT (South?)-
Jachin- (Yakin- "He will Establish")

Pillar on the LEFT (North?)-
Boaz- (Bo'az- "In His Strength")



ZOOM



Jachin and Boaz

If correct, both the bell—or "bowl shape" of the pillar—and the abacus top had lily relief sculpt designs on them. The reason they are differentiated may have to do with explaining the placement of the pomegranates on the pillars. It is also possible that these sections were cast separately and assembled on site (which is why the Babylonians could break apart the pillars and carry away all the brass to Babylon), and were described section by section as they related to one another.

Pomegranates on the Pillars

The details about the pomegranate designs also don't seem to match.

One passage says: "He made pomegranates in two rows encircling each network to decorate the capitals on top of the pillars. He did the same for each capital" (1 Kings 7:18, NIV).

Another says: "And the chapiters upon the two pillars had pomegranates also above, over against the belly which was by the network: and the pomegranates were two hundred in rows round about upon the other chapiter" (1 Kings 7:20, KJV).

But Jeremiah says: "There were ninety-six pomegranates on the sides" (Jeremiah 52:23, NIV).

My reading of this is that the 2 rows of pomegranates were placed in the upper bell of the capital (on the four-cubit lily section), perhaps just above the connection points for the decorative chains.

The 2 rows of pomegranates would have 100 pomegranates in each row, for a total of 200 that would have been affixed to each pillar.

How do we make sense of Jeremiah's claim that there were 96 pomegranates on the sides? This is 104 short!

There are a few possibilities:

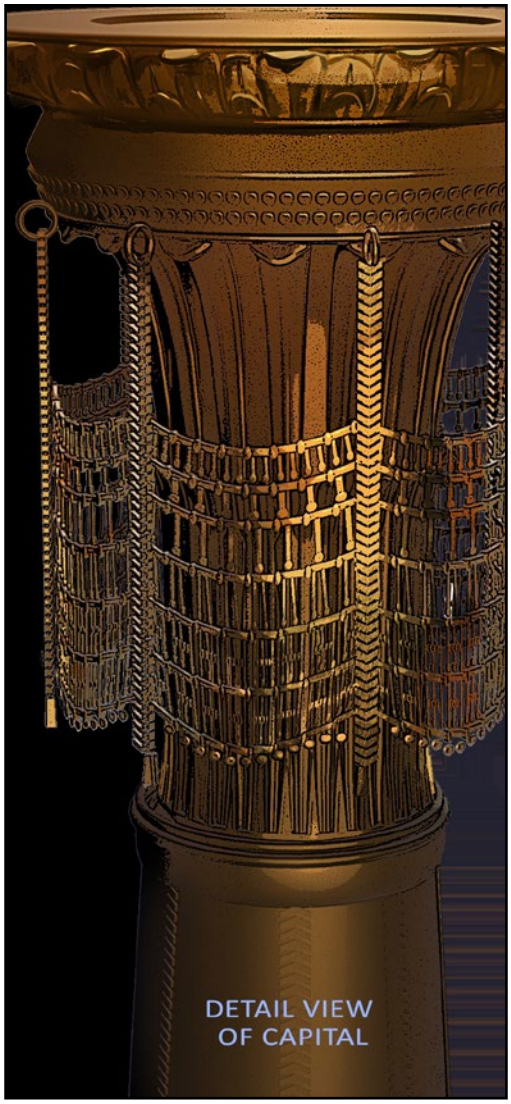
1) It's not totally clear where the pillars were placed "before" the Temple, and as such it's not clear how much detail visitors saw on the capitals as they entered the court. Some scholars suggest that proximity to the Temple limited how many pomegranates people could see—maybe only 96 on the side as one might face the Temple. This would be less likely if the pillars were freestanding and farther out from the doorway to the Temple.

2) Some of the pomegranates may have become dislodged over time due to disrepair at the time of Jeremiah.

3) It's also possible that the two rows of 100 each approximate the actual number of 96 in each row. One row might have been on the pillar, another on the hanging chains below.

Decorative Chains with Pomegranates

Regarding the chains on the pillars, we read:



A capital with its chains and pomegranates

> A network of interwoven chains adorned the capitals on top of the pillars, seven for each capital.
>
> *— 1 Kings 7:17 (NIV)*

> The bronze capital on top of one pillar was five cubits high and was decorated with a network and pomegranates of bronze all around.
>
> *— Jeremiah 52:22 (NIV)*

> …the total number of pomegranates above the surrounding network was a hundred.
>
> *— Jeremiah 52:23 (NIV)*

My understanding for the model is that there are "interwoven chains" with 7 attach points that appear to hang from the pillar.

Initially, I thought of the chains as "linked" chains like we might use to secure property, but then I remembered this passage from Genesis 41:

> [42] And Pharaoh took off his ring from his hand, and put it upon Joseph's hand, and arrayed him in vestures of fine linen, and put a gold chain about his neck…
>
> *— Genesis 41:42 (KJV)*

The words for "chain" are different in 1 Kings 7 and Genesis 41, but the purpose seems to be similar—a chain used in ornamental fashion. We can see examples from the region where ornamental chains might be referred to as a "network."

In my concept, it is possible that the chain network would have swayed in the wind, and maybe even acted like wind chimes—marking out the entrance to the Temple of Solomon.

Together, the names of the pillars state "The Lord will establish / in His strength." Establish what? His house. His kingdom. His people. His name in the earth. The pillars stand as reminders to the north and south. The lilies are the fragrance of life, with pomegranates, fruit bearing many seeds, borne on these two pillars of bronze adorned like royalty.

Some beautiful symbolism, perhaps, but it's also possible that the pillars held up an architecturally significant portion of the Temple.

The Porch

Famously, there is a disparity between differing translations of Scripture regarding the porch of the Temple. The length and width are no issue (1 Kings 6:3):



The porch as a tower, beside Solomon's altar

> The portico at the front of the main hall of the temple extended the width of the temple, that is twenty cubits, and projected ten cubits from the front of the temple.
>
> *— 1 Kings 6:3 (NIV)*

The height is another issue:

2 Chronicles 3:4 in the NIV reads:

> The portico at the front of the temple was twenty cubits long across the width of the building and twenty cubits high.
>
> *— 2 Chronicles 3:4 (NIV)*

But in the KJV it reads:

> And the porch that was in the front of the house, the length of it was according to the breadth of the house, twenty cubits, and the height was an hundred and twenty: and he overlaid it within with pure gold.
>
> *— 2 Chronicles 3:4 (KJV)*

The Hebrew text (as keyed in Strong's concordance) agrees with the KJV: it reads "an hundred and twenty." So do the main text of the Greek Septuagint, the Latin Vulgate and the Jewish historian Josephus, who writes that the porch's "height was raised as high as a hundred and twenty cubits." Only one Greek manuscript (Codex Alexandrinus) and the Arabic version read twenty, and the Syriac leaves the clause out altogether.

So various translations disagree on this passage. As I understand it, many scholars are much more comfortable with the 20 cubit height because:

1) A tower of that height serves no practical purpose on the Temple. It does not appear to be accessible, and poses architectural concerns, especially regarding weight and concerns with forces such as wind.

2) 20 cubits is closer to the height of Jachin and Boaz, and both could fit as supports under a portico overhead.

3) The clause itself is unusual. Literally, it reads "and the height a hundred and twenty," with no word for "cubits," though the measurements around it have one. In Hebrew, "a hundred" (*me'ah*) and "cubits" (*ammot*) share letters, so a copyist could have misread "cubits twenty" as "a hundred and twenty," and the unit would drop out, which is just what the text looks like.

4) 1 Kings measures almost everything about the house, down to the side chambers, but gives the porch no height at all. A tower of 180 feet (55 m) would have been the most striking feature of the Temple, and it seems strange to leave it out.

Fair enough. Maybe this is the right view. However:

A) The Hebrew says what it says. Scribes were well known for meticulous accuracy. Copies did sometimes differ (we've already seen two thousand baths and three thousand), but the reading of a hundred and twenty is old and widespread, and it is odd to me that such a glaring error could be made without challenge. As for the silence of Kings, Chronicles often fills in details that Kings leaves out, including the pure gold overlaid inside this very porch (2 Chronicles 3:4).

B) I don't know what architectural wisdom Solomon used to build the Temple, and don't know what materials were used or how. Surely a tower structure of this sort could be made today. Why not then?

C) There may have been a function for such a tower. But what use? I'm not sure, but one possibility might be: a windcatcher.

Windcatcher towers have been used all throughout the Middle East from Egypt to Persia since around 1300 BC. Solomon reigned in the 900s BC, and would surely have been familiar with windcatchers.

Windcatcher towers are tall projections that capture wind to help circulate cool air in a building—a bit like a simple air conditioning unit. This feature lowers interior building temperatures by several degrees.

Solomon's Temple may very well have needed something like this. The Holy and Most Holy Place of the Temple would have been covered in gold. Beautiful, yes; but light and heat may have made the Temple sweltering on a summer day in Israel. Something like a windcatcher

could keep the Temple interior manageable and even cool for the priests. In this case, the wind hitting the tower would be a feature, not a bug.

The setting offers some support for this. Jerusalem's summer breeze comes mainly from the west, off the Mediterranean, and a tower rising above the roof at the east end of the house could catch it. The house also had "windows of narrow lights" high in its walls (1 Kings 6:4), which could have let the air out again: in through the tower, through the Holy Place, and out through the narrow windows.

To be fair, a windcatcher only needs to rise a little above the roof to work, not 90 cubits above it (the house itself was thirty cubits high). So a windcatcher may explain some of the height, but probably not all of it.

Could It Have Stood?

If the porch really was a hundred and twenty cubits high, about 180 feet (55 m), or roughly a sixteen-story building, the questions are practical ones. What exactly would make it hard to build, and could the builders of Solomon's day have overcome it?

Proportion. This is the biggest challenge. The porch stood on a footprint of only 20 by 10 cubits, about 30 by 15 feet (9.1 by 4.6 m). A tower 120 cubits high on a base 10 cubits deep is twelve times taller than it is deep. That is very slender for stone. Much later stone towers, like the great minarets of the Middle Ages, are often only five to seven times taller than they are wide, and they are round, the most stable shape. Still, it isn't impossible. Walls that taper as they rise, very thick lower courses, and floors and cross-walls inside (rooms stacked one above another) would all stiffen the tower, much as floors stiffen a modern building. The bottom thirty cubits would also be braced against the front wall of the house itself.

Earthquakes. Jerusalem sits in an earthquake zone, and Scripture remembers a famous earthquake in the days of Uzziah (Amos 1:1; Zechariah 14:5). Tall, thin masonry is what falls first. But here the text may give us an answer. Solomon's walls were built with "three rows of hewed stone, and a row of cedar beams" (1 Kings 6:36; 7:12), and the second Temple followed the same pattern (Ezra 6:4). Courses of timber laid into stone walls let masonry flex in an earthquake instead of cracking, a method known in the ancient world. Solomon's builders were already using it.

Wind. A heavy, tapering stone tower resists wind by its own weight. And if the tower was a windcatcher, the wind was the point.

Foundation. The Temple stood on the limestone bedrock of Mount Moriah, which can carry enormous weight.

Construction. Lifting cut stone 180 feet into the air would be hard work, but it wasn't new. More than a thousand years earlier, the Egyptians had raised stone over 400 feet (120 m) on the Great Pyramid, using ramps and scaffolding, and Hiram's men were skilled builders.

Other Reasons for a Tall Porch

A windcatcher isn't the only possibility. A few others are worth considering:

1) **Upper rooms.** David gave Solomon "the pattern of the porch, and of the houses thereof, and of the treasuries thereof, and of the upper chambers thereof" (1 Chronicles 28:11), and Solomon "overlaid the upper chambers with gold" (2 Chronicles 3:9). The porch itself was overlaid "within with pure gold" (2 Chronicles 3:4), which suggests an enclosed space, not just a front wall. A tall porch with rooms stacked inside could have held treasuries, and those same floors would have helped the tower stand.

2) **A landmark.** A front 180 feet high would have been visible for miles to pilgrims going up to Jerusalem (Psalm 122:1–4), a picture of "the mountain of the LORD's house" established "in the top of the mountains" (Isaiah 2:2). Egypt's temples had great gateway towers, and Solomon married Pharaoh's daughter and hired builders from Tyre. A monumental front was a familiar way of saying, "This is a great house."

3) **A watch post.** Later Jewish practice, recorded in the Mishnah (Yoma 3:1), sent someone to see whether the dawn had lit the east "as far as Hebron" before the morning sacrifice could begin. A high point on the Temple would be useful for watching for the dawn, the new moon, or signals from across the land.

4) **Later builders thought it was right.** The Mishnah (Middot 4:7) says Herod's sanctuary was a hundred cubits high, with its front wider than its back, "like a lion," and Josephus also describes Herod's Temple as a hundred cubits high. Whatever we decide about Solomon's porch, the Jews of Jesus' day believed that God's house should have a towering face.

Any one of these might explain part of the height. Together (a windcatcher, upper chambers, a landmark and a watch post), they make a stronger case than any one of them alone.

All of this is guesswork, of course, and we don't know how such a tower would have integrated with the rest of the structure (unlike the side storage rooms, for example), but I don't believe we should be quick to discount the words as written in Scripture just because we aren't certain about how they should be applied, or because we can't quickly come up with a visual solution.

Still Unsolved

1. Were the pillars eighteen cubits high (about 27 feet, or 8.2 m) or thirty-five cubits (about 52 feet, or 16 m)? Compare 1 Kings 7:15 with 2 Chronicles 3:15.
2. How many pomegranates were there, and how were they arranged? Jeremiah gives ninety-six on a side and a hundred all around, while 1 Kings gives two hundred in rows and four hundred for the two networks. See 1 Kings 7:20, 42 and Jeremiah 52:23.
3. Was the porch really a hundred and twenty cubits high, and if so, what was it for? Compare 2 Chronicles 3:4 with 1 Kings 6:2–3 and 1 Chronicles 28:11.
4. Did the pillars stand free, or did they help hold up the porch? See 1 Kings 7:21 and 2 Chronicles 3:15–17.

CHAPTER SIX

The Lampstand

Entering the Holy Place

Passing through the folding doors of the Temple would have been dramatic. A room covered floor to ceiling in gold. Ornate wood carvings of cherubim, palms, and open flowers on the walls—all overlaid in gold leaf. Ahead, the Altar of Incense and the enormous tapestry of the Veil of the Sanctuary. To the sides on the north and south a total of 10 Lampstands and 10 Tables of Showbread.



The Holy Place of Solomon's Temple in my model

The Tabernacle would have been modest by comparison, but still quite beautiful. No folding doors to pass through, but passages marked by pillars that might have actually collapsed flat for travel, and by woven tapestries. These tapestries were not simply the blue, purple, and

scarlet we often think of—they were blue, purple, and scarlet thread on a field of white linen. Designs, depictions, and patterns would have been easy to see.

Inside the Holy Place of the Tabernacle, acacia boards overlaid with gold lined the sides of the space. There does not appear to have been a constructed ceiling. The golden boards would have been held together partly with bars running through the outside, partly through fittings into their silver sockets, and probably through bands that ran over the top of the boards (though these are not described). The connected woven tapestries of the Mishkan would have been draped above, and would have reflected off the walls of the golden chamber.

Ahead, the Veil of the Sanctuary and the Altar of Incense, but only a single Lampstand and a single Table of Showbread.

One Talent of Gold

We should note that the Lampstand was probably not nearly as large as it is often depicted.

The Lampstand was constructed from one talent (approximately 75 pounds, or 34 kg) of gold—though this measure may be more or less depending both on the source for the measure and whether the tools used with the Lampstand (such as the snuffers and trays) were also derived from that talent. Exodus 25:37–40 reads:

> [37] Then you shall make its lamps seven in number; and they shall mount its lamps so as to shed light on the space in front of it. [38] Its snuffers and their trays shall be of pure gold. [39] It shall be made from a talent of pure gold, with all these utensils. [40] See that you make them after the pattern for them, which was shown to you on the mountain.
>
> *— Exodus 25:37–40 (NASB, for clarity)*

Volumetrically, 75 lbs (34 kg) of gold does not occupy much space—a little under half a gallon (about 1.8 liters). Initially this might seem to suggest the Lampstand was a small lamp, but this is not necessarily true given its construction: the gold was to be beaten out.

What does "beaten gold" mean?

Beating metals for design and construction is an ancient art that is still used prominently. When we "strike" a coin or "stamp" metallic parts, we continue this tradition of work.

The ancient process involved creating metal sheets of a given thickness and hammering them into a pre-made negative of the desired form. Afterward, the metal might be heated and further manipulated into a final shape. Any additional details could be created separately and then heated and attached to the object.

This means that it is likely that the branches of the Lampstand were hollow cylinders, bent into branches, which may have had the flowers and calyxes as part of the design, or added later to the final Lampstand.

From this we might gather that the talent of gold used would have been able to create larger forms using less metal. Assuming this is true, it's unclear exactly how large this Lampstand could have been since we don't know the thickness of the metal sheeting used for the forms composing the final piece.

Scripture doesn't give the Lampstand's height. My own suggestion, based on how far a talent of gold could go and on the likelihood that the lamps didn't sit at floor level, is about 5 feet (1.5 m) tall.

There is also historical debate about whether the branches of the Lampstand were straight or arched as they appear in my version.

While the Lampstand as it is often pictured may be an accurate representation of the one found in Herod's Temple, it does not appear to accurately reflect the amount of gold prescribed in Exodus. While the Tabernacle Lampstand may have weighed about 75 lbs (34 kg), the replica constructed by the Temple Institute weighs a whopping half ton (about 450 kg) and contains 45 kg (about 100 lbs) of 24-karat gold! From a practical standpoint, this would have been suitable as a permanent temple fixture, but certainly not one that could be picked up and carried great distances through the wilderness as would have been required in Mosaic times. Whether that replica reflects the size and construction of the lampstands in Solomon's Temple also deserves healthy skepticism.

Ornamentation

See the illustration "The Golden Lampstand," page 98.

The Lampstand appears to point to a suggestion of the burning bush Moses saw on Mount Sinai, or even the Tree of Life itself.

Could the burning bush, or even the Tree of Life, have been almond trees in different states of development? While that is unclear, we may observe that like Aaron's budding rod, the Lampstand references the almond tree with its ornamentation of 22 calyxes (cups) and almond blossoms on its 7 branches.

Almond trees have white and pink blossoms with 5 petals. Some writers on biblical numbers (E. W. Bullinger's *Number in Scripture* is the classic example) suggest that five stands for grace or favor from the Lord and seven for divine completion. If they're right, the five petals on each flower and the seven branches of the Lampstand might carry those meanings, but number symbolism is one of the weakest links in any study like this, so it's worth holding loosely.

Why 22 calyxes? Where else does 22 appear in the Bible? It's not immediately apparent, but one thing I noticed upon research (and this is my own suggestion, not an established view) is that the kings of Judah number 21 from David to Zedekiah (Athaliah was a usurper queen), meaning that Christ makes the 22nd king in David's line. This may be why the lamps were lit

in Numbers 8—only after each tribe came forward with their offerings. Only then could the Kingdom of Israel clearly be identified.

All of the ornamentation, the gold, and the function of the Lampstand are elegant object lessons that carry multiple messages about the Messiah.

It is interesting to consider a possible spiritual application of the work: that the construction of the only light in the Tabernacle involved the violent deformation of a malleable metal into a predetermined form.

One of the main reasons for much of the initial conversion of Jews to Christianity was that Peter and the other Apostles were preaching that Jesus was the Messiah spoken of in the Old Testament. They were able to use the Word of God—reminding their audience of well-known (but sometimes poorly understood) passages in the Law and the Prophets to demonstrate that Jesus adhered perfectly to the "form" that Scripture had laid out to elucidate the Messiah. This "form" was first shown to the Apostles by Christ himself after his resurrection (Luke 24:27, 44–45). Even after he ascended to heaven, the excitement of the Apostles at seeing the Truth of Scripture is palpable in all of their New Testament writings.

John 1:14 is brilliant in the statement that Jesus was "the Word… made flesh," not only in the miracle of Christ's birth, but through his willingness to be malleable to God's will as he was struck again and again into the pattern for the deliverer that God had foretold—even at the cost of a cruel and unjust execution at the hands of an angry mob.

He now stands as a lamp to the world, lighting the path for those separated from the world, who pass between the laver and the altar (baptism and sacrifice) into the Holy Place that God has established.

Still Unsolved

1. How large could a lampstand beaten from one talent of gold be? See Exodus 25:31–40.
2. The lamps were to burn "continually," yet Aaron tended them "from evening to morning," and the lamp of God had not yet gone out when Samuel was called. Did the Lampstand burn only through the night? Could "continually" mean "regularly," as with the continual burnt offering made morning and evening? See Exodus 27:20–21, Leviticus 24:2–4, 1 Samuel 3:3 and Exodus 29:38–42.
3. I suggest the 22 almond cups point to the 22 rightful kings of David's line, ending in Christ. Does that hold up, or is there a better reason for almonds and for that number? See Exodus 25:31–36, Numbers 17:8, and Numbers 7 and 8.
4. Scripture places five lampstands on the right and five on the left, before the oracle. Did they stand in a line along each wall, or were they grouped near the entrance to the Most Holy Place? And was Moses' original lampstand still used alongside them? See 1 Kings 7:49 and 2 Chronicles 4:7.

THE GOLDEN LAMPSTAND

Exodus 25: 31-40

Dimensions not given.
Made from 1 talent of gold (appx 75 lbs/ 35 kg)
(Talent of gold may also include associated tools)
Lampstand is one piece, made solely of beaten gold.



The Golden Lampstand

CHAPTER SEVEN

The Table of Showbread

See the illustration "The Table of Showbread: Model A," page 102.

Now let's turn our attention to the northern side of the Holy Place in the Tabernacle. Here we have the Table of Showbread.

At first glance, the Table of Showbread appears to be quite simple—the biblical description is brief. However, some of the words used in Scripture cast doubt on the specifics of how the table was arranged, how it worked logistically, and how the items on the table might have looked. In large part, the unknowns of this table extend from questions about the centerpiece of the table: the bread.

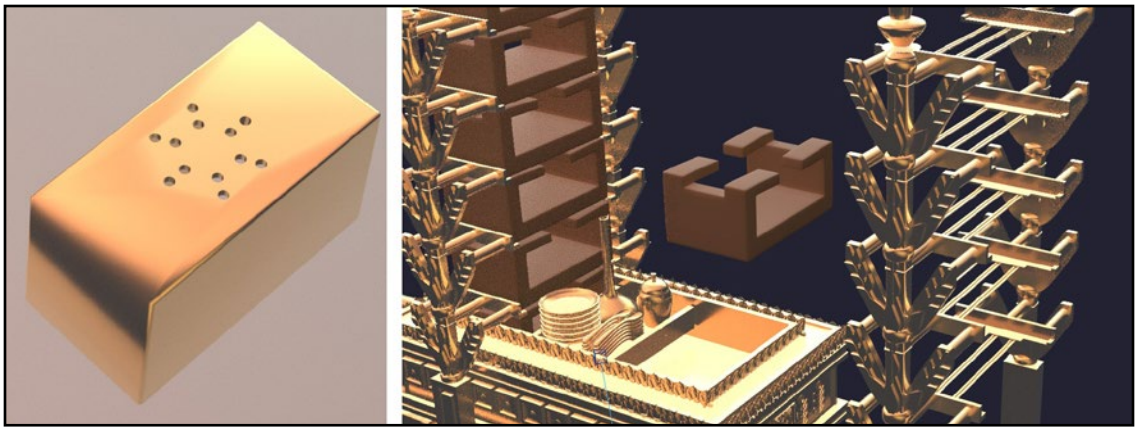
The bread wasn't stacks of pita bread (as often pictured). We know this because Leviticus 24 gives us some information on how the bread was made:

> [5] And thou shalt take fine flour, and bake twelve cakes thereof: two tenth deals shall be in one cake. [6] And thou shalt set them in two rows, six on a row, upon the pure table before the LORD. [7] And thou shalt put pure frankincense upon each row, that it may be on the bread for a memorial, even an offering made by fire unto the LORD. [8] Every sabbath he shall set it in order before the LORD continually, being taken from the children of Israel by an everlasting covenant. [9] And it shall be Aaron's and his sons'; and they shall eat it in the holy place: for it is most holy unto him of the offerings of the LORD made by fire by a perpetual statute.
>
> *— Leviticus 24:5–9 (KJV)*

The Leviticus passage describes the bread as "cakes" in the sense of the definition, "a compact mass of something." The showbread would have been a dense mass of unleavened bread—each primarily consisting of two tenth parts of an ephah of flour (two omers). There is some question about how much flour this would be, but working from the size of the ephah, each loaf would take about 18 to 30 cups of flour, or roughly 5 to 9½ pounds (2.3–4.3 kg). That's somewhere between 60 and 115 pounds (28–52 kg) of flour for all twelve loaves, though estimates vary. The working is in Appendix A. For reference, a 12-inch (30 cm) pizza dough uses about 2.5 cups (300 g) of flour (though this dough is leavened to increase the overall size for the dish—so we're talking about the pre-leavened dough mass).

Logistical Issues

Space: Cooking these cakes "flat" like a pita means that the bread "loaves" would be quite large. Remember, the table is only two cubits long (about 36 inches, 91 cm) and one cubit (18 inches, 46 cm) wide, and there has to be enough room for 12 pieces of bread on the table. The bread also can't stick out over the edges of the table because of the crown around the edge. Remember also that the table holds other tools and dishes (Exodus 37):



Close-ups from my models of the Table of Showbread

> [16] And he made the vessels of pure gold that were to be on the table, its plates and dishes for incense, and its bowls and flagons with which to pour drink offerings.
>
> *— Exodus 37:16 (ESV)*

Space is limited on this table, so the size and shape of the bread have to be consistent every time it is replaced.

Physical integrity, staleness, and mold: But there are other issues: because this is a "caked" bread, the baking process makes a thinner bread extremely fragile; the process of moving the bread around could easily cause the bread to break or crumble. This would be an issue since the bread has to be moved both onto and off of the table.

Also, over the course of the week the bread will age, making it stale and hard (presumably, this is why it must be constantly replaced). If the bread is too thick and too hard, it cannot be eaten by the priests "in the holy place" as the Bible describes.

Additionally, there is the concern of mold as the bread ages. Bread that is too close to other loaves (or too enclosed generally) will grow moldy and inedible. If the bread was stacked as it is often pictured, the risk of mold would be extremely high as the week went on!

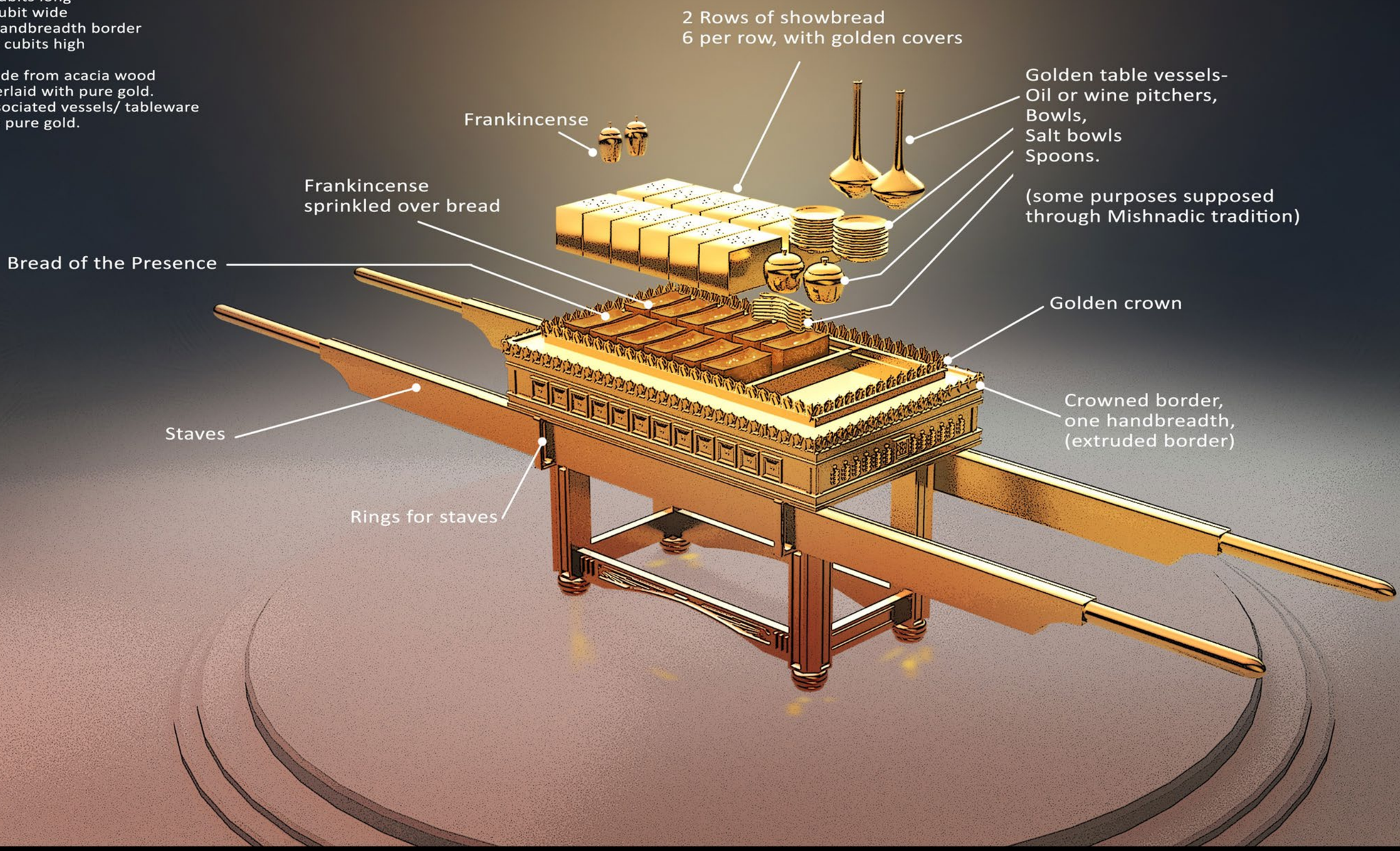
One solution to these issues is the "rows" model for the Table of Showbread. In this model, the bread is formed and baked in a mold that has a loaf shape, perhaps with cup-like crust or

THE TABLE OF SHOWBREAD MODEL A

Exodus 25: 23-30, 37:10-16

2 cubits long
1 cubit wide
1 handbreadth border
1.5 cubits high

Made from acacia wood overlaid with pure gold. Associated vessels/ tableware are pure gold.



The Table of Showbread: Model A

rim around the top to hold frankincense. In this model, the bread would sit on the table but would be enclosed in a gold cover that might have had small holes for airflow.

Researchers on some websites have experimented with this model. The loaf-like shape makes the bread less likely to crumble. These researchers emphasize that the table included "covers," as rendered in Exodus 25 in the Authorized Version:

> [29] And thou shalt make the dishes thereof, and spoons thereof, and covers thereof, and bowls thereof, to cover withal: of pure gold shalt thou make them.
>
> *— Exodus 25:29 (KJV)*

The covers these researchers used did not include any ventilation holes, though other sources, such as the Showbread Institute (showbreadinstitute.org) suggest that these holes may have been necessary (I have used them in my illustrations).

The key to the bread's survival from mold in this tightly enclosed space appears to be the use of frankincense sprinkled over the top. This fragrant resin has natural properties that may help prevent mold. Maybe that was enough. Since frankincense would be associated with each loaf, it is likely that this, rather than the bread, would be offered as a burnt offering at the end of each week in keeping with Leviticus 24:7.

An Alternate View

See the illustration "The Table of Showbread: Model B," page 106.

Another possibility is that the bread may have been stacked using the help of special modular racks to support a stack of bread baked into more fragile, thin masses that touched one another.

This argument is made in great detail in the Showbread Institute's articles, drawing on the medieval commentator Rashi:

> Its 'kesot'—these are a kind of half hollow pipes … arranged that 3 would sit on the top of each loaf … so that the air may flow between them and they will not become moldy. … Its 'Menakiyot' … like golden spikes resting on the ground and reaching up above the Table surface … so that the upper breads may not place an inordinate weight on the lower breads and they will not break.
>
> *— Rashi on Exodus 25:29, as translated by the Showbread Institute*

This model of the Table of Showbread is the model endorsed by both the Showbread Institute and the Temple Institute in Jerusalem, and a model suggested by other historical depictions.

According to this model, the shape of the bread may have been preformed and baked into a specific shape that would appear unusual—something like an open box.

In this shape, the bread would have had enough airflow to prevent mold and could have touched the loaves on the rack above (or the table beneath), a bit like Lego blocks with supports under each layer. In this model, only two loaves would have had immediate contact with the table, while the other bread had contact with the loaf below it.

Some authors emphasize this model because the bread is part of a "perpetual due," and suggest that this arrangement means that with the right order of operations and the right mechanics (using racks) during the bread exchange at the end of the week, the Table of Showbread would always have exactly 12 loaves on it.

If true, it means that the racks were not considered a "true" part of the table (given the dimensions in Exodus 25), and might have been modular in nature, with another set of racks (or shelves for the racks) awaiting transfer at the end of the week.

I've built a model of this version of the table with these suggestions in mind—though the exact dimensions of the bread are really a best guess on my part. Such a model also allows for small bowls, spoons, and pouring vessels as well, but the amount of space for these items on this model appears to be smaller than in the rows model (again, this could be an error on my part, not knowing the exact dimensions of the bread).

My view is that simpler is better, but I appreciate the thinking in an alternate model, and it's always worth knowing why assumptions might be wrong.

Ten Times

Whatever the case, the number of lampstands and tables shifted in the transition to the Temple—from one apiece to ten, five on the north and five on the south. Writers on biblical numbers sometimes see five as a picture of God's grace and ten as divine completion.

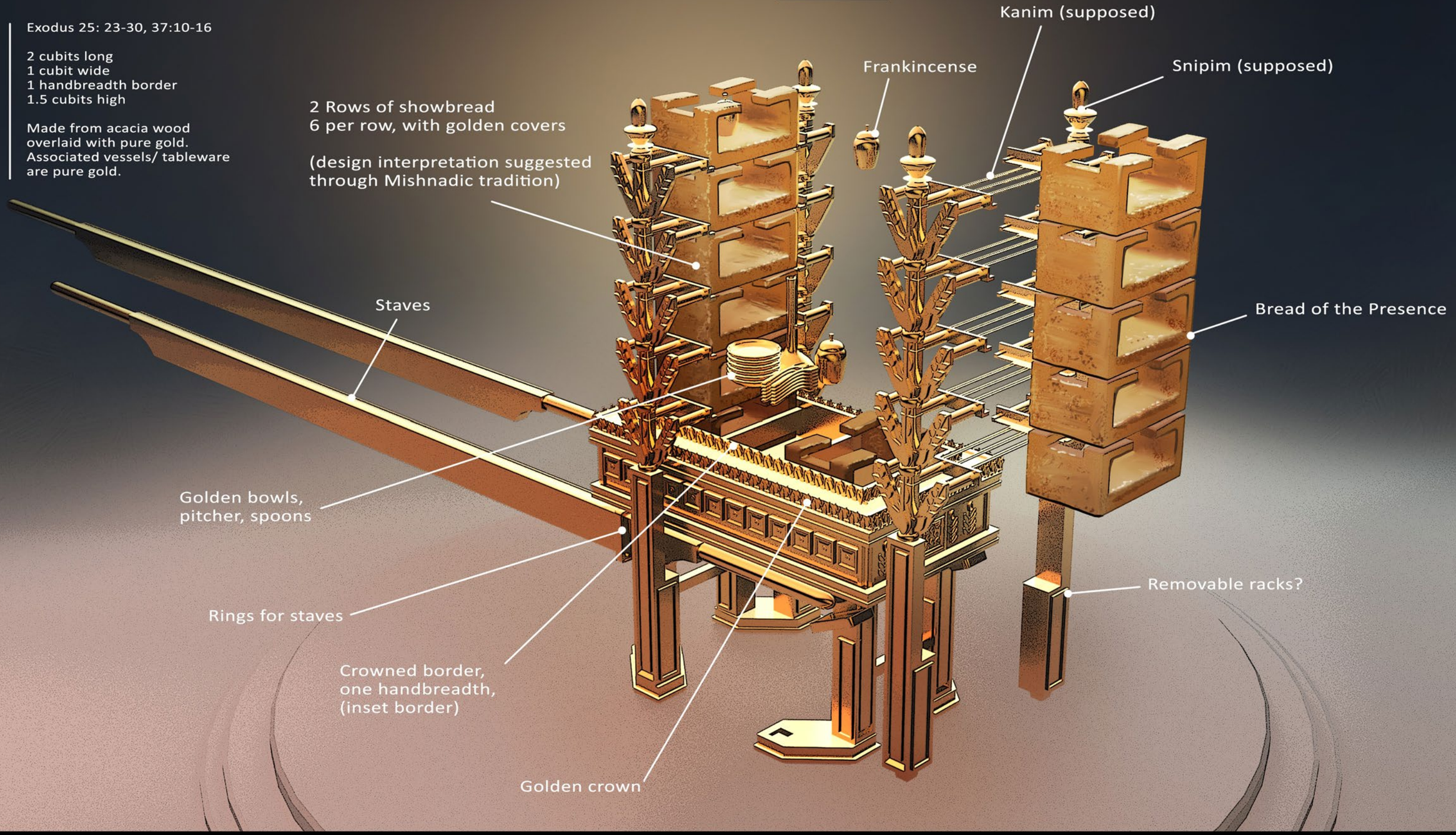
THE TABLE OF SHOWBREAD

MODEL B

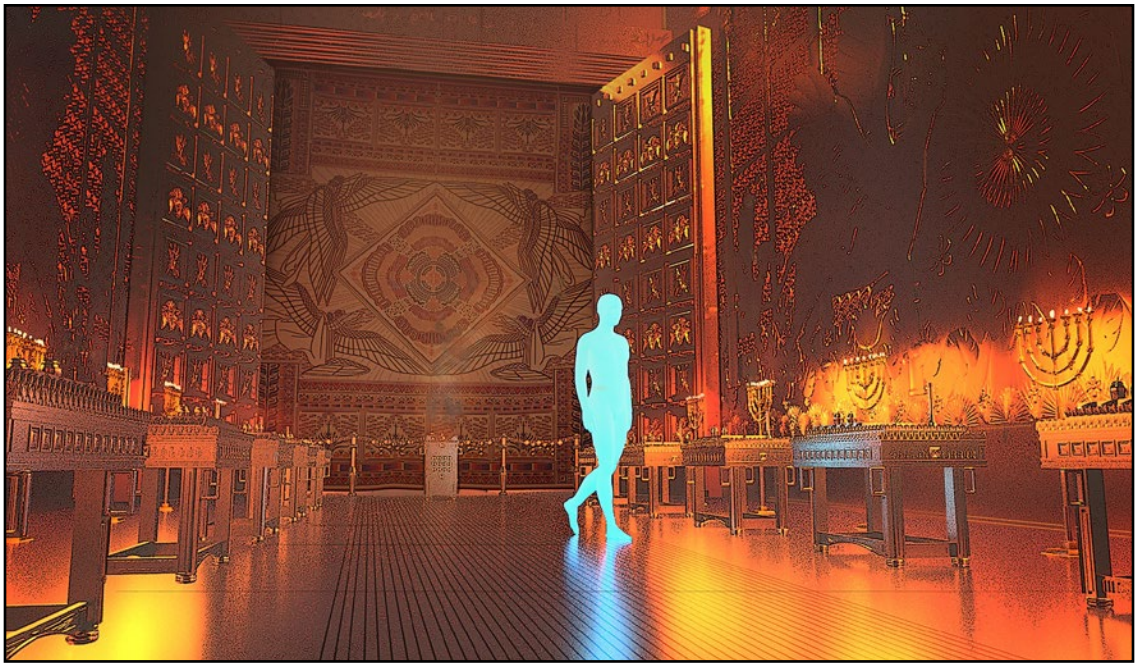
Exodus 25: 23-30, 37:10-16

2 cubits long
1 cubit wide
1 handbreadth border
1.5 cubits high

Made from acacia wood overlaid with pure gold. Associated vessels/ tableware are pure gold.



The Table of Showbread: Model B



Ten lampstands and ten tables in the Holy Place of Solomon's Temple

Some also note that the individual lamps number 70, the same as the elders of Israel under Moses (Numbers 11:16), and that the loaves of bread would have numbered 120, like the years of grace before the flood (Genesis 6:3). These are interesting parallels, but they are parallels, not proofs.

In any case, we can be assured that hidden within these simple furnishings, there are layers upon layers to wonder about and discover.

Still Unsolved

1. Twelve loaves, each made from two tenth deals of flour, were set in two rows on a table only two cubits by one, with a crown around its edge, and they stayed there a whole week. What shape were the loaves? How did they fit alongside the dishes and spoons, and how were they kept from molding? Was the table flat with covers, or did it hold racks above it, as some models suggest? See Exodus 25:23–30 and Leviticus 24:5–9.
2. Leviticus 24:8 says the bread was set in order every Sabbath, "continually." Did that mean the table was never empty, so the old and new loaves had to be swapped in a careful ceremony, as later Jewish tradition describes? Or did "continually" mean "regularly," as with the Lampstand and the daily burnt offering? See Leviticus 24:8 and Exodus 25:30.
3. When David and his men were hungry, the priest at Nob gave them the hallowed bread, which was for the priests alone. Centuries later, Jesus pointed back to that moment when He was questioned about the Sabbath, and it made His listeners stop and think. Why did He choose it, and what was He teaching about the sanctuary and the Law? Moments like this remind us to slow down whenever Scripture surprises us. See Leviticus 24:9, 1 Samuel 21:1–6 and Matthew 12:1–8.

CHAPTER EIGHT

The Altar of Incense and the Ark

Before the Veil: The Altar of Incense

See the illustration "The Altar of Incense," page 110.

The lampstands and tables of showbread may have multiplied in the time of Solomon, but there was only one Altar of Incense.

This Altar was connected to the Altar of Burnt Offering through fire. Only coals from the Altar of Burnt Offering were to be used to light the incense on this Altar, twice a day (Exodus 30:7–8; Leviticus 16:12). This was such an important point that when Aaron's sons Nadab and Abihu disobeyed this ordinance, they were destroyed (Leviticus 10:1–2).

The Altar of Incense itself does not have many different models, but we might mention that it is an enduring symbol. There was one in the Tabernacle, one in the Temple, and it also appears in visions as a fixture that stands before the Lord.

In Isaiah's vision, he sees the Lord high and lifted up, with the seraphim crying "Holy, holy, holy." He is overwhelmed by his own unclean lips. Then:

> [6] Then flew one of the seraphims unto me, having a live coal in his hand, which he had taken with the tongs from off the altar:
>
> [7] And he laid it upon my mouth, and said, Lo, this hath touched thy lips; and thine iniquity is taken away, and thy sin purged.
>
> *— Isaiah 6:6–7 (KJV)*

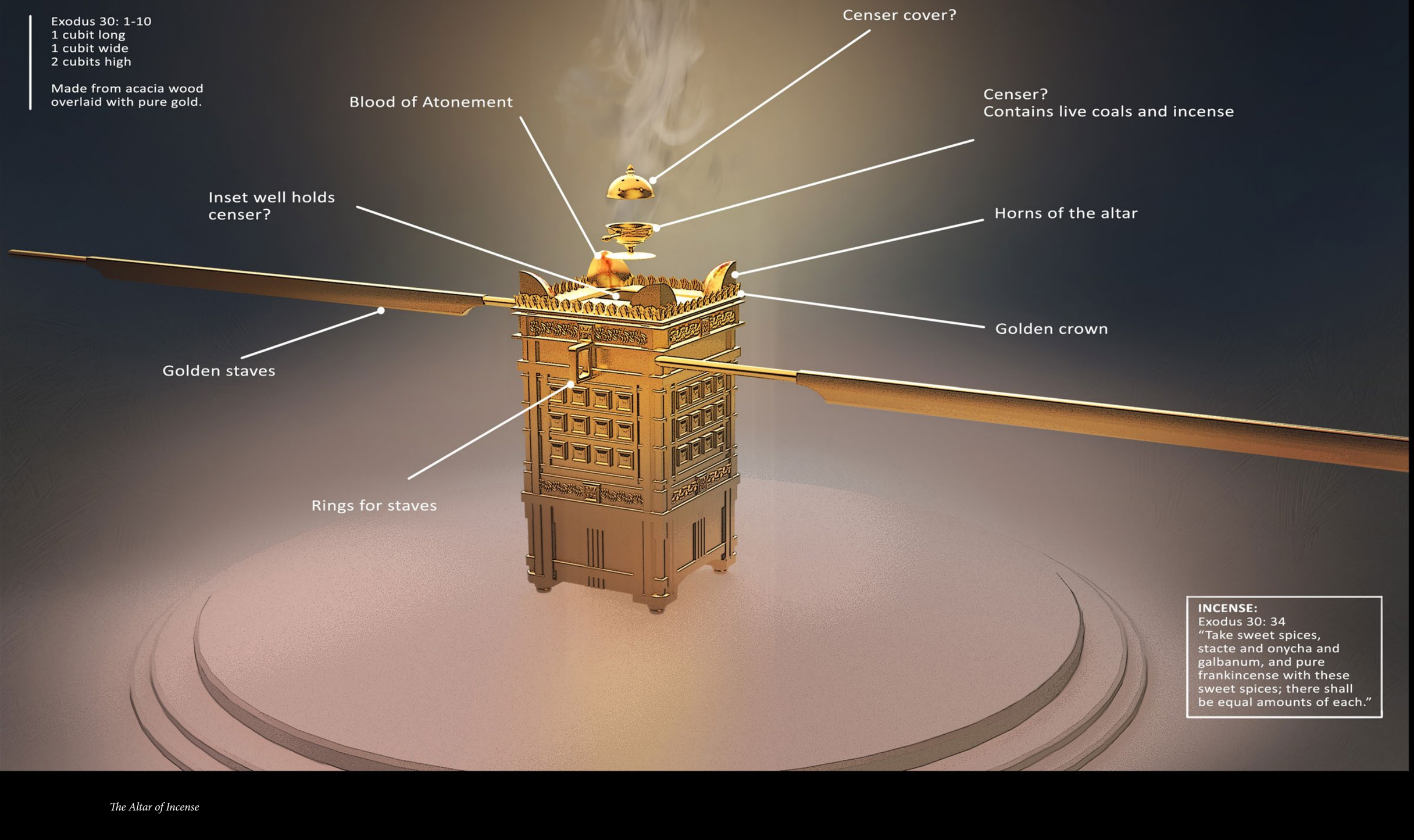
When the seventh seal is opened in Revelation 8, an angel comes to the altar:

> [3] And another angel came and stood at the altar, having a golden censer; and there was given unto him much incense, that he should offer it with the prayers of all saints upon the golden altar which was before the throne.
>
> [4] And the smoke of the incense, which came with the prayers of the saints, ascended up before God out of the angel's hand.

THE ALTAR OF INCENSE

Exodus 30: 1-10
1 cubit long
1 cubit wide
2 cubits high

Made from acacia wood overlaid with pure gold.



INCENSE:
Exodus 30: 34
"Take sweet spices, stacte and onycha and galbanum, and pure frankincense with these sweet spices; there shall be equal amounts of each."

The Altar of Incense

> [5] And the angel took the censer, and filled it with fire of the altar, and cast it into the earth: and there were voices, and thunderings, and lightnings, and an earthquake.
>
> — *Revelation 8:3–5 (KJV)*

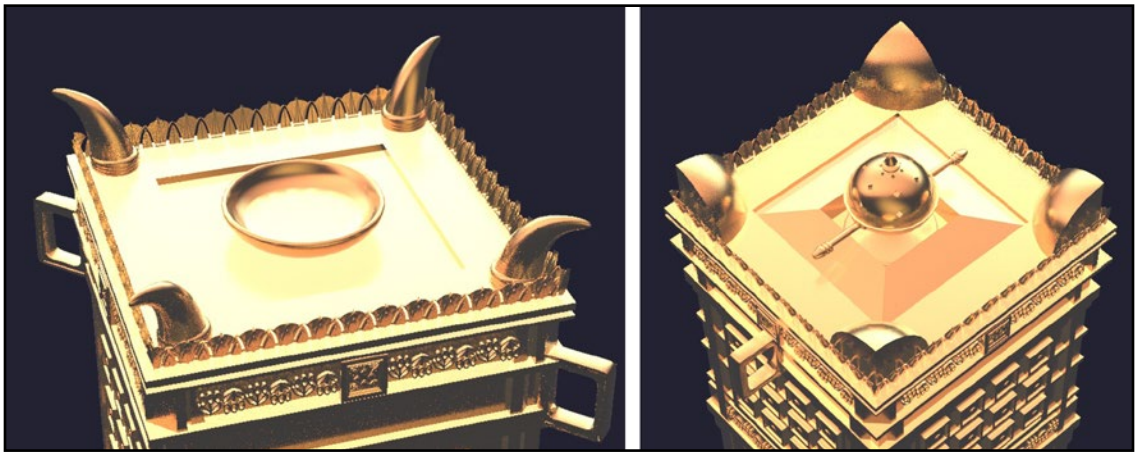
It also appears to be (at least in an unfinished form) the altar described in the Temple of Ezekiel's prophecy in Ezekiel 41:22. It is a cubit taller and a cubit wider in that vision, but certainly the proportions are similar.

The persistence of this one Altar across time is consistent with petitions and prayers that arise constantly before the Lord. The fire from the Altar of Burnt Offering is appropriate to burn this particular incense because it reflects the connection between acceptable sacrifice (on God's terms) arising as a sweet-smelling savor to God, and the mutually sweet odor of incense arising before God from man, made on condition of such offerings.

It is no wonder that the Altar of Incense was so central to the rituals associated with the Day of Atonement (Leviticus 16:12–13).

The Altar and the Day of Atonement

Once a year, the Altar of Incense and the Ark met. On the Day of Atonement, the High Priest filled a censer with burning coals from the altar, took two handfuls of incense, and carried them beyond the veil, so "that the cloud of the incense may cover the mercy seat that is upon the testimony, that he die not" (Leviticus 16:12–13). On that same day, once every year, the horns of the Altar of Incense were touched with the blood of the sin offering (Exodus 30:10).



The top of my Altar of Incense: an inset well (left) and a censer set in place (right)

The incense altar stood outside the veil, but it belonged to what lay beyond it. Moses was told to set it "before the vail that is by the ark of the testimony, before the mercy seat" (Exodus 30:6), and in Solomon's Temple it is called "the whole altar that was by the oracle" (1 Kings 6:22). This may explain one of the puzzles of Hebrews 9, which places a "golden censer" in the Most Holy Place (Hebrews 9:3–4). The Greek word, *thymiatērion*, can mean either a cen-

ser or an altar of incense, and many translations render it "golden altar of incense." If that's right, the writer describes the altar by its work on the Day of Atonement, when its fire and fragrance went beyond the veil with the High Priest. (We'll come back to Hebrews 9 later in this chapter.)

So the cloud of incense was a covering too. Before the High Priest could stand before the Mercy Seat, the place of propitiation, the incense had to cover it. Prayer, offered on God's terms and kindled from the fire of the sacrifice, went before him.

What Is an Ark?

Beyond the Altar of Incense and the Veil lay the Ark of the Covenant.

At the outset, it might be useful to first define an "ark." Three well-known arks exist in Scripture: Noah's Ark, the ark of Moses, and the Ark of the Covenant. In each case, the "ark" is a vessel used to preserve and transport precious cargo.

The Hebrew uses two words for ark: *teivah* and *aron*. Both seem to be used almost interchangeably as "a box-like container, a chest." In Scripture, *teivah* is used for the arks of Noah and Moses: water-going vessels created for preserving life. *Aron* is used in the case of the Ark of the Covenant, but also in other cases such as Joseph's coffin (Genesis 50:26).

In each case, the ark is special because its cargo is special. This may account for one other *aron*, the one spoken of in Deuteronomy 10:

> [1] At that time the LORD said unto me, Hew thee two tables of stone like unto the first, and come up unto me into the mount, and make thee an ark of wood. [2] And I will write on the tables the words that were in the first tables which thou brakest, and thou shalt put them in the ark. [3] And I made an ark of shittim wood, and hewed two tables of stone like unto the first, and went up into the mount, having the two tables in mine hand. ...
>
> [5] And I turned myself and came down from the mount, and put the tables in the ark which I had made; and there they be, as the LORD commanded me.
>
> *— Deuteronomy 10:1–3, 5 (KJV)*

It appears that Moses hewed the stone tablets, then walked up Horeb with them. God wrote on them, and Moses came back down and placed them in the ark he had made, for safekeeping.

Was this ark the same as the Ark of the Covenant, in an unfinished form? Or was it a separate ark, an intermediate vessel for the tablets before the Ark of the Covenant was built?

My view is that this was a separate ark: an intermediate vessel that was an ark because of its contents, but that did not serve the same function as the Ark of the Covenant. There are some facts, and one assumption, that may counter this view:

Fact 1) Both arks were made of shittim (acacia) wood.

Fact 2) Both housed the Ten Commandments.

Assumption) The commandments would only ever reside in a single vessel.

Here's my assessment. On the first fact: the acacia tree would have been one of the few trees growing in this region of the wilderness. The wood is strong, dense and resistant to decay, which makes it ideal for construction. All of these qualities may be why it was used for building so much of the Tabernacle. It would not be surprising if another vessel had been made from the same wood.

The second fact is only an issue if we accept the assumption that the commandments would only ever reside in a single vessel. Two other facts make that assumption questionable:

Fact 3) "And they shall make an ark" (Exodus 25:10). The work of the Ark of the Covenant was given to Bezaleel, a craftsman in wood, gold and much more, and to his assistant Aholiab, not to Moses (Exodus 31:1–7; 37:1–9).

Fact 4) No measurements or other specifics are given for the ark Moses made in Deuteronomy 10. Measurements and a pattern are given for the Ark of the Covenant in Exodus 25.

So my counter-assumption is this: it does not seem implausible that the commandments were kept for a time in a vessel that was later retired in favor of another, one that would remain in use for centuries. If that's true, is there a spiritual lesson here?

Building the Ark

See the illustration "The Ark of the Covenant," page 116.

Here is the pattern God gave for the Ark of the Covenant:

> [10] And they shall make an ark of shittim wood: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof, and a cubit and a half the height thereof. [11] And thou shalt overlay it with pure gold, within and without shalt thou overlay it, and shalt make upon it a crown of gold round about. [12] And thou shalt cast four rings of gold for it, and put them in the four corners thereof; and two rings shall be in the one side of it, and two rings in the other side of it. [13] And thou shalt make staves of shittim wood, and overlay them with gold. [14] And thou shalt put the staves into the rings by the sides of the ark, that the ark may be borne with them. [15] The staves shall be in the rings of the ark: they shall not be taken from it. [16] And thou shalt put into the ark the testimony which I shall give thee.
>
> [17] And thou shalt make a mercy seat of pure gold: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof. [18] And thou shalt make two cherubims of gold, of beaten work shalt thou make them, in the two ends of the mercy seat. [19] And make one cherub on the one end, and the other cherub on the other end: even of the mercy seat shall ye make the cherubims on the two ends thereof. [20] And the cherubims

> shall stretch forth their wings on high, covering the mercy seat with their wings, and their faces shall look one to another; toward the mercy seat shall the faces of the cherubims be.
> [21] And thou shalt put the mercy seat above upon the ark; and in the ark thou shalt put the testimony that I shall give thee. [22] And there I will meet with thee, and I will commune with thee from above the mercy seat, from between the two cherubims which are upon the ark of the testimony, of all things which I will give thee in commandment unto the children of Israel.
>
> *— Exodus 25:10–22 (KJV)*

At 18 inches to the cubit, the Ark was about 45 inches long and 27 inches wide and high (about 114 by 69 by 69 cm). The passage describes three different ways of working gold.

Cast gold. The Mercy Seat (the lid) and its crown, along with the Ark's rings, were made of gold, the lid of "pure" gold (perhaps 22 karat?). All of them were probably cast; verse 12 says so of the rings. In this process, gold is melted down and poured into a pre-sculpted mold, where it cools. The gold is then removed (or the mold broken), and the metal is cleaned and polished to its final state.

Beaten gold. The cherubim were made of beaten gold. For this process, a sheet of gold is hammered into a pre-sculpted relief form, then often shaped around a secondary form and beaten again into its final shape.

Overlaid gold. Much of the Ark was overlaid with gold. In an overlay process, gold is beaten into thin sheets (Exodus 39:3), fitted over the finished wooden form, and burnished. Solomon even fastened his overlay with nails of gold (2 Chronicles 3:9). This process suits larger vessels that need a supporting structure, and because the gold is so thin, it allows for greater shape and detail.

The Staves of the Ark

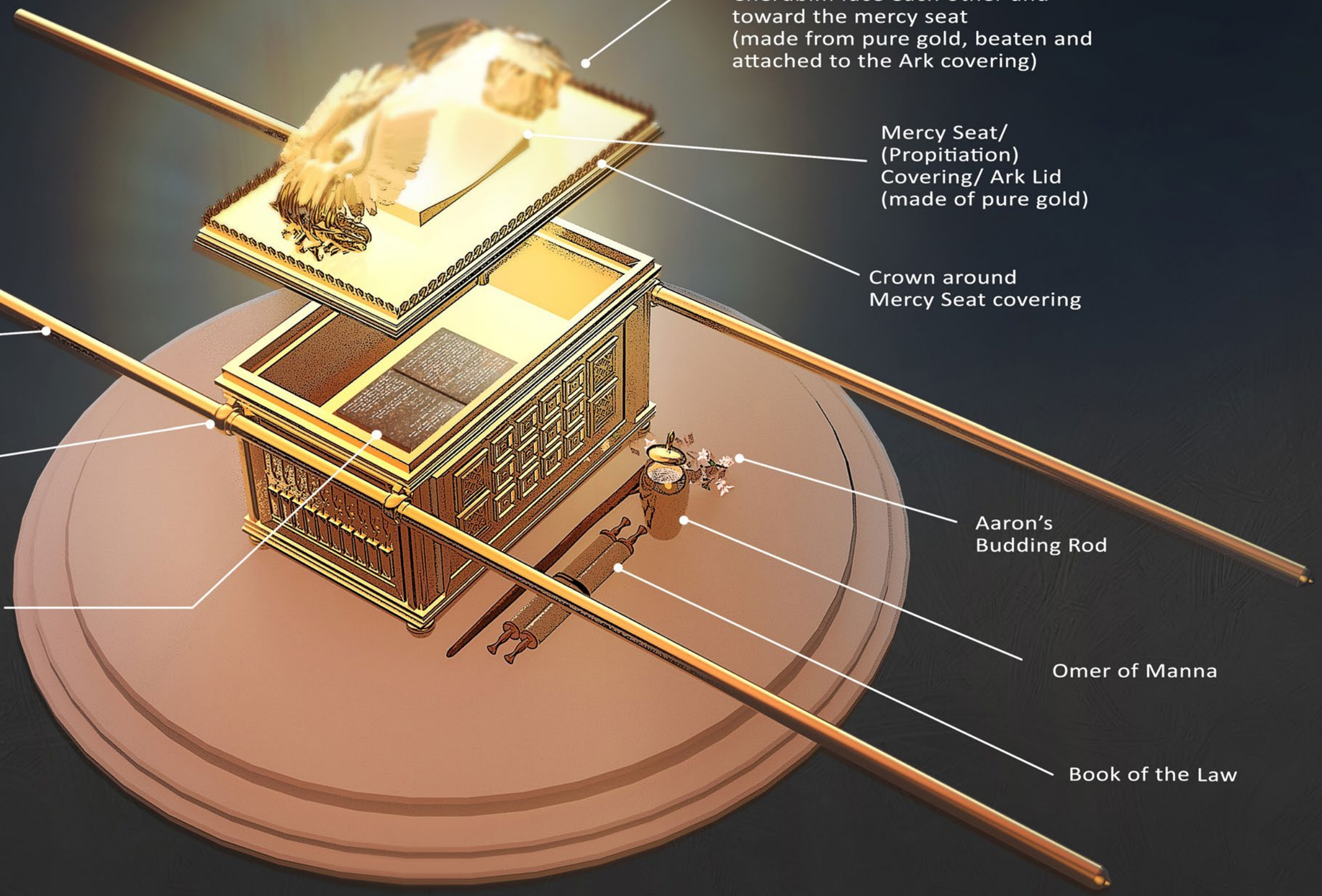
The Ark of the Covenant is typically depicted with staves inserted through rings in each of the four corners of the ark, with the rings and staves running parallel to the cherubim along the length of the Ark. There is often some variance in how high along the corners the rings were placed.

THE ARK OF THE COVENANT

Exodus 25: 10-21, Hebrews 9: 4-5

2.5 cubits long
1.5 cubits wide
1.5 cubits high

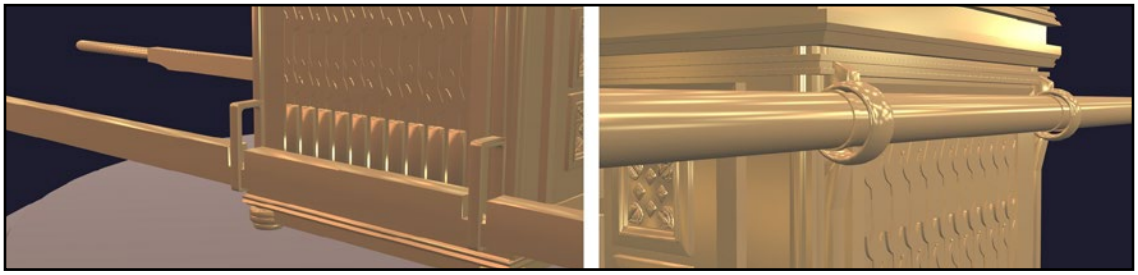
Made from acacia wood
overlaid with gold within and without.
Cover/Lid is pure gold,with hammered
gold cherubim



The Ark of the Covenant



The Ark in the Most Holy Place of the Tabernacle



Close-ups of the staves: a notch or "stay" (left) and the rings (right)

As for the direction the staves run, no direction is given. However, I think there are some good reasons to conclude that the (traditionally pictured) lengthwise run of the staves is incorrect:

1) The Ark is built much like a sedan chair for a ruler, but both its aperture and covering (created by the cherubim) run perpendicular to the length of the Ark's golden lid. It seems more likely that the Mercy Seat would face front to back as Israel progressed through the wilderness, rather than having the aperture (my term—the "window" apparently created by the arched cherubim figures) facing the sides. This also seems consistent with the movement of the cherubim in Ezekiel 1:12: "And they went every one straight forward: whither the spirit was to go, they went; and they turned not when they went."

2) If the Lord dwells "between the cherubim" (Isaiah 37:16), then the appropriate orientation for the Ark in Solomon's Temple would probably not have been with the aperture

facing the side walls of the Temple, but rather, out toward the Holy Place and the Altar of Incense. If this assumption is incorrect, it means that the High Priest on the Day of Atonement would have walked around to the side of the Ark or addressed the Lord facing the back of one of the cherubim.

3) There was limited room to move in both the Tabernacle and the Temple's Most Holy Place, and we don't know how long the staves of the Ark were (though likely they were longer than typically depicted). Maneuvering the Ark straight into its resting place in the Holy of Holies, then turning 90 degrees might be difficult or impossible, especially since the Ark's staves could not be removed (Exodus 25:15).

4) It does not appear that the Ark was turned in Solomon's Temple. 1 Kings 8:7–8 says:

> [7] For the cherubims spread forth their two wings over the place of the ark, and the cherubims covered the ark and the staves thereof above. [8] And they drew out the staves, that the ends of the staves were seen out in the holy place before the oracle, and they were not seen without: and there they are unto this day.
>
> *— 1 Kings 8:7–8 (KJV)*

It appears that the staves were long enough that the space given to the Ark was inadequate for them and they had to be at least partly pulled back in their rings. The ends of the staves could be seen sticking out (perhaps creating a visible impression against the material of the veil) in the Holy Place. This means the Ark was placed in position straight ahead in the Temple with no turning involved.

Much like the Altar of Burnt Offering in Chapter 3, the Ark may have had squared rings and grooved poles, for the same reasons. Given the weight involved, some additional craftsmanship may have been needed: notches or "stays" of some kind, to keep the Ark from sliding along the poles toward those bearing it.

Regardless, I think it's possible that the Ark was a much more customized vessel than we might realize, especially given what the Ark contained.

What Was in the Ark?

There seems to be some disagreement between 1 Kings 8:9 and Hebrews 9:4:

> There was nothing in the ark save the two tables of stone, which Moses put there at Horeb, when the LORD made a covenant with the children of Israel, when they came out of the land of Egypt.
>
> *— 1 Kings 8:9 (KJV)*

> Which had the golden censer, and the ark of the covenant overlaid round about with gold, wherein was the golden pot that had manna, and Aaron's rod that budded, and the tables of the covenant…

— Hebrews 9:4 (KJV)

These conflicts are of note because the manna, Aaron's rod, and written Law were to be witnesses for future generations (Exodus 16:32–34; Numbers 17:10; Deuteronomy 31:24–26). Additionally, the Law was supposed to be read to the people every 7 years (Deuteronomy 31:9–13); yet it was forbidden to touch or even look in the Ark (1 Samuel 6:19; 2 Samuel 6:6–7)! These components would not work as witnesses if they could never be accessed. How does this work?

The Book of the Law

There appear to be legal assets situated both within and without the Ark. Exodus 25 speaks only of the testimony going into the Ark, and 1 Kings 8 says nothing else was there but the tables of stone (the Ten Commandments). If so, how should we interpret Deuteronomy 31:26?

> Take this book of the law, and put it in the side of the ark of the covenant of the LORD your God, that it may be there for a witness against thee.
>
> *— Deuteronomy 31:26 (KJV)*

Some difficulty may be alleviated when looking at alternative translations (NIV here):

> Take this Book of the Law and place it beside the ark of the covenant of the LORD your God. There it will remain as a witness against you.
>
> *— Deuteronomy 31:26 (NIV)*

Some of the confusion may come from the various naming conventions in use (Tables of the Law, Covenant Code, Book of the Covenant, Book of the Law, the law of Moses). However, I think it is a mistake to assume that all legal writings given to Moses by God in this period were essentially the same thing, or that they were kept in the same vessel.

If that's true, then the section of Hebrews that discusses the Ark of the Covenant may be easy to misunderstand. The key word for our purposes in Hebrews 9:4 is "wherein" (in Greek, *en hē*, "in which").

The question is what "wherein" points back to. In Greek, both "ark" (*kibōtos*) and "tabernacle" (*skēnē*) are feminine nouns, so the word could refer to either one. That makes good sense when rereading the passage (Hebrews 9:3–4):

> [3] And after the second veil, the tabernacle which is called the Holiest of all; [4] Which had the golden censer, and the ark of the covenant overlaid round about with gold, wherein was the golden pot that had manna, and Aaron's rod that budded, and the tables of the covenant…
>
> *— Hebrews 9:3–4 (KJV)*

My suggestion would be that the items listed in Hebrews 9 are not within the Ark, but "within" the Holy of Holies—both housed in the space separately, and in an area close to one another.

The Tablets of Stone

What did the Ten Commandments look like? What kind of stone might the tablets have been made from? And how big were they?

If the tablets were hewn from Mount Sinai, the location of Sinai determines what kind of stone was likely used. That location is debated. The traditional site is Jebel Musa, in Egypt's Sinai Peninsula. Another proposed site, with some supporting evidence, is Jabal al-Lawz in Saudi Arabia. Either way, the local mountains are largely granite, so the stone Moses cut was probably granite as well.

Moses carried the tablets single-handedly (Deuteronomy 10:3), and he appears to have been quite fit! The tablets also had to fit within the Ark. With those two limits, and with the help of a weight calculator, we might guess that each tablet was not much larger than about 3 × 10 × 20 inches (8 × 25 × 50 cm). It's a guess, but tablets that size would fit in the Ark and could be carried down the mountain. In granite, each would weigh about 58 pounds (26 kg), so the pair together would weigh about 117 pounds (53 kg), roughly the weight of a light person.

If the tablets weighed no more than about 120 pounds (55 kg) together, their size falls well short of the inside of the Ark. Given the uneven terrain for travel, and the fact that the Ark was overlaid with gold within and without, it's possible that the Ark's interior was designed to hold the tablets snugly in place, keeping the stones from scuffing the golden surface.

What the Ark Teaches

The Ark is a summary of many concepts in a single object. Here are a few lessons we might draw from this vessel.

The Mercy Seat, made of pure gold. The lid of the Ark is the "Mercy Seat," also understood as the place of "propitiation." The Hebrew word, *kapporet*, comes from the same root as the word usually translated "make atonement," a root traditionally understood to mean "to cover." Propitiation, then, is a covering. Hebrews 2:17 and Romans 3:24–25 show how that covering was also a type of Christ's sacrifice, a covering for the sins of the people. The lid covered the tablets of stone, and Christ's perfect offering "covers" the commandments in the same way, because he kept them perfectly. It covers our sins as well. Perfect obedience and the complete rejection of sin are what bind us to God, and we can do neither on our own. We need a covering for the problem: not just clothing, as in the case of Adam and Eve (Genesis 3:7, 21), but a perfect covering that reunites us with God. That covering was a mission the Father and the Son shared, and it was accomplished through love and obedience together (John 3:16; 1 John 4:10). The lid was the final component in enclosing the commandments (as Christ's sacrifice

did), and so it formed the foundation for the only basis on which God might condescend in His mercy to meet with His people.

The lid appears to mirror the imagery of Isaiah 6, Ezekiel 1 and 10, and Revelation 4–5: it is a representation of the throne of God. Made of pure gold, it is the meeting place between God and man. Its golden purity and its place on the vessel show God's pure nature and His elevated status over all. The crown of gold around the lid (Exodus 25:11) emphasizes God's kingship over Israel (1 Samuel 8:7). That crown is also shared with the ark beneath it, an allusion to Christ's kingship in God's Kingdom.

Acacia wood overlaid with gold. Here, a material prone to decay has been "clothed" in another material that will never tarnish. This is an excellent symbol of the Lord Jesus Christ: a perfect vessel for the commandments of God, one that died, but was raised and "clothed," within and without, in immortality.

The poles: bearing the commandments in the way appointed. The poles, or staves, were to stay in the Ark at all times. In part this may have been a reminder to the priests that no other poles or methods should be used to carry the Ark. Men should only "carry" God's commandments in the way He has appointed. Again, this seems to point to Christ (Acts 4:12). The poles also stayed in place because the Ark would often move from place to place. Wherever God was, His people were to follow. In the same way, Christ, in unity with the will of his Father, leads his people as they wander, and where he is, we must follow.

The commandments and the vessel: a collaboration. The commandments housed in the Ark were a collaboration between Moses, who hewed the tablets, and God, who wrote upon them. They were kept in a vessel designed and inspired by God but built by human hands. Again, we see Christ, "the author and finisher of our faith" (Hebrews 12:2), in this collaboration: God's design completed in the "raw materials" and fashioning of a man, a man who perfectly embodied the commandments of the Lord.

This is also a lesson for us. From the beginning, God has chosen to work with His creation, to treat us as His children and His family. To be His children, we must be willing to work with Him, as His Son Jesus did. Our willingness to follow His Word, His doctrine, forms the basis of our relationship with both God and the Lord Jesus Christ. Those who do *not* wish to meet with God on the basis of His commandments, through Christ who perfectly embodied them, in the way *He* has appointed, *cannot* meet or work with Him.

All of Israel met, spiritually and literally, around the covenant made with God in the wilderness. All work, play, worship and life went on with the sacred covenant housed specially and centrally within the camp. Do we, as spiritual Israel, order our lives in the same way? Are we willing to meet with God on the basis of His covenant? Are we willing to work with God, to build something with Him? Or do we see ourselves as central to God instead?

The Ark's Journey

Why trace the Ark's journey at all? Unlike most of the Temple's furnishings, Scripture never says the Ark was broken up or carried away to Babylon (compare 2 Kings 25:13–17). So it's possible the Ark still exists as an artifact today. Many have wondered where it might be, and films have even been made about the search. Some hope it will be found, as proof that the Bible is true. But should we hope for that? And does the Ark still matter? We'll come back to those questions at the end of this chapter.

The Ark traveled a long way before it came to rest in Solomon's Temple, and it moved again afterward. Here is its path as Scripture records it. The dates are approximate.

- Built at Sinai (Exodus 25; 37:1–9), about 1446 BC
- Carried through the wilderness (Numbers 4:5; 10:33–36; 14:44)
- Carried across the Jordan and around Jericho (Joshua 3; 6), about 1406 BC
- Set up with the Tabernacle at Shiloh (Joshua 18:1)
- At Bethel in the days of the judges (Judges 20:27)
- At Shiloh again in Samuel's youth (1 Samuel 3:3), about 1100 BC
- Captured by the Philistines and returned (1 Samuel 4–6)
- At Kirjath-jearim for twenty years (1 Samuel 7:1–2)
- Brought out by Saul during war with the Philistines (1 Samuel 14:18)
- At the house of Obed-edom for three months (2 Samuel 6:10–11; 1 Chronicles 13:13–14)
- Brought to Jerusalem by David (2 Samuel 6:12–17), about 1004 BC
- Placed in Solomon's Temple (1 Kings 8:1–11; 2 Chronicles 5), about 960 BC
- Returned to the Temple under King Josiah, after it had apparently been moved (2 Chronicles 35:3)
- Apparently lost at the Babylonian destruction of the Temple, about 586 BC

Why Hasn't the Ark Been Found?

There are many places the Ark might be hidden, in Jerusalem or elsewhere in the world, but it has never been located. If the Ark is still in Jerusalem, it's entirely possible that it will never be found. By the time excavation in Jerusalem intensified after 1967, the modern city had long been built over many historical sites. On and around the Temple Mount, home to the Dome of the Rock (sometimes called the Mosque of Omar), excavation is not permitted, for structural, religious and political reasons.

Will We See the Ark in the Kingdom?

The answer depends partly on what we believe about the future. My own belief is that Jesus will return to the earth and reign as king in a literal kingdom (Acts 1:11; Daniel 2:44; Luke 1:32–33; Revelation 5:10). Not every reader shares that view, but the particulars of it shape how I read the passages below.

On one hand, we might think we will see the Ark in the Kingdom. It would be a "receipt" of sorts, a further proof of the truth of Scripture. On the other hand, Jeremiah looks ahead to a day when God gathers His people to Zion and gives them shepherds after His own heart. Then:

> [16] "In those days, when your numbers have increased greatly in the land," declares the LORD, "people will no longer say, 'The ark of the covenant of the LORD.' It will never enter their minds or be remembered; it will not be missed, nor will another one be made. [17] At that time they will call Jerusalem The Throne of the LORD, and all nations will gather in Jerusalem to honor the name of the LORD. No longer will they follow the stubbornness of their evil hearts.
>
> *— Jeremiah 3:16–17 (NIV, for clarity)*

The Ark is also not listed as a part of the temple of Ezekiel's prophecy (Ezekiel 40–48). Its last mention in Scripture comes in Revelation 11:19, where it is seen in the temple of God in heaven, essentially with the true Holy of Holies.

In the future Kingdom, the Ark's presence among God's people does not seem necessary. The idea seems to be that it will no longer be lifted up as a "standard" before the people. In the Kingdom, it appears that a new standard will be raised: the antitype of the Ark, the Lord Jesus Christ himself.

> [9] They shall not hurt nor destroy in all my holy mountain: for the earth shall be full of the knowledge of the LORD, as the waters cover the sea. [10] And in that day there shall be a root of Jesse, which shall stand for an ensign of the people; to it shall the Gentiles seek: and his rest shall be glorious.
>
> *— Isaiah 11:9–10 (KJV)*

If that's right, the Ark won't even come to mind. It was an object lesson pointing to the Messiah, and the Messiah himself will be there. Readers who hold a different view of the future may weigh this differently, but it's worth considering.

But the Ark was never alone. Over the Mercy Seat stood the cherubim, and they have open questions of their own.

Still Unsolved

1. Why could the incense be lit only with fire from the Altar of Burnt Offering? See Leviticus 16:12–13 and Leviticus 10:1–2.

2. What was in the holy incense, and why could no one copy it? See Exodus 30:34–38.
3. Is the wooden altar of Ezekiel's temple an altar of incense? See Ezekiel 41:22.
4. How does incense picture prayer? See Psalm 141:2, Luke 1:9–10 and Revelation 5:8.
5. Korah's company and King Uzziah both offered incense without being appointed to do it. Was the problem the incense itself, or the presumption that position or popularity could take the place of God's appointment? See Numbers 16:1–11 and 35–40, and 2 Chronicles 26:16–21.
6. Was the ark Moses made in Deuteronomy 10 the Ark of the Covenant, or a separate vessel? Compare Deuteronomy 10:1–5 with Exodus 25:10 and 37:1.
7. Which way did the Ark's staves run, and why could their ends be seen from the Holy Place? See 1 Kings 8:8 and Exodus 25:13–15.
8. Was there anything in the Ark besides the tablets of stone? Hebrews 9:4 seems to list the manna and Aaron's rod too, but "wherein" could point back to the tabernacle rather than the ark, and the passage describes the Most Holy Place as the high priest saw it on the Day of Atonement. See Exodus 16:33–34, Numbers 17:10, Deuteronomy 10:5, 1 Kings 8:9 and Hebrews 9:2–7.
9. Where did the Ark go after Josiah? And does it matter, if Christ is the reality the Ark pointed to? Jeremiah says it "shall not come to mind" again. See 2 Chronicles 35:3, Jeremiah 3:16, and Hebrews 9:4–5 and 11–12.

CHAPTER NINE

The Cherubim

What Are Cherubim?

Hebrew Bible scholar Robert Alter, in his notes on Genesis 3:24 in *The Hebrew Bible: The Five Books of Moses*, suggests that "cherubim" should be understood as "hybrid or composite," though it appears that no one seems to have a real handle on the word, its origin, or its true meaning.

Ibn Ezra notes that Cherubim (keruvim) is a word that has traditionally been associated with youth-like images (cherubs, young people), but later goes on to note in his commentary that the term is used in Ezekiel:

> Ezekiel said that each one of the beasts which he beheld had four faces (Ezekiel 1:6). … However, elsewhere he describes this very creature as having the face of a cherub in place of the face of an ox (Ezekiel 10:14). … We thus see that the term cherub refers to an image.
>
> *— Ibn Ezra, commentary on Exodus 25:18 (trans. Strickman and Silver)*

Other scholars suggest that cherubim is related to the Hebrew word for "steed" or even "chariot," underscoring an idea that the cherubim are associated with the "Lord of Hosts" moving his armies to accomplish his ends.

In any case, the meaning of the word appears to be lost to time, as does the specific imagery associated with the Cherubim. Josephus writes in his Antiquities of the Jews (8.3.3), regarding the cherubim of Solomon's Temple, created long after the Ark:

> Solomon set [the cherubim] up not far from each other; that with one wing they might touch the southern wall of the secret place; and with another the northern: their other wings, which joined to each other, were a covering to the ark, which was set between them. But nobody can tell, or even conjecture what was the shape of these cherubims.
>
> *— Josephus, Antiquities 8.3.3 (Whiston)*

Would Solomon's cherubim have been modeled from the cherubim on the Ark? We do know that at least one person not only looked under the veil of the covering but opened the ark

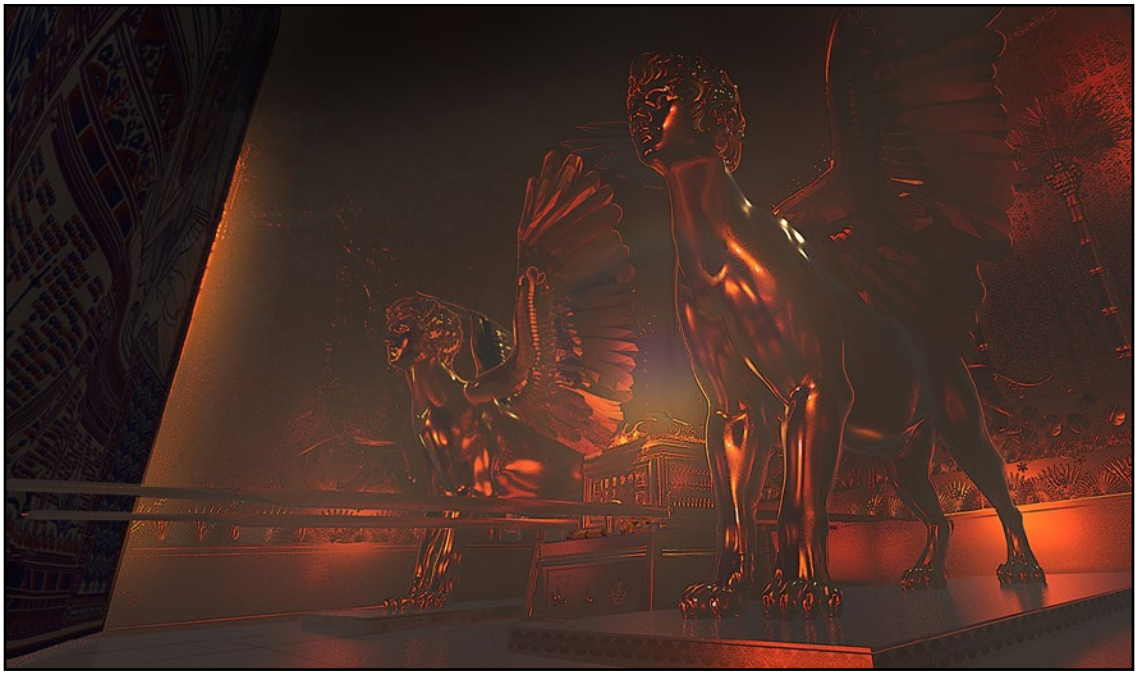
and observed the Ten Commandments (1 Kings 8:9)! However, we don't know who did this, when, or if this affected any temple depictions of the cherubim.

When comparing the cherubim of Ezekiel's vision to what's described in Solomon's Temple, we notice significant differences. The creatures in Ezekiel's vision have four faces—only one of which is human. They also have multiple wings, human hands, hooves of a calf, a fiery appearance, and associated wheels. The proportions and form of Solomon's cherubim appear to be quite different.

My Model of the Cherubim

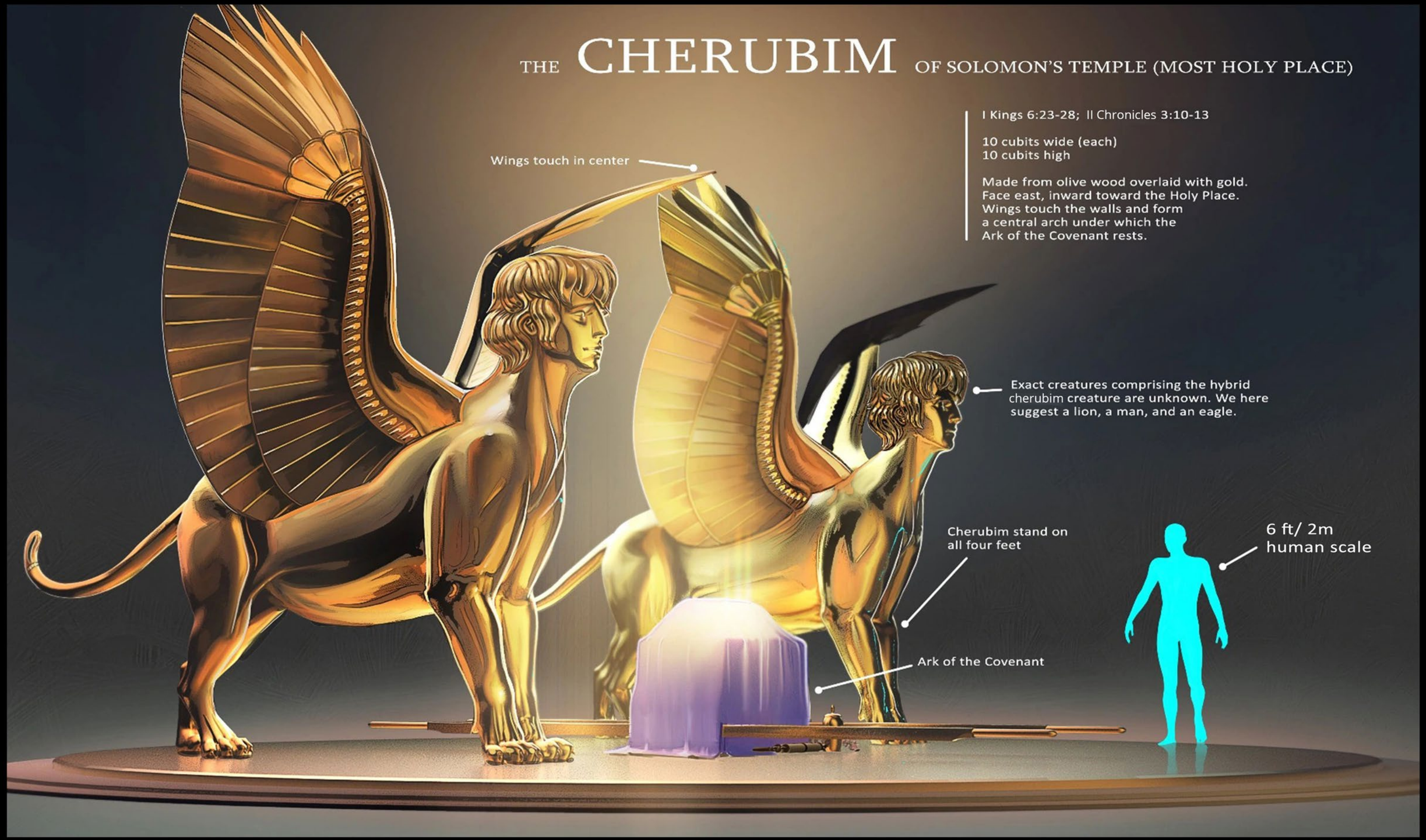
See the illustration "The Cherubim of Solomon's Temple," page 128.

As interesting as the questions with the cherubim are, my research summary leads me only to the idea that these are composite creatures with human faces and large wings that create a covering over the Mercy Seat of the Ark. It's possible that these are eagles with human faces (see above), oxen with eagles' wings and human faces, or (as I've chosen) young men with eagles' wings kneeling before the mercy seat.



The cherubim in the Most Holy Place of Solomon's Temple

While there is no Biblical passage to suggest that angelic encounters involve men with wings (as commonly depicted in Orthodox Christian art), in this one case the Ark's cherubim may align with this imagery, however reality or symbol based it may be. I have serious doubts



The Cherubim of Solomon's Temple

about my own accuracy in this matter, but at least this solution doesn't appear to conflict with what the Bible reveals.

When it comes to the Cherubim standing over the Ark of the Covenant as sculptures in the Temple, there are a few requirements:

A) Outstretched wings (likely two apiece)

B) Standing on feet (we aren't told how many feet)

C) Faces were likely visible. (If not, we know that the front of the creatures "faced" the Holy Place)

D) Design and dimensions for both were identical

E) Construction materials (olive wood overlaid with gold leaf) were identical

My assumption is that this is a hybrid of three creatures—a lion, a man (probably a young man), and an eagle. My assumption for the eagle is taken from the wings (obviously), but the man and the lion are assumptions I take from another source that might be calling back to Solomon's Temple—the Temple of Ezekiel's prophecy.

In Ezekiel 41:18–19, we read that:

> …were alternating carved cherubim and palm trees. Each cherub had two faces: the face of a human being toward the palm tree on one side and the face of a lion toward the palm tree on the other. They were carved all around the whole temple.
>
> *— Ezekiel 41:18–19 (NIV, for clarity)*

The visuals on my end are largely guesswork.

There are also guesses regarding the size of the veil, whether the Holy of Holies was at the top of a ramp or steps, how large the doors to the Holy of Holies were, whether they were routinely open or closed, whether there might have been a pedestal under the Ark to raise it from the ground, and whether the wings of the cherubim in the Temple had some sort of support (each wing would have weighed an estimated 600–800 lbs, or 270–360 kg). Alas, those questions must wait for another time.

Still Unsolved

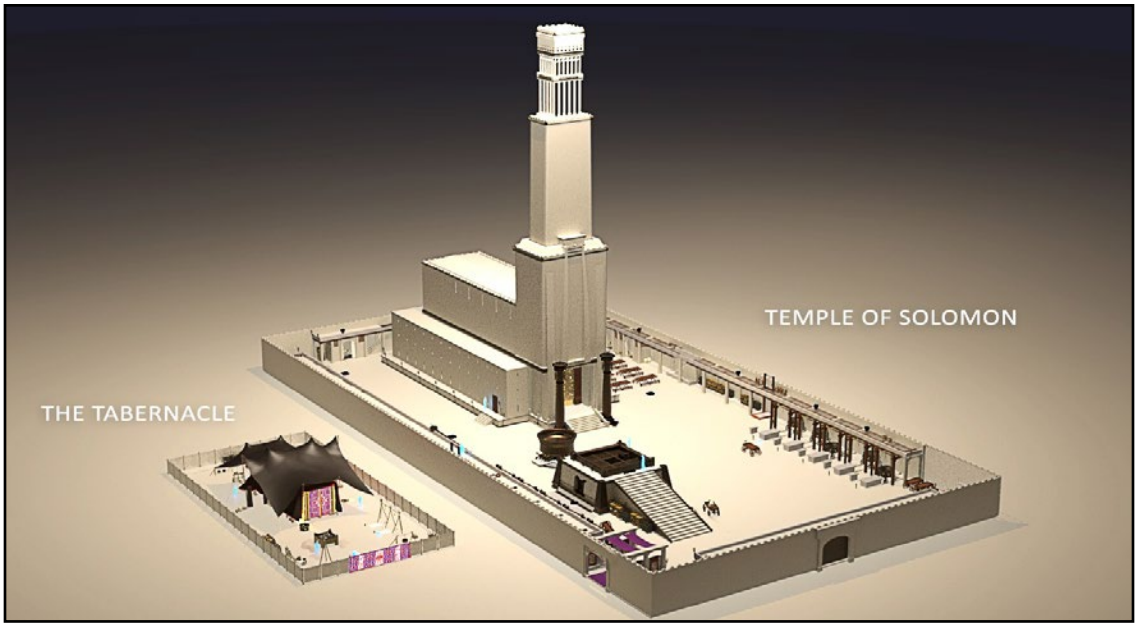
1. What did the cherubim look like? Compare Exodus 25:18–20, Ezekiel 10:14–22 and Ezekiel 41:18–19.
2. At Eden, cherubim were placed "to keep the way of the tree of life." The way was guarded, not destroyed, and God had already promised a deliverer, the seed of the woman. Over the Mercy Seat, cherubim marked the place where God would meet with man. Does the Mercy Seat tie the two together, showing that the way back to life is opened only by God's grace, through the Messiah? See Genesis 3:15, 21–24, Exodus 25:22 and Revelation 22:14.
3. Why did Solomon make two new cherubim of olive wood when the Ark already had two of gold? See 1 Kings 6:23–28.

CHAPTER TEN

Two Sanctuaries

Why the Differences?

So, we've come to the end of the particulars of the Tabernacle and Temple that we're able to look at in this book. When we zoom back out and clarify the models, what do we see?



The Tabernacle and Solomon's Temple at the same scale

I suggest that what we end up with is a clearer vision of two prophecies of Christ—one for his ministry, and one for his kingdom.

I suggest that the Tabernacle represents Christ in his ministry. Jesus became the focal point of Israel during his ministry, just as the Tabernacle was central to the Tribes in the wilderness. His purpose was to call sinners to repentance—to repair the relationship between God and man. Like the linen border of the Tabernacle, Christ was holy, separate from the unclean masses. There was only one way to him—and through that one way, only one Altar. The offerings given could only be given as God directed, and so Christ would also have to be offered in

this way. The Court was a place of constant activity—ceaseless work, prayer, and dedication to God and the needs of those seeking to draw closer to Him.

Help from the priests was available, but it only came from outside the Sanctuary, from the extended family—brothers and sisters of the priesthood.

The House of the Lord itself may have looked mostly plain from the outside, but each layer of the Tabernacle revealed greater layers of depth and meaning—and within, the Sanctuary was undeniably beautiful, even with its earthen floor. It was the way to the Divine, to the Throne of the Lord, and only one had access.

The Tabernacle moved as the Lord directed, but for 40 years in the Wilderness, it had no permanent location—and then under Joshua and during the time of the Judges, for over 300 years—there was still no permanent house for the Tabernacle or the Ark.

Why would God dwell in a tent for so long? I see a few reasons:

1) He had not yet chosen the place where His name would rest. He would, and it was Jerusalem (Deuteronomy 12:5, 11; 2 Chronicles 6:6).

2) God is permanent, but He condescends to men of low estate (Psalm 138:6; Isaiah 57:15). Money, status and real estate are not barriers to a relationship with Him, in either direction, because He has made all of us. So He dwelt among His people in a tent when that was fitting, in a Temple when that was fitting, and then, "when the fulness of the time was come, God sent forth his Son, made of a woman, made under the law, to redeem them that were under the law, that we might receive the adoption of sons" (Galatians 4:4–5).

3) Christ ministered as a man without real estate: "the Son of man hath not where to lay his head" (Matthew 8:20). Yet God was with him without limit, for "God giveth not the Spirit by measure unto him" (John 3:34), and he ministered, and still ministers, as a High Priest for his people (Hebrews 4:14–16). It was fitting that this lesson was taught in the wilderness, to the alienated, rather than to a rich nation under Solomon.

4) God's place is central to His people. The tribes camped on all four sides of the Tabernacle (Numbers 2:2), and only in the wilderness was this order fully prefigured.

Then consider the Temple.

There were similarities, but the differences were grand. While there was still one way into the temple for commoners, the Temple and the King's palace were connected and intertwined. The work was ceaseless here too, but now the help was available and even included or housed in and around the Court.

The Altar, the Living water, and God's might were all bigger and clearer symbols to those who brought their offerings forward. The treasures and supplies of the Temple were no longer stored outside, but within. Meals of peace offerings were probably not made over a simple

campfire, but in kitchens built to enhance the benefits of fellowship in the Court while people ate offerings before the Lord.

Every part of the Temple was breathtaking in artistry, with the temple covered in fine stones—perhaps even gems. One can imagine the privilege the priests felt as they walked into the golden hall of the Holy Place—a scene that underscored the great enduring value of God's plan, with the Cherubim with palms and open flowers repeatedly reminding the onlooker of the return to the Edenic state God had intended.

Everything from the building to the fixtures, to the ornamentation, to the offerings and the priests themselves reflects Christ and his mission at the coming of the Lord, when he establishes his Kingdom—and us—as the saints built into him.

Two great visions of Christ, in his ministry and his Kingdom—witnessed multifold in the forms God commanded. We, as fellow Bible students, sit at a point in history where we can see with clarity why God intended these symbols for our learning. So: we should take the time to learn them.

A Shared Work

One more thread runs through both sanctuaries. Neither one was simply handed down from heaven. Like the second tables of stone, which Moses hewed and God wrote upon, the houses of God under the Law were a collaboration between God and His people. God gave the pattern, but the Tabernacle was built by Bezaleel and Aholiab and by everyone whose "heart stirred him up," until the people brought "much more than enough" (Exodus 35:21; 36:5). The Temple was planned by David, built by Solomon, and supplied by a gentile king and his craftsmen. And once each was built, it had to be run: the offerings, the lamps, the bread, the water, the ash. Every day, the work of God's house was done by human hands.

I think this is an overarching view for our lives as well. We are not meant to attend our meetings and Bible classes passively and call it a day. We should be looking for ways to further God's message and His commandments. That is actual work, but no career has a higher calling. Paul puts it simply: "we are labourers together with God" (1 Corinthians 3:9).

Not everything we intend will come to fruition. David longed to build the house of God and wasn't allowed to, yet God told him, "thou didst well that it was in thine heart" (1 Kings 8:18). David couldn't build the Temple, but he could set the stage. He gathered the gold, silver, bronze, iron, timber and stone (1 Chronicles 22:14), handed Solomon the pattern (1 Chronicles 28:11–19), and "rejoiced with great joy" as the people offered willingly (1 Chronicles 29:9). Imagine what it meant to him that his son would build it: Solomon, the son of Bathsheba, born after David's greatest failure and his repentance (2 Samuel 12:24). God's work did not depend on David's perfection. It went on through the next generation, and David was glad to prepare the way.

We can do the same. Our work may be finished by someone else, but it is not in vain (1 Corinthians 15:58).

Still Unsolved

1. If both the Tabernacle and the Temple point to Christ, what do their differences teach? See Hebrews 8:5 and 9:11.
2. Why was David allowed to plan the Temple but not to build it? See 1 Chronicles 22:7–10 and 28:11–19.
3. Why did God dwell in a tent for so long before He allowed a house to be built? See 2 Samuel 7:5–7.

The Role of Uncertainty

There is so much more that this book doesn't cover—details, to be sure, but still points of interest. I hope readers who find any of this interesting will keep their curiosity alive. I could be completely incorrect in many of my assumptions and conclusions, so I'd encourage every reader to make a study of all of this and to poke at the ideas presented here that seem doubtful. That uncertainty is OK, and thoughtful dissent is certainly welcome.

We may view uncertainty on a subject as the enemy, but this is not always the case. In fact, sometimes it is the honest answer. There are ways in which uncertainty can lead to healthy and beneficial outcomes for Bible students of every background. Uncertainty creates inquiry, dialog, problem solving, and exploration.

We have the rest of our lives—so what do we want to explore? What do we *love* about our Bibles? What's the *most interesting thing* we've learned in the past year? How can we build on that? What ideas don't quite sit right with us? If someone asked us to speak or write on a topic of interest, would we hesitate in confusion, or would we know *exactly* what we've been thinking about lately? What tools can we make for those after us if the Lord does not come when we expect? How will our work benefit and grow our community?

All of this is an antidote to stagnation, to boredom, to unfamiliarity. We all have the ability to put in the time and effort to know our Bibles better. We all *can* do this. There are ways around most of our limitations. It's just… do we want to find a way to *act*?

None of this means that nothing is certain. I hold firmly to what I believe the Bible teaches, and I'd encourage every reader to be sure of the core teachings of Scripture: to test them against the Word, to ask every question, and, once convinced, to use our lives as much as possible to defend and share the Gospel message without retreat. To be "instant in season, out of season" (2 Timothy 4:2).

However, when it comes to interpretations and assumptions on less clear topics, let's be careful that we do not overstate our certainty. On these topics especially, we should encourage widespread inquiry and study. We must believe—as with doctrine—that the Truth will out. Entrenching assumptions can overshadow facts and become emotional touchstones that blind us—and others—to possibilities that might be beneficial to consider, even if we personally don't accept them.

If we can't be totally certain on the details of the Tabernacle and Temple, how much more—for example—with other topics that are based in whole or in part on assumption or partial understanding? Our acknowledgment of this does not preclude study, theory, or reasoning—it encourages it. It often promotes scrutiny of topics with which we aren't familiar and builds understanding of aspects of Scripture we may have put off. It also often promotes conversation when it's needed and benefits the community because it requires due diligence from all of us.

At a time when division is unfortunately common, what a benefit it would be knowing that our fellow believers and Bible students, whatever their history, are returning to their Bibles each day with fresh eyes and a hunger for Truth; with a renewed interest in the God that has called them. This may not solve our divisions, but it should be our shared culture—one that may renew a common love in the Word. Surely that would be highly beneficial as we await the return of our Lord.

Conclusion

Scripture is built for discovery and problem solving. The Almighty knows His creation. He knows that we're built to detect patterns and learn. He knows that when we make the discovery ourselves, our appreciation of His Word deepens; that it becomes alive within us, especially as we see how things relate to His plan through our Lord Jesus Christ.

That Word, alive and active in our daily thoughts is a light. It is a source of energy and encouragement within us and for others. Those that feed this light through daily interest in the Word will receive their daily bread day by day—but they will also have a light that will be both difficult to extinguish and impossible to hide.

With these things in mind I'd like to conclude with some thoughts from King David, written prophetically of a time long after his son Solomon. He wrote it of the Lord Jesus Christ—and he wrote it for those who—like David himself—would be built up as those lively stones, established through the might of the Lord. We may recall that he wrote:

> [1] The LORD is my shepherd; I shall not want.
>
> [2] He maketh me to lie down in green pastures: he leadeth me beside the still waters.
>
> [3] He restoreth my soul: he leadeth me in the paths of righteousness for his name's sake.
>
> [4] Yea, though I walk through the valley of the shadow of death, I will fear no evil: for thou art with me; thy rod and thy staff they comfort me.

> [5] Thou preparest a table before me in the presence of mine enemies: thou anointest my head with oil; my cup runneth over.
>
> [6] Surely goodness and mercy shall follow me all the days of my life: and I will dwell in the house of the LORD for ever.
>
> — *Psalm 23 (KJV)*

May that day come quickly.

Appendix A: The Math

Math is one of my blind spots, so for the larger weight estimates in this book, I used AI tools as one part of my research, mainly as a final check on my own work: Grok for the first estimates, and Claude to double-check them and to work out the showbread. AI tools can be wrong too, so I've shown the working here, so readers can check it for themselves. I'd encourage every reader to treat AI the same way: as one research tool among many, never a substitute for our own study. Every figure depends on assumptions: the length of the cubit, the shape of each vessel, and the thickness of the metal. So each result is given as a range.

Units Used in This Book

Unit	Basis	Imperial	Metric
Cubit	elbow to fingertip	about 18 in	about 45.7 cm
Long cubit	a cubit and a hand-breadth (Ezekiel 40:5)	about 21 in	about 53 cm
Span	half a cubit	about 9 in	about 23 cm
Handbreadth	one sixth of a cubit	about 3 in	about 7.6 cm
Finger	one quarter of a handbreadth	about ¾ in	about 1.9 cm
Bath	liquid measure	about 5.8 gal	about 22 L
Hin	one sixth of a bath	about 1 gal	about 3.7 L
Ephah	dry measure, equal to a bath	about 5.8 gal	about 22 L
Omer	one tenth of an ephah	about 2.3 qt	about 2.2 L
Talent	weight of gold or silver	about 75 lb	about 34 kg

The figures for the bath and the talent vary between scholars by as much as a third, so treat them as approximate.

The Bronze Sea

Scripture says the Sea was ten cubits "from the one brim to the other," five cubits high, thirty cubits around, and "an hand breadth thick" (1 Kings 7:23, 26). (The thirty cubits around and

ten across don't quite match, since 10 × 3.14 is about 31.4. A common explanation is that the brim, flared "like the brim of a cup," was measured across, while the circumference was measured below it.)

The weight of the bronze is the area of the metal times its thickness times the density of bronze, about 8,800 kg per cubic meter (550 lb per cubic foot). Two shapes give the low and high ends:

- A rounded bowl, like half a sphere: area = $2 \times \pi \times \text{radius}^2$
- A straight-sided tub: area = $(\pi \times \text{diameter} \times \text{height}) + (\pi \times \text{radius}^2)$

Cubit	Rounded bowl	Straight-sided tub
18 in (45.7 cm)	about 22 metric tons (48,000 lb)	about 33 metric tons (73,000 lb)
21 in (53 cm)	about 35 metric tons (77,000 lb)	about 52 metric tons (115,000 lb)

So the basin of the Sea weighed somewhere between about 22 and 52 metric tons, not counting the brim, the knops or the twelve oxen. My earlier figure of "over 20 metric tons" sits at the low end of that range.

The water was heavy too. At about 22 liters to the bath, 2,000 baths is about 44,000 liters (11,600 gallons), weighing about 44 metric tons. If 2 Chronicles 4:5's three thousand baths is correct, that's about 66,000 liters (17,400 gallons). Interestingly, with an 18-inch cubit, even a straight-sided tub holds only about 37,500 liters. Two thousand baths fits more comfortably with a longer cubit, or with a smaller bath, which is one more reason these numbers remain open questions.

A Mobile Bronze Basin

Each basin held forty baths and was four cubits across (1 Kings 7:38). Forty baths is about 880 liters (230 gallons). Spread across a bowl four cubits wide, that water is only about a foot (30 cm) deep, much shallower than I first expected. The metal's thickness isn't given, so I've tried two values:

Metal thickness	Basin only	Stand (four side panels)
½ in (1.3 cm)	about 0.5 metric tons (1,100 lb)	about 1.1–1.5 metric tons (2,500–3,400 lb)
1 in (2.5 cm)	about 1 metric ton (2,200 lb)	about 2.2–3 metric tons (4,900–6,700 lb)

The stand ranges cover both the 18-inch and 21-inch cubit. Add the water (about 880 kg, or 1,900 lb) and the wheels, and a full basin on its stand could easily weigh 3 to 5 metric tons (6,600 to 11,000 lb), about as much as one or two pickup trucks. Moving these carts would indeed be like pushing a car, or two!

Jachin and Boaz

Each pillar was eighteen cubits high and twelve cubits around (1 Kings 7:15), and Jeremiah adds that it was hollow, "four fingers" thick (Jeremiah 52:21). As a hollow bronze cylinder, without its capital:

Cubit	Diameter	Weight of each pillar
18 in (45.7 cm)	about 5¾ ft (1.75 m)	about 30 metric tons (67,000 lb)
21 in (53 cm)	about 6¾ ft (2.0 m)	about 48 metric tons (106,000 lb)

The Tablets of Stone

A slab 3 × 10 × 20 inches (8 × 25 × 50 cm) is 600 cubic inches (about 9.8 liters). Granite weighs about 2.7 kg per liter, so each tablet would weigh about 26.5 kg (58 lb), and the pair about 53 kg (117 lb).

The Gold of the Lampstand

A talent of gold, about 34 kg (75 lb), at about 19.3 kg per liter takes up only about 1.8 liters (a little under half a gallon). That's why I believe the Tabernacle Lampstand was smaller and more delicate than it is often pictured.

The Boards, Sockets and Wagons

Chapter 2 argues that the boards of the mishkan were thin. Here is the working. Acacia wood weighs roughly 40 to 55 pounds per cubic foot, depending on the species; I've used 45 pounds (about 720 kg per cubic meter). Each board was 10 cubits by 1½, about 15 by 2¼ feet (4.6 by 0.7 m). These weights are for the wood alone, before the gold overlay.

Board thickness	Volume of one board	Weight of one board	All 48 boards
1 cubit (18 in, 46 cm)	about 50.6 ft^3 (1.4 m^3)	about 2,280 lb (1,030 kg)	about 109,000 lb (50 metric tons)
1 inch (2.5 cm)	about 2.8 ft^3 (80 L)	about 127 lb (57 kg)	about 6,100 lb (2.8 metric tons)
1.5 cm (0.6 in)	about 1.7 ft^3 (47 L)	about 75 lb (34 kg)	about 3,600 lb (1.6 metric tons)

Silver weighs about 655 pounds per cubic foot (10.5 kg per liter). So one talent, about 75 pounds (34 kg), fills only about 200 cubic inches (3¼ liters): for example, a solid block about 13½ by 6 by 2½ inches (34 by 15 by 6 cm). The 100 sockets of the mishkan used 100 talents of silver (Exodus 38:27), about 7,500 pounds (3.4 metric tons) in all.

The four wagons of the Merarites carried the boards, bars, pillars and sockets of the tabernacle, along with the pillars and sockets of the court (Numbers 4:31–32). With boards a cubit thick, the boards and silver sockets alone would come to about 117,000 pounds (53 metric tons), or more than 29,000 pounds (13 metric tons) per wagon, for a pair of oxen to pull. With boards an inch thick or less, the same load comes to about 11,000 to 13,600 pounds (5 to 6 metric tons) in all, or roughly 2,800 to 3,400 pounds (1.3 to 1.5 metric tons) per wagon. That is still heavy, before the bars, pillars and the court are added, but it is in a different world from the thick-board models.

Burn Times on the Altar

For Chapter 3, I compared estimates of how long it would take to reduce an offering to ash, including several from AI tools. The estimates ranged from about 6 to 12 hours for cattle and 2 to 7 hours for sheep or goats. I can't test that myself (nor would I want to!), but a modern experiment gives us something to compare. In 2018, researchers burned pig carcasses of 53 to 81 kg (about 120 to 180 lb), roughly the size of a sheep or goat, on open wood pyres. With two to nine times the animal's weight in wood, the fires burned out after about 1½ to 2 hours, and none of the carcasses was fully consumed. The researchers concluded that near-complete burning needs at least five times the animal's weight in wood, even under ideal conditions. One pyre of four pigs, 209 kg (460 lb) in all, burned for about 8 hours.

Animal	Approximate weight	Wood at five times its weight	AI estimate of burn time
Sheep or goat	45–70 kg (100–150 lb)	225–350 kg (500–770 lb)	2–7 hours
Ox (assuming a smaller ancient breed)	300–400 kg (660–880 lb)	1.5–2 metric tons (3,300–4,400 lb)	6–12 hours

The Altar had advantages the experiment didn't. Its fire was never allowed to go out (Leviticus 6:12–13), the priests tended it, and the burnt offering was cut into pieces first (Leviticus 1:6, 12). So these estimates seem reasonable, but they are estimates, not measurements. The exact numbers matter less than the conclusion: the Altar could only handle so much in a day. The wood is striking too: an ox alone might need a ton or more, which helps explain why, in Nehemiah's day, the people organized a "wood offering" by lot (Nehemiah 10:34).

The Showbread

Each loaf took "two tenth deals" of fine flour (Leviticus 24:5), or two omers: one fifth of an ephah. The weight depends on the size of the ephah and on how loosely the flour is packed. Flour weighs about 0.53 to 0.6 kg per liter (about 125 to 140 g per cup).

Ephah	Flour per loaf	Weight per loaf	All twelve loaves
about 22 L (5.8 gal)	about 4.4 L (18–19 cups)	about 2.3–2.6 kg (5–6 lb)	about 28–32 kg (62–70 lb)
about 36 L (9.5 gal)	about 7.2 L (about 30 cups)	about 3.8–4.3 kg (8.4–9.5 lb)	about 46–52 kg (100–114 lb)

The larger ephah is the less common estimate. Either way, the table held a great deal of bread: somewhere between about 60 and 115 pounds (28–52 kg) of flour every week, set out on a table only two cubits by one.

Appendix B: The Offerings of the Law

Chapter 3 touches on the offerings only briefly. This appendix gathers them in one place, as a reference to come back to. It's drawn from my chart, *Sacrifices & Offerings of the Law of Moses* (version 1.2), and my class series *Without Blemish: Sacrifices & Offerings of the Law of Moses*, both available at BiblicalToolbelt.com. The steps follow the order given in each passage. Where a detail is implied by the text but not stated, I've marked it "(implied)." As always, read the passages for yourself and compare.

Who Does What

- **The offerer:** the worshipper, family or leader who brings the offering.
- **The priest:** Aaron's sons, who handled the blood, the altar and the fire.
- **The High Priest:** Aaron and his successors, especially on the Day of Atonement.
- **An assistant:** a helper to the priest, as in the Day of Atonement and the Red Heifer.

The Offerings at a Glance

Offering	What was offered	Purpose	Key passage
Burnt	bull, ram or male goat, or doves and pigeons	desire to show total dedication to God	Leviticus 1; 6:8–13
Grain (meat)	fine flour, baked or cooked bread, or firstfruits	acknowledgment of divine provision and the need for acceptable works	Leviticus 2; 6:14–18
Peace (fellowship)	cattle, lamb or goat, male or female	shared peace and fellowship between the offerer, the priests and God	Leviticus 3; 7:11–21
Sin	bull, goat, lamb, doves or pigeons, or flour	atonement for a specific unintended sin, once the sinner is aware of it	Leviticus 4:1–5:13; 6:24–30
Guilt (trespass)	a ram, plus restitution	restitution and atonement for a breach of faith	Leviticus 5:14–6:7; 7:1–7
Day of Atonement	bulls, goats and rams	annual atonement for all the sins of the congregation	Leviticus 16
Passover	a year-old male lamb or kid	annual remembrance of God's deliverance	Exodus 12
Red Heifer	an unblemished red heifer	cleansing through sacrifice; ashes for the water of purification	Numbers 19
Drink	wine poured out	a supplementary offering with other offerings	Numbers 15:1–21; 28:7
Incense	the holy incense	a perpetual sweet offering before the Lord; a symbol of prayer	Exodus 30:7–10, 34–38

The Burnt Offering

Purpose: desire to show total dedication to God.

A bull (Leviticus 1:3–9):

1) The offerer brings the bull to the entrance of the tabernacle.

2) The offerer places his hand on the bull's head.

3) The offerer kills the bull.

4) The priests collect the blood and splash it against the sides of the altar.

5) The offerer flays the bull and cuts it into pieces.

6) The priests make sure the fire and the space on the altar are laid out properly.

7) The priests lay out the head and the fat on the altar.

8) The offerer washes the innards and legs with water.

9) The priests deliver the remaining parts to the altar.

10) The animal is reduced to smoke, a sweet savour to the Lord.

A ram or male goat (Leviticus 1:10–13) follows the same pattern, except that the offerer brings the animal to the north side of the altar.

A dove or pigeon (Leviticus 1:14–17) was handled entirely by the priest. He brought the living bird to the altar, wrung off its head and burned it, and drained the blood on the side of the altar. He removed the crop and its contents (some versions say the crop and feathers) and cast them on the east side of the altar with the ashes. Then he tore the bird open by its wings, without dividing it completely, and burned it on the altar.

Additional regulations:

- The priest who offers the burnt offering may keep the animal's skin (Leviticus 7:8).
- The evening sacrifice burns on the altar all night, and the fire must never go out. In the morning, the priest puts on his linen garments to remove the ashes and sets them beside the altar. He then changes into other clothes to carry the ashes outside the camp to a ceremonially clean place. Then he arranges the wood for the morning burnt offering and burns the fat of the peace offerings on it (Leviticus 6:8–13).

The Grain (Meat) Offering

Purpose: acknowledgment of divine provision and the need for acceptable works.

Uncooked fine flour (Leviticus 2:1–3):

1) The offerer brings milled flour of the highest quality.

2) The offerer pours oil on it and puts frankincense on it.

3) The offerer presents it to the priests.

4) The priest takes a handful of the flour, oil and frankincense and burns this memorial portion on the altar.

5) The offering rises as a sweet savour to the Lord.

6) The priests keep the remainder for themselves.

Baked, griddle and pan offerings (Leviticus 2:4–10) are unleavened breads of the finest flour mixed with oil. They could be thick cakes or thin wafers brushed with oil from the oven, a griddle offering crumbled with oil poured on it, or a pan offering. In each case, the priest burns a memorial portion and keeps the rest.

Firstfruits (Leviticus 2:14–16): new grain is roasted in the fire and crushed, then offered with oil and frankincense, and the priest burns a memorial portion.

Additional regulations:

- Grain offerings must not contain leaven or honey, and these may not be burned on the altar. Every grain offering must be seasoned with salt, "the salt of the covenant" (Leviticus 2:11–13).
- The priests eat their portion, without leaven, in the court of the tabernacle. Only the males of Aaron's sons may eat it (Leviticus 6:14–18).
- The priest who offers a baked, pan or griddle offering owns the remainder. Dry or mixed flour offerings are shared equally among Aaron's sons (Leviticus 7:9–10).

The Peace (Fellowship) Offering

Purpose: a demonstration of shared peace and fellowship between the offerer, the priests and God.

Cattle, a lamb or a goat, male or female (Leviticus 3:1–17):

1) The offerer brings the animal to the priest at the tabernacle.

2) The offerer lays his hand on its head and kills it at the entrance of the tent.

3) The priests collect the blood and splash it against the sides of the altar.

4) The offerer removes the fat covering the inner organs, the two kidneys with their fat, and the long lobe of the liver. For a lamb, he also removes the whole fat tail.

5) The priest burns these on the altar, on top of the burnt offering already there (Leviticus 3:5).

6) The offering rises as a sweet savour to the Lord.

Additional regulations:

- **For thanksgiving,** the offerer also brings unleavened loaves and wafers with oil, and leavened bread. The leavened loaf belongs to the priest who sprinkles the blood. All the meat must be eaten the same day, with none left until morning (Leviticus 7:11–15).
- **For a vow or a freewill offering,** the meat may be eaten on the first or second day. Anything left on the third day must be burned, or the offering is not accepted (Leviticus 7:16–18; 19:5–8).
- An animal with a limb that is overgrown or stunted could be given as a freewill offering, but not for a vow (Leviticus 22:23).

The Sin Offering

Purpose: acknowledged need for atonement for a specific unintended sin, once the sinner becomes aware of it. The offering depended on who had sinned.

For a priest (Leviticus 4:3–12), a bull:

1) The priest brings an unblemished bull to the entrance of the tabernacle, lays his hands on it and kills it before the Lord.

2) He sprinkles some of the blood with his finger seven times before the veil of the sanctuary.

3) He puts some of the blood on the horns of the Altar of Incense in the Holy Place.

4) He pours the rest of the blood at the base of the Altar of Burnt Offering.

5) He removes the fat, the kidneys and the long lobe of the liver, and burns them on the Altar of Burnt Offering.

6) He carries the rest of the bull (head, legs, entrails, skin and dung) to the clean place outside the camp where the ashes are poured out, and burns it there on a fire of wood.

For the whole congregation (Leviticus 4:13–21), a bull: the same as for a priest, except that the elders of the assembly lay their hands on it. The priest makes atonement, and the assembly is forgiven.

For a ruler (Leviticus 4:22–26), a male goat: killed (implied) on the north side of the altar, where the burnt offerings are killed. The priest puts some of its blood on the horns of the Altar of Burnt Offering and pours the rest at its base. The same fat is burned as in the peace offering.

For one of the common people (Leviticus 4:27–35), a female goat or a female lamb, handled as for a ruler. Its fat was burned on the altar "for a sweet savour unto the LORD" (Leviticus 4:31), though the offering as a whole dealt with atonement for sin, not with worship (see "Sweet-Savour and Non-Sweet-Savour Offerings" below).

For a silent witness, for touching something unclean, or for a rash oath (Leviticus 5:1–13): a lamb or goat as above. If the offerer couldn't afford one, he could bring two turtledoves or two pigeons, one for a sin offering and one for a burnt offering. If he couldn't afford those, he could bring a tenth of an ephah (an omer) of fine flour, with no oil or frankincense. The priest burns a memorial portion of the flour and keeps the remainder.

Additional regulations (Leviticus 6:24–30):

- Sin offerings are killed in the same place as burnt offerings.
- The priest who offers it may eat the meat, but only in the court of the tabernacle.
- Anything that touches the flesh is holy. A garment spattered with its blood must be washed in a holy place. A clay pot it was cooked in must be broken, and a bronze pot scoured and rinsed.
- If the blood was brought into the Holy Place, as for a priest or the congregation, the meat may not be eaten, and must be burned completely.

The Guilt (Trespass) Offering

Purpose: acknowledged need for restitution, and atonement for a breach of faith.

For unintentionally acting against the holy things of the Lord (Leviticus 5:14–19; 7:1–7): the offerer brings an unblemished ram of a set value in silver shekels. It is killed where the burnt offerings are killed, its blood is splashed against the altar, and its fat is burned as in the peace offering. He confesses his sin and pays restitution, plus a fifth of its value, to the priest.

For deceiving or robbing a neighbor (Leviticus 6:1–7; Numbers 5:5–8): if he has robbed, oppressed or swindled his neighbor, kept a lost item or sworn falsely, he must make his neighbor whole and add a fifth on top. Then he confesses his sin and brings the same ram offering.

This offering also appears in other settings: sexual sin (Leviticus 19:20–22), improper marriage (Ezra 10:18–19), the cleansing of a leper (Leviticus 14:12), and a broken Nazarite vow (Numbers 6:12).

The Day of Atonement

Purpose: annual atonement for all the sins of the congregation, on the tenth day of the seventh month (Leviticus 16:29–34). The High Priest offered a bull for a sin offering and a ram for a burnt offering for himself and his house. The congregation provided two male goats for a sin offering and a ram for a burnt offering (Leviticus 16:3, 5).

Part 1: Preparation (Leviticus 16:1–14):

1) The High Priest bathes and puts on the holy linen garments.

2) He brings both goats to the entrance of the tabernacle and casts lots over them: one for the Lord, and one for the scapegoat (Hebrew *azazel*).

3) He kills the bull as a sin offering for himself and his house.

4) He takes a censer of coals from the Altar of Burnt Offering, with two handfuls of incense, into the Most Holy Place. The cloud of incense covers the mercy seat, protecting him.

5) He sprinkles the bull's blood on the mercy seat eastward, and seven times before it.

Part 2: The goat for the Lord (Leviticus 16:15–19):

6) He kills the goat for the Lord and sprinkles its blood within the veil, as he did with the bull's.

7) He makes atonement for the Holy Place, and for the tabernacle, because of the uncleanness of the people.

8) He comes out to the altar and puts the blood of the bull and the goat on its horns, and sprinkles it seven times, to cleanse and hallow it.

Part 3: The scapegoat (Leviticus 16:20–28):

9) He lays both hands on the live goat and confesses over it all the sins of the congregation.

10) An assistant leads the goat away into the wilderness and sets it free.

11) The High Priest takes off the linen garments in the tabernacle, bathes in a holy place, and puts on his own garments.

12) He offers the two rams as burnt offerings, and burns the fat of the sin offerings on the altar.

13) The bull and the goat of the sin offerings are carried outside the camp and burned whole.

14) The man who led the scapegoat away, and the one who burned the sin offerings, must wash their clothes and bathe before returning to the camp.

No one else may be in the tabernacle while the High Priest makes atonement (Leviticus 16:17).

The Passover

Purpose: annual remembrance of God's deliverance, on the fourteenth day of the first month (Exodus 12:1–11).

- The animal is an unblemished male lamb or kid of the goats, a year old. A household too small for a whole animal may share with its nearest neighbor.
- It is killed at twilight. In Egypt, its blood was put on the doorposts and lintel of the house.
- It is roasted whole over the fire, with its head, legs and inner parts, and must not be eaten raw or boiled.
- It is eaten that night with bitter herbs and unleavened bread, by people dressed and ready to travel. Anything left until morning is burned.

The Red Heifer

Purpose: a type of sin offering; cleansing through sacrifice. Its ashes were used in the water of purification (Numbers 19:1–10).

1) The son of the High Priest (Eleazar, in Numbers 19) receives an unblemished red heifer that has never borne a yoke, and it is taken outside the camp.

2) An assistant kills it in his sight.

3) The priest sprinkles its blood with his finger seven times toward the front of the tabernacle.

4) The heifer is burned whole in his sight, including its skin, flesh, blood and dung, and the priest casts cedar wood, hyssop and scarlet into the fire.

5) The priest and the one who burned the heifer each wash their clothes and bathe, and are unclean until evening.

6) A man who is clean gathers the ashes and lays them up in a clean place outside the camp, to be kept for the water of separation. He too washes his clothes and is unclean until evening.

The Drink Offering

Purpose: a supplementary offering, poured out before the Lord with other offerings (Numbers 15:1–21; 28:7). Exodus 30:9 forbids pouring it on the Altar of Incense, so it was likely poured at or near the Altar of Burnt Offering.

With a	Wine	Imperial	Metric
Lamb	a quarter of a hin	about 1 quart	about 0.9 L
Ram	a third of a hin	about 1¼ quarts	about 1.2 L
Bull	half a hin	about 2 quarts	about 1.9 L

The Incense Offering

Purpose: a perpetual sweet offering before the Lord, and a symbol of prayer. On the Day of Atonement, its smoke shrouded the mercy seat to protect the High Priest.

- The priest burns incense on the Altar of Incense every morning when he tends the lamps, and again at twilight (Exodus 30:7–8).
- It is made of equal parts stacte, onycha, galbanum and pure frankincense, "tempered together" (Exodus 30:34–35). Several translations render that phrase "seasoned with salt."
- The coals come from the Altar of Burnt Offering, and two handfuls are used on the Day of Atonement (Leviticus 16:12).
- No one may make the same compound or use it for himself, and no other offering may be made on the Altar of Incense (Exodus 30:9, 37–38).

Sweet-Savour and Non-Sweet-Savour Offerings

The Levitical sacrifices fall into two main groups:

- **Sweet-savour offerings:** the burnt offering, the grain (meat) offering and the peace offering. These represented total devotion, fellowship and worship, and their smoke is described as a pleasing aroma to God.
- **Non-sweet-savour offerings:** the sin offering and the trespass (guilt) offering. These dealt specifically with sin, with pollution, and with the penalty of breaking God's law.

The disposal of the offerings reflects the difference. Sweet-savour offerings were burned, wholly or in part, on the altar in the sanctuary. Portions of the sin offering were often burned

outside the camp, a picture of God's judgment on sin and His separation from it (Leviticus 4:11–12; Hebrews 13:11–13).

Some readers point to Leviticus 4:31, where the fat of a commoner's sin offering is burned "for a sweet savour unto the LORD." But that is said of the fat burned on the altar, not of the offering as a whole, which remained an atonement for sin rather than a sweet-smelling sacrifice of worship.

Rules That Apply Across the Offerings

- **Without blemish.** No animal that is blind, broken, maimed, sick or healing, or with damaged reproductive organs, may be offered (Leviticus 22:19–25).
- **Salt.** "With all thine offerings thou shalt offer salt" (Leviticus 2:13; see also Ezekiel 43:24).
- **The fat and the blood.** These are the Lord's, and may never be eaten (Leviticus 3:16–17).

A Few Terms

Korban (plural korbanot). The general term for an offering, literally "something which draws near." It is something that brings people closer to God. Korbanot were of three main kinds: animals, grain and money. They were offered in the evening, the morning and throughout the day, and on feast days.

Wave offering (*tenuphah*). A consecrated offering presented to the Lord (Numbers 18:11). It might be the whole offering, or, as in a peace offering, a portion "waved" before the Lord for the priests. In a certain sense the Levites themselves were a wave offering, consecrated to serve the Lord out of the congregation (Numbers 8:11).

Heave offering (*terumah*). The portion lifted up from an offering for the priests, their sons and their daughters. A priest's daughter married to a stranger could not eat of it, and no stranger was to eat of the holy things (Leviticus 22:10–13).

Glossary

Abacus. A flat slab at the top of a capital, between the capital and whatever it supports.

Altar of Burnt Offering. The bronze altar in the court, where the offerings were burned (Exodus 27:1–8).

Aron. One of two Hebrew words for "ark," a box or chest. Used for the Ark of the Covenant and for Joseph's coffin. See also *teivah*.

Bath. A liquid measure of about 22 liters (5.8 gallons). The Sea held two thousand or three thousand of them.

Capital (chapiter). The decorated head of a pillar.

Censer. A pan or vessel for carrying hot coals and burning incense.

Cherubim. Composite winged creatures. Two of gold covered the Mercy Seat; two of olive wood stood in Solomon's Most Holy Place. Singular: cherub.

Cubit. The basic unit of length in the Bible, from elbow to fingertip, about 18 inches (45.7 cm). The "long cubit" was a cubit plus a handbreadth, about 21 inches (53 cm).

Ephah. A dry measure equal to a bath, about 22 liters.

Handbreadth. The width of four fingers, about 3 inches (7.6 cm); one sixth of a cubit.

Hin. A liquid measure, one sixth of a bath, about 3.7 liters (1 gallon). Used for the wine of the drink offerings.

Holy Place. The first room of the sanctuary, holding the Lampstand, the Table of Showbread and the Altar of Incense.

Kesot and menakiyot. Hebrew terms Rashi uses for the golden pipes and upright supports of the Table of Showbread (Exodus 25:29).

Korban. The general Hebrew term for an offering, "something which draws near." See Appendix B.

Knop. A round, bud-like ornament, as on the Lampstand and below the brim of the Sea.

Laver. The bronze basin in the Tabernacle court where the priests washed their hands and feet (Exodus 30:17–21).

Lily work. Carved or cast decoration in the shape of lily blossoms, on the capitals of Jachin and Boaz and the brim of the Sea.

Mercy Seat. The pure gold lid of the Ark, between the cherubim; the place of propitiation.

Mishkan. Hebrew for "dwelling place"; the sanctuary itself, with its frames and inner linen curtains. See also *ohel*.

Most Holy Place (Holy of Holies, the oracle). The inner room of the sanctuary, where the Ark stood. Only the High Priest entered, once a year.

Nazarite. A man or woman under a special vow of separation to God for a set time, or for life (Numbers 6). Modern translations spell it "Nazarite."

Ohel. Hebrew for "tent"; the tent of goats' hair curtains over the mishkan.

Omer. One tenth of an ephah, about 2.2 liters (2.3 quarts).

Scapegoat (azazel). The live goat sent away into the wilderness on the Day of Atonement (Leviticus 16:8–10).

Settle. A ledge or step-like offset, as in the ledges of Ezekiel's altar (Ezekiel 43:14).

Shittim. The acacia tree, the wood used for the Ark, the tables and the frames of the Tabernacle.

Showbread. The twelve loaves set out on the golden table "before the LORD" each Sabbath (Leviticus 24:5–9).

Span. Half a cubit, about 9 inches (23 cm).

Staves. The carrying poles of the Ark and of other furnishings.

Tachash. The skins of the Tabernacle's outermost covering. The animal is unknown; translations range from badgers to porpoises to fine leather.

Talent. A large unit of weight, about 75 pounds (34 kg).

Teivah. One of two Hebrew words for "ark," used for the arks of Noah and of Moses. See also *aron*.

Windcatcher. A tower that catches the breeze and channels cooler air down into a building, used in Egypt and the Near East since ancient times.

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