

*CJC Research — Chapter 1***Chapter 1***Core Framework and the Exodus Spring Era, 1437 BC***1. What Is the Continuous Jubilee Calendar (CJC)?**

From the Exodus and Mount Sinai, through Hezekiah's deliverance from Assyria, the decree Gabriel foretold in 457 BC, the crucifixion and resurrection, the fall of the Temple, Paul's own precisely-dated travels, all the way to the 20th century — a single, unbroken mathematical count connects them, tracing back to Scripture's own calendar instructions and holding firm against real astronomy, real archaeology, and real ancient records. That's the Continuous Jubilee Calendar: not a theory imposed on history, but a pattern this chapter shows emerging directly from Scripture's own math, tested case by case, and strong enough in places to settle debates scholars have argued for decades — including exactly which year the crucifixion occurred.

The Big Picture: What This Chapter Demonstrates

Before working through the math step by step, here's the full picture it builds toward — the collective pattern that makes this framework worth your time.

Run the same simple formula across nearly 3,000 years of real history, and it keeps landing in the right place. Hezekiah's deliverance from Assyria (702 BC) and the decree Ezra carried from Persia (457 BC) both land precisely on a Jubilee — Year 1 of their cycle. Five centuries before it happened, Daniel was told the Messiah would be "cut off" in "the midst of the week." Run the math forward — 483 years from that decree to the baptism, three more to the crucifixion — and it lands exactly there: the structural middle of its cycle, on the specific final week of years his own prophecy names.

That single result has to survive an unusually demanding set of independent requirements simultaneously, not one at a time — a Friday, a full moon, the correct cycle position, an independently-anchored baptism three years earlier, and a resolution to a real, centuries-old puzzle: why the Synoptic Gospels describe the Last Supper as the Passover meal itself, while John places the crucifixion on the day *before* the wider nation's Passover. This chapter shows both accounts are accurate, describing the same week through two coexisting first-century calendar traditions — not a contradiction requiring one Gospel to be wrong. Very few years in history can satisfy every one of these constraints at once. AD 30 does.

The pattern doesn't stop at the resurrection. Walking forward using Scripture's own counting rules reaches the Ascension on a Thursday and Pentecost on a Sunday — both matching centuries of church observance, arrived at here by calculation, not tradition. Keep going, and the same math finds Peter's imprisonment in Acts 12, confirmed to the exact weekday using a primary-source Babylonian calendar table, and Paul before Gallio in Corinth, fixed by an inscription discovered at Delphi.

That's the case this chapter makes: not one clever date, but a single, unbroken count running through Scripture and secular history alike, checked against real astronomy, real inscriptions, and real ancient records — landing exactly where it should, again and again. What follows is the careful, honest accounting of how solid each piece of that picture actually is, including a few places where the evidence is more limited than it might first appear. That honesty is what makes the strong parts worth trusting.

The CJC organizes biblical chronology using the Jubilee cycle described in Leviticus 25:8-10. Count seven groups of seven years — 49 years total — and the fiftieth year is proclaimed a Jubilee. That fiftieth year simultaneously functions as Year 1 of the next cycle, creating a continuous, gap-free sequence of overlapping 49-year loops.

The CJC's math runs as one unbroken count, forward from the Exodus era through history to the present. Scripture requires both the seven-day week and the seven-year sabbatical cycle to run without interruption — this is what allows the Sabbath rest and the Jubilee to be tracked and obeyed correctly. Exodus 23:10-11 commands the land itself to rest every seventh year, and Leviticus 25:8-10 builds directly on that same seven-year unit: “seven sabbaths of years... forty and nine years... and hallow the fiftieth year.” Within a cycle, each year falls at a specific position within its seven-year unit, found by taking the year's position modulo 7 — Year 1 is Position 1, and the pattern repeats every seven years, exactly as Gabriel describes to Daniel: “seven weeks, and threescore and two weeks... in the midst of the week” (Daniel 9:25, 27, KJV) — the same unit of seven years, used the same way. The CJC method prioritizes Scripture's own calendrical rules throughout, and is built to introduce zero conflict with them.

Running this count backward from securely-dated anchors — the 457 BC decree, the crucifixion — lands Year 1 of the very first cycle in the spring era of the Exodus, around 1437 BC. This is a *result* of the math, not a starting assumption: Section 3 below explains exactly what that result does and doesn't establish about the historical Exodus date itself.

2. The Cycle Math

To place any year within the continuum:

- Convert the year to a continuous “**Bible Year**” (B)**:
- AD years: **B = year + 1437** (example: 30 AD gives B = 1467)
- BC years: **B = 1438 – year** (example: 1437 BC gives B = 1)
- Cycle number: **C = floor((B – 1) / 49) + 1**
- Position within the cycle: **Y = B – ((C – 1) × 49)**
- Position within the seven-year unit: take (Y – 1) mod 7, where remainder 0 = Position 1, 1 = Position 2, ... 6 = Position 7.

The boundary year at the close of each 49-year span is labeled the **start of the new cycle**, not the end of the old one — this is the convention used consistently throughout this project.

Hezekiah's 702 BC Jubilee, for example, is Cycle 16, Year 1, falling directly out of the formula above with no special case required.

3. The Exodus Spring Era: What the Cycle Math Shows, and What It Doesn't Claim

The honest position here is more limited than a casual reading of the math might suggest, and it's worth being direct about why.

The most important finding first: no specific Exodus year is actually required for this chapter's strongest claims to hold. 457 BC, 702 BC, and 30 AD share their cycle positions with each other regardless of which candidate Exodus epoch is used, provided that epoch differs from the others by a multiple of 49 years (1437 BC, 1486 BC, and 1388 BC all produce identical results for these three anchors, checked directly). This means the specific claim "the Exodus occurred in 1437 BC" is a separate, additional assertion — not something this chapter's own internal mathematics actually requires.

The 1 Kings 6:1 path, checked directly, does not produce 1437 BC through inclusive counting. Solomon's temple construction, tied to his fourth year and the well-attested 480-year statement in 1 Kings 6:1, is genuinely anchored via Assyrian synchronism (Ahab at Qarqar, 853 BC; the Assyrian Eponym Canon) to approximately 966-967 BC. Adding 480 years directly gives 1446 BC — and inclusive counting, verified directly against every other biblical example of the convention cited below, accounts for at most a one-year adjustment, not the nine years needed to reach 1437 BC. Tracing the actual historical source of the 1437 BC figure to its origin confirms this: the calculation was built by computing the straightforward result first (which did not match the intended Jubilee position), then substituting a different figure for the elapsed time between Ahab and Solomon — one exceeding even the wider range that source's own author cited as scholarly precedent for such an adjustment. This is worth stating plainly rather than continuing to describe it as "inclusive counting": it is a distinct, separate adjustment, and it has not been independently justified.

The honest state of the rival figure, 1446 BC: it is the figure produced by Edwin Thiele's rigorous, Assyrian-anchored regnal chronology (*The Mysterious Numbers of the Hebrew Kings*) — independently cross-checked by Rodger Young's peer-reviewed work using three separate methods (Thiele's regnal chronology, the Jubilee/Sabbatical calendar via Ezekiel 40:1, and the Tyrian king list preserved in Josephus), all converging within a year or two of each other. This is a credible, well-grounded historical candidate, not a default reading to be dismissed.

On the other three "independent" paths: each carries a dependency that should be named rather than left implicit. The Daniel 9:25 path (twenty cycles back from 457 BC) is not independent of 457 BC at all — it is the same claim expressed as arithmetic; if 457 BC is granted as Y=1, 1437 BC follows mechanically, and this cannot be counted as a second confirmation of itself. The Acts 13:20 path depends on reading "about 450 years" as applying cleanly to the judges period specifically; summing the individual periods given throughout Judges produces totals in the 570-590 year range, a genuine, documented discrepancy that a single conservative reading does not resolve on its own terms. The Ezekiel 4:5-6 path depends on a specific, debated

way of applying the 390/40 day-year figures to reach 1016 BC for the kingdom's division, which is itself one of several proposed readings.

None of this means 1437 BC is disproven — it was never claimed as an independently established epoch to begin with. It is simply where the cycle math lands when run backward from 457 BC, 702 BC, and the crucifixion — a result showing a Jubilee position within the general era of the Exodus, not a precise date claimed on its own separate authority. 1446 BC remains the more rigorously-sourced figure for the actual historical date, and this framework's strongest claims don't depend on which one is correct.

A Note on the “Backward Check” Method

Running the cycle formula backward from 27 AD, from 702 BC, and from 457 BC all reach 1437 BC — but this should be understood precisely: these are not independent checks. Since all of these anchors already share the same cycle phase by construction, counting backward from any one of them by the appropriate number of complete 49-year cycles will always land on the same starting point — this is a restatement of the shared phase, not a new piece of evidence for it. The genuine, useful content of this observation is the internal consistency it demonstrates (the system does not contradict itself when run in either direction) — not independent confirmation of which specific year anchors the whole count.

Inclusive Counting — A Rule the Bible Uses Again and Again

Here's a counting rule that shows up throughout Scripture: if something starts partway through a day or a year, that partial stretch still counts as “one.” A modern reader might expect only full, complete units to count — but the Bible consistently counts differently, and once you see the pattern, it explains a lot of dates that otherwise look confusing.

Take Jesus in the tomb. He was buried Friday evening and rose Sunday morning — by a strict, hour-by-hour count, that's not even two full days. But Scripture calls it “three days” (Matthew 12:40, 1 Corinthians 15:4) — because Friday counts as day one, Saturday as day two, and Sunday as day three, even though Friday and Sunday were only partly involved. This is inclusive counting: touch any part of a unit, and it counts as a whole one.

The Book of Esther shows the same pattern with a fast. Esther tells the people to fast for “three days” (Esther 4:16), then she approaches the king “on the third day” (Esther 5:1) — the same short span, described consistently, with the partial first and last days both counted in full.

A few more examples, all using this identical rule: Joseph holds his brothers “in custody for three days,” then releases them “on the third day” (Genesis 42:17-18). An Egyptian servant describes going without food for “three days and three nights,” which the very next verse also calls “three days ago” (1 Samuel 30:12-13). Rehoboam tells the people “come back to me in three days,” and they return “on the third day” (2 Chronicles 10:5, 12).

This same rule applies to years, not just days — and it's especially common in how ancient kings counted their reigns. A king who took the throne partway through a year would often have that partial year counted as his full “Year 1,” rather than waiting for the next new year to begin the count. Scripture gives us a clean, direct example of this: Elah began to reign in the 26th year of Asa's reign (1 Kings 16:8), and Zimri killed him in the 27th year of Asa (1 Kings

16:10) — a partial year on the throne, counted as a real, numbered year. Rehoboam’s own “17 years” (1 Kings 14:21) works the same way, and so does Tiberius’s “fifteenth year,” which Luke 3:1 uses to date John the Baptist’s ministry.

One important, honest complication: because of this rule, when you add up all the years different kings say they reigned, the total often comes out *longer* than the actual number of calendar years that passed. This happens two ways: a king’s partial first year sometimes gets counted twice — once as his own “Year 1,” and once as the outgoing king’s final year — and sometimes a father and son ruled together for a stretch (called a co-regency), with both of them counting those same years in their own individual totals. This is well documented; Edwin Thiele’s book *The Mysterious Numbers of the Hebrew Kings* is the standard reference tracing this pattern carefully across Israel and Judah’s kings, including a real co-regency between Jotham and Uzziah (2 Kings 15:5).

Tiberius’s Fifteenth Year

Luke 3:1 dates the start of John the Baptist’s ministry to “the fifteenth year” of the Roman emperor Tiberius. The CJC counts those years from when Tiberius began ruling alongside Augustus, not from Augustus’s death.

In AD 13, a Roman law gave Tiberius power equal to Augustus’s over the provinces and armies. Roman coins from that year show the two men together, Augustus on one side and Tiberius on the other (catalogued as RIC 225-226). Those coins were not minted by chance: Rome issued them the same year the law raised Tiberius to Augustus’s side.

Read this way, Luke’s count begins the same year as the law and the coins. With AD 13/14 as Tiberius’s Year 1, Year 15 is AD 27/28 (often written simply as AD 27). That is the same year Gabriel’s 483 years from the 457 BC decree point to, and the same year John 2:20’s “forty-six years” points to (see 4C). John’s ministry begins then, with Jesus baptized shortly after. From there, John’s Gospel names three Passovers (John 2:13; 6:4; 11:55), in AD 28, 29, and 30, and the third is the crucifixion.

Why the Sky Itself Can Testify — Because Scripture Says So First

Before turning to any astronomical calculation, it’s worth asking a more basic question: why would checking the sky even be relevant to dating a biblical event? The answer isn’t a modern add-on — it’s built into Scripture’s own instructions.

Genesis 1:14 states the purpose of the sun and moon directly, on the very day they were created: “Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years.” The Hebrew word translated “seasons” here is the same word used throughout the Torah for God’s appointed feast days (Leviticus 23:2, 4) — meaning the sun and moon weren’t just given for light, but specifically to mark the sacred calendar itself.

That purpose becomes a direct command a few books later. Exodus 12:2 ties the entire religious calendar to the moon: “This month shall be unto you the beginning of months.” Leviticus 23:5 fixes Passover to a specific lunar day: “In the fourteenth day of the first month at even is the

LORD's passover." Deuteronomy 16:6 pins the exact moment further still — “at the going down of the sun.”

This means the sky isn't a modern scientific add-on brought in to check the Bible — it's the very mechanism Scripture itself commands its own festivals to be measured by. Most biblical chronology research works entirely from written sources — comparing king lists, cross-referencing ancient historians, tracing how different texts describe the same events. That's valuable, necessary work, but it depends entirely on documents, which can be copied with errors, lost, or disputed. The moon and sun don't have that problem — their movements follow fixed laws that can be calculated backward with real precision, completely independent of any scribe's record. Since Scripture itself commands its calendar to be set this way, checking the actual sky isn't optional scientific decoration — it's testing the calendar against the very standard God assigned it.

Applying This to the Crucifixion Year

Using U.S. Naval Observatory data, cross-checked independently with the Stellarium planetarium program and NASA's own moon-phase catalog, three candidate years — 29, 30, and 31 AD — can each be checked against exactly when spring's first new moon actually fell:

- **29 AD** — the spring equinox falls on Tuesday, March 22. The first new moon after it doesn't arrive until eleven days later, Saturday, April 2.
- **30 AD** — the spring equinox falls on Wednesday, March 22. The first new moon after it falls that same day — an exact, same-day match.
- **31 AD** — the spring equinox falls on Friday, March 23. The first new moon after it doesn't arrive until eighteen days later, Tuesday, April 10.

30 AD stands out clearly — its equinox and new moon line up far more tightly than either neighboring year. This is a genuinely separate piece of evidence from the cycle-position argument made elsewhere in this chapter; it comes from checking the sky itself, exactly as Scripture instructs, not from counting years forward through a formula.

Tools for Checking This Yourself

This kind of check doesn't require special access or expensive software — three free, reliable tools make it possible for anyone to verify these dates independently:

- **USNO (U.S. Naval Observatory)** — aa.usno.navy.mil — the U.S. government's own official astronomical data source, including historical moon-phase calculations.
- **NASA** — eclipse.gsfc.nasa.gov (Fred Espenak's published catalogs) — professionally-maintained lunar phase tables spanning millennia, the standard reference most professional astronomers use.
- **Stellarium Web** — stellarium-web.org — a free, browser-based planetarium that lets you set any date, ancient or modern, and see exactly what the sky looked like from any location on Earth, no download required.

A caution worth knowing before you check. Some ordinary online calendar tools and calculators will return dates that look shifted by a day or more from what's shown here — this

isn't a mistake in the astronomy, and it's almost always one of two well-known technical differences. First, some tools quietly apply the modern Gregorian calendar even to ancient dates, while this chapter uses the Julian calendar — the one actually in civil use at the time — and the two drift further apart the further back in history you go. This is called a “proleptic” calendar problem: extending a calendar system backward past when it actually started being used. Second, some astronomical software counts a “year zero” between 1 BC and AD 1, while traditional BC/AD dating (used throughout this chapter) has no year zero at all — a one-year offset that catches people off guard if they don't know to check for it. If your own results don't match, confirm which calendar convention and year-numbering system your tool uses before assuming the numbers here are wrong.

3B. Estimating the Exodus Day — A Reasoned Best Guess, Not a Certainty

The Cycle and Year math (Y=1, Cycle 1) never depended on which specific calendar day the Exodus fell on — that is pure year-counting, already confirmed independently multiple ways above, and nothing below changes it. What follows is a reasoned best estimate for the specific day, offered as exactly that rather than a certainty, with the full chain of reasoning shown so it can be checked.

The reasoning, step by step:

- **Equinox drift:** the proleptic-Julian vernal equinox for 1437 BC falls around April 3, not the modern late-March date, due to calendar drift accumulated over the intervening centuries — the same kind of drift the 1582 Gregorian reform later corrected for by ten days.
- **Two candidate conjunctions:** an independent reimplementation of the standard Meeus new-moon algorithm places new moons on March 30 and April 28, 1437 BC.
- **Which one governs Nisan 1:** resolved in favor of March 30. The relevant traditional requirement is that Passover itself (Nisan 15) fall on or after the spring equinox — not that the new moon must. The March 30 conjunction, with crescent-sighting, places Nisan 15 around April 14-15 — twelve days after the April 3 equinox, comfortably satisfying the requirement without needing the later April 28 conjunction at all.
- **Confirmed further by the Adar II intercalation mechanism:** the new moon one lunar month before March 30 falls on February 29, 1437 BC. Left uncorrected, that would place Passover around March 14 — a full twenty days *before* the equinox, precisely the situation an intercalary thirteenth month exists to fix. Inserting that extra month pushes the calendar forward by one full lunar cycle, landing exactly on the March 30 conjunction already favored above — meaning March 30 is not an arbitrary choice between two options, but the position the standard intercalation practice would be expected to produce on its own.
- **Resulting estimate:** Nisan 1 around April 1; Nisan 14 around April 14; Nisan 15, the night of departure per Numbers 33:3, around April 15, in the Exodus spring era, 1437 BC.

- **Weekday:** April 14 falls on a literal Sunday and April 15 on a literal Monday, by independent astronomical computation — with a residual one-day labeling ambiguity depending on exactly which evening the crescent was first sighted, which would shift both estimates by a day.

None of this affects the year-position system described in Section 1, which is a separate, unaffected layer — Year 1 for the Exodus spring era remains Position 1 regardless of which literal calendar day the departure fell on.

4. Core Event Anchors

These anchor events recur throughout the CJC and serve as fixed reference points for everything else:

Event	Date	Cycle/Year	Notes
Exodus	Exodus spring era, 1437 BC	1/1	Best estimate for the departure night: Nisan 15, around April 14-15; a genuine full moon is confirmed at Nisan 14 (Section 3B).
Hezekiah's Jubilee	702 BC	16/1	Post-Sennacherib deliverance and land-rest reform (2 Kings 19:29-31); see the honest 701 BC caveat and calendar-misalignment discussion below.
Ezra 7 / Artaxerxes Decree	457 BC	21/1	Launches Daniel's 483-year (69-week) countdown.
Jesus' Baptism	27 AD	30/43	483 years from the 457 BC decree, by inclusive counting; independently corroborated by John 2:20's temple chronology (see below).
Crucifixion	30 AD, Fri Apr 7	30/46	$Y=46 \bmod 7 = 4$, the cycle's middle position.
Resurrection	30 AD, Sun Apr 9	30/46	First day of the week

Event	Date	Cycle/Year	Notes
Stephen's Martyrdom	34 AD	31/1	(Matthew 28:1). Acts 8:1's expansion beyond Israel follows immediately after.
Peter's Imprisonment	44 AD	31/11	Herod Agrippa's death (Josephus) plus Parker & Dubberstein's primary-source calendar table place Nisan 14 on a confirmed Friday, May 1, AD 44 (Acts 12:3-4).
Paul Before Gallio	51 AD	31/18	Fixed independently by the Delphi inscription — one of the most load-bearing external dates in early Christian chronology.
Temple Destruction	70 AD	31/37	Confirmed consistently across the corpus.

4B. Hezekiah's 702 BC Jubilee: The Evidence and Its Honest Limits

Leviticus 25's own math produces a real, structural pattern worth presenting on its own strength: the year immediately before every Jubilee is mechanically also an ordinary sabbatical, since 49 is itself a multiple of 7. Assuming adherence to both laws, this produces two consecutive rest years — 703 BC and 702 BC (the Jubilee itself) — with no sowing in either preceding autumn. The resulting lack of harvest would extend across two consecutive springs, 702 BC and 701 BC, matching the shape of Isaiah 37:30's own three-stage sign ("this year... the second year... then... sow and reap") — a fit worth noting, not a proof of it. Sennacherib's campaign and the miraculous deliverance (2 Kings 19:35, Isaiah 37:36) fall within 701 BC, the year immediately after the Jubilee. That year's agricultural condition would follow from the preceding rest years under this specific reading; it isn't independent confirmation that this is what happened.

This reading of Isaiah 37:30 is one of two live options, not the consensus one — Rodger Young and most careful chronologists read the war itself as causing the first year's disruption, requiring no pre-declared Jubilee at all. Both readings are textually defensible.

A second, independent possible contributor to the one-year gap is calendar misalignment rather than interpretation. The standardized intercalation cycle that later kept lunar and solar calendars synchronized wasn't adopted until roughly 503-499 BC, two centuries after Sennacherib's campaign. Before this, both Assyrian and Judean calendars added leap months ad hoc, by decree rather than fixed rule — and Assyrian record-keeping shows no evidence of astronomical observation guiding this process at all. Under these conditions, a real gap of weeks to a month could exist between the two calendars' year-boundaries, meaning the same actual date might be labeled 701 BC under one system and 702 BC under the other. This is a real, evidenced mechanism, not speculation — but whether the deliverance specifically fell within that gap can't currently be confirmed, since neither Scripture nor Sennacherib's own annals give a precise enough date to test it.

The honest summary: Sennacherib's own annals confirm his campaign's historicity but date it to 701 BC, not 702 BC. Two independent, evidenced explanations exist for the one-year gap — a textual reading of Isaiah 37:30, and a calendar-alignment mechanism — and either or both may contribute. Present 702 BC as a defended reading with real supporting mechanisms, not as an uncontested match.

4C. Two Further Independent Paths: John 2:20 and Acts 12

John 2:20's temple chronology. A fifth, independent path to the AD 27 baptism year, anchored to a completely different historical marker than Luke 3:1's Roman regnal count. John 2:20 records the Jerusalem leadership stating the temple had been “forty and six years” in building at the time of Jesus's first Passover. Josephus (*Antiquities* 15.11.1) places the start of Herod's temple project in his 18th regnal year, consistently dated by historians to 20/19 BC. Counting 46 years forward (with no year zero) lands the conversation precisely in AD 27-28 — converging with the baptism date already established through an entirely unrelated source.

This carries an honest caveat structurally similar to the Exodus epoch question above: just as the Exodus start date depends on which biblical count is used as the baseline, this count depends on which of Josephus's own conflicting figures is taken as the starting point. Josephus's *Wars of the Jews* 1.21.1 names Herod's 15th year, not his 18th, for this same building project — a documented internal discrepancy, not a claim manufactured here. One proposed harmonization (Schürer) suggests the 15th year marks Herod's initial announcement and preparations, with the 18th marking actual construction start — a reasonable but not certain resolution. The mainstream, most-cited reading uses the 18th year and lands cleanly on AD 27; this should be presented as the best-supported reading with its own internal source tension disclosed, not as an uncontested fact.

Acts 12: Peter's imprisonment, verified to the day. Herod Agrippa I's death is independently fixed to AD 44 by Josephus. Parker and Dubberstein's *Babylonian Chronology* (Oriental Institute of the University of Chicago, 1942/1956) — checked directly against the primary table (p. 60, row for AD 44) — records Nisanu 1 at April 18, AD 44. Thirteen days later, Nisan 14 falls on May 1, AD 44, independently confirmed as a Friday by direct calendar computation. This converts to Cycle 31, Year 11 under this chapter's formula. Acts 12:3-4 places Peter's arrest “during the days of Unleavened Bread,” intending his execution “after the Passover” — both consistent with this date. This is the strongest externally-verified festival

date in this whole framework outside the crucifixion week itself, since it traces cleanly from a primary source through to an independently-confirmed weekday, with no uncalibrated step anywhere in the chain.

5. On 1446 BC: The Real Rival Date, Compared Honestly

Edwin Thiele traced Israel's kings against real Assyrian records, and Rodger Young later confirmed his work using three separate methods of his own — all landing within a year or two of the same answer: 1446 BC. That's a genuinely strong, well-supported figure.

This framework uses 1437 BC for its own calculations because that specific year fits the same 49-year rhythm running through 457 BC, 702 BC, and the crucifixion — a real, checkable mathematical fit. Section 3 above lays out the full comparison between the two dates in detail.

6. Why 30 AD, Not 33 AD — A Weighed Comparison

33 AD is a serious alternative, not a fringe one, and its strongest case comes from a real, defensible reading of John's Gospel implying a longer ministry. Weighed fairly against the same criteria throughout this chapter, here's how the two years compare:

Criterion	30 AD	33 AD	Favors
Ministry length (from 27 AD baptism)	3 years — matches the roughly three Passovers implied in John	6 years if baptism stays at 27 AD; proponents typically move baptism to about 29 AD instead	30 AD
Daniel 9 mid-week fit	Year 46 — exact cycle middle (46 mod 7 = 4)	Year 49 — does not land mid-cycle	30 AD
Weekday (Friday required)	Friday, April 7	Friday, April 3	Tie
Passover moon brightness (Exodus 12:6)	Full moon, roughly 99-100% illuminated	Lunar eclipse at moonrise — moon appears dark or red	30 AD
High Sabbath overlap (John 19:31)	Confirmed — Nisan 15 falls on Saturday	Not independently verified	30 AD
Historical window (Pilate, 26-36 AD)	Fits	Fits	Tie
Priestly age requirement at ministry start (Numbers 4:3, Luke 3:23)	Age 30 at baptism (no deviation); age 33 at death — tightly clustered around 30 across the whole	Age 30 at baptism only if the independently-anchored 27 AD date is kept, but then age	30 AD

Criterion	30 AD	33 AD	Favors
	ministry	36 at death (a 6-year deviation); shortening the ministry by moving baptism later instead costs the fit at the start	
Thallus/Africanus darkness account	Corroborates the Gospels' darkness account generally — doesn't distinguish 30 AD from 33 AD	Same — corroborates the general event, not a specific year	Tie (not date-specific)

The Actual Celestial Evidence: Thallus and Africanus

The Gospels' darkness account (Matthew 27:45, Mark 15:33, Luke 23:44-45) has real external corroboration. Thallus, a historian writing around 50 AD, offered a natural explanation for reported darkness — a solar eclipse. Julius Africanus, writing around 221 AD, corrected this on solid astronomical grounds: an eclipse can only happen at a new moon, while Passover always falls at full moon, making a natural eclipse impossible. This exchange survives only because a ninth-century chronicler, Syncellus, quotes Africanus quoting Thallus — both originals are lost, and some scholars question whether Thallus's own text named Jesus specifically. This corroborates that something notable happened around Passover, consistent with the Gospels — it doesn't point to one year over the other, since it isn't tied to a specific date.

Why 30 AD Fits

Six of eight criteria favor 30 AD outright, with the rest tied. Two points stand out. First, the priestly-age parallel: 30 AD is the only reconstruction where Jesus stays close to age 30 at *both* the start and end of his ministry — age 30 at baptism, age 33 at death — matching Luke 3:23's own description tightly. Second, the Daniel 9 mid-week position: 30 AD lands exactly on Year 46, the cycle's structural middle; 33 AD lands on Year 49, a different position entirely, not a close miss.

Taken together, 30 AD satisfies the full constraint set simultaneously: Daniel 9's mid-week position, a roughly three-year ministry from an independently-anchored baptism, Exodus 12:6's bright-moon requirement, the Friday crucifixion, and the High Sabbath overlap. 33 AD's strongest actual argument — the ministry-length question — is already weighed in the comparison above and found wanting relative to 30 AD's full, simultaneous fit, not dismissed out of hand.

6B. Which Nisan Day Was the Crucifixion?

The crucifixion date rests on distinguishing two related but different astronomical moments: the lunar conjunction itself, and the first visibility of the resulting crescent — the moment ancient observers would actually have declared the start of a new month.

The Astronomy: Conjunction and Visibility Are Not the Same Moment

An independent reconstruction of the spring 30 AD lunar conjunction places it on March 22 — closely matching the published figure from Colin Humphreys and W. G. Waddington's peer-reviewed work ("Dating the Crucifixion," *Nature*, 1983): March 22 at about 19:55 Jerusalem time. An initial calculation was off by roughly two hours from their published figure. The reason: a well-documented gap between Terrestrial Time (used in orbital mechanics) and actual universal time, caused by the Earth's rotation gradually slowing down — about two to three hours of difference for a date this far back. Correcting for that gap brings the two results within twenty to twenty-five minutes of each other — genuine independent confirmation, not just a repeated number.

A lunar conjunction itself is invisible — the moon sits directly between Earth and the sun, showing no lit face at all. The first visible crescent comes later, once the moon's age, its height above the horizon at sunset, and atmospheric conditions all line up. This isn't a modern guess; it's a real, physical limit, and it's exactly why ancient people relied on watching the sky, not calculating in advance, to declare a new month.

Scriptural Support for Observation-Based Months

Several passages point toward the new moon being a recognized, watched event rather than a silently-calculated one:

- **Psalm 81:3:** "Blow the trumpet at the new moon, at the full moon, on our feast day" — the new moon is marked publicly, by trumpet, which fits a recognized, observed occurrence rather than an invisible mathematical instant.
- **1 Samuel 20:5, 18, 24-27:** the New Moon feast at Saul's court is treated as a known, dateable occasion people gather for, consistent with an observed and publicly announceable event.
- **Numbers 10:10; 28:11:** "at the beginnings of your months" assumes a clearly marked start-of-month moment, which an invisible conjunction alone could not provide without observation or announcement.

None of these verses states the mechanism explicitly, but collectively they describe month-starts as public, markable, celebrated moments — which fits observation far more naturally than a silent astronomical instant no one on the ground could perceive.

Historical and Scholarly Corroboration

The Mishnah (Rosh Hashanah 1:3-9) describes witnesses testifying to a sighted crescent, with a rabbinic court then declaring the new month — the clearest ancient record of how this actually

worked. The Mishnah itself was written down later, in the early third century AD, but scholars agree it preserves a much older practice.

Humphreys and Waddington's own published crescent-visibility calculation places the first sighting for this specific month around March 24-25, 30 AD. Checking every year of Pilate's governorship (26-36 AD), they found only two years where Nisan 14 falls on a Friday: 30 AD and 33 AD — confirming why this chapter treats those two years as the only real candidates.

Applying This to 30 AD

Conjunction: March 22, confirmed above and matching the published figure. Crescent visibility: around March 24-25, following Humphreys and Waddington's specific calculation. Nisan 1 begins that evening; counting thirteen days forward, inclusively, lands Nisan 14 on Friday, April 7, 30 AD — matching the crucifixion date used throughout this chapter. At that date, the moon was fourteen to fifteen days past conjunction, at or extremely near full, with illumination independently placed in the 95-99% range at Jerusalem sunset, satisfying the Passover full-moon requirement in Exodus 12:6.

This resolution rests on a named, peer-reviewed source (Humphreys and Waddington, *Nature*, 1983, and subsequent refinements) alongside this chapter's own independent calculation — the two confirm each other within a margin fully explained by a known, correctable technical gap.

Honest Limits of This Resolution

This reconstruction is very well supported, not a certainty, and it's worth naming the remaining soft spots directly:

- The exact hour of first crescent visibility still depends on atmospheric conditions on the specific evening in question, which cannot be reconstructed with certainty two thousand years later — though this affects only the hour, not the date, of Nisan 1.
- This reconstruction assumes Jesus's circle used the same sighting-based reckoning as the wider Jewish community that spring, a reasonable default (and the position Humphreys and Waddington themselves argue for) but not independently provable for that specific year.
- This resolves which day Nisan 14 fell on; it does not itself re-verify moon-phase brightness claims made for other, BC-era anchors elsewhere in this project, which remain a separate question.

6C. Harmonizing All Four Gospels: One Week, Two Calendars

For a long time, readers have noticed something that looks like a contradiction. Matthew, Mark, and Luke all describe the Last Supper as the Passover meal itself, eaten the evening before Jesus died. John, though, describes Jesus dying on the day *before* the nation's Passover meal was eaten (John 18:28, 19:14). Same week, same events — but two different pictures of exactly when Passover fell.

The most likely answer: both accounts are accurate, describing the same real week through two different, genuinely coexisting calendars in use at the time.

Leviticus 23:5 ties the start of each month to the new moon — but ancient Judea didn't have one single, agreed way of marking that start. One tradition set the new month to the exact moment of the astronomical conjunction, when the moon sits directly between the earth and sun (invisible from the ground). Applied to spring 30 AD, this lands Nisan 14 on Friday, April 7. A second, separately-documented tradition — described in the Mishnah (Rosh Hashanah 1:3-9) — waited for someone to actually *see* the crescent, which typically happens a day or two after the conjunction. Depending on which tradition a given group followed, the same month could be reckoned to begin a day apart. Eusebius, writing centuries later, even describes ongoing church disputes over exactly this kind of calendar disagreement — confirming this wasn't an unusual problem for the period.

Laid out this way, the whole week fits together cleanly:

- **Thursday evening into Friday (Nisan 14 begins):** the Last Supper, exactly as the Synoptic Gospels describe — the Passover meal itself, eaten that evening (Mark 14:12; Exodus 12:6).
- **Friday daytime (still Nisan 14):** the crucifixion. John calls this “the day of Preparation of the Passover” (John 19:14) — “day of Preparation” is simply the Gospels' standard word for Friday (Mark 15:42 says this outright), not a claim that Passover hadn't started yet. John is just telling readers which specific Friday he means.
- **Saturday (Nisan 15):** the High Sabbath — both the regular weekly Sabbath and the first day of Unleavened Bread landing on the same day (Leviticus 23:6-7), exactly the “high day” John 19:31 describes. Under the second calendar tradition, this is also when the wider Jewish leadership ate their own Passover meal — explaining why John notes they “had not yet eaten the Passover” even after the crucifixion (John 18:28).
- **Sunday (Nisan 16):** the resurrection, near sunrise (Matthew 28:1, Mark 16:2, Luke 24:1, John 20:1).

That Sunday timing also explains Matthew 12:40's “three days and three nights.” First-century Jewish reckoning divided each day into two parts — a night portion and a day portion — with a specific, named rule: touching any part of either portion counts as a complete one. Friday touches two portions (the nighttime arrest and trials, then the daytime crucifixion). Saturday is a complete day and night, the body in the tomb throughout. Sunday touches its final portion at the resurrection itself. Three calendar days touched, three days counted — the same inclusive-counting principle covered earlier in this chapter, not a special exception invented for this one case.

None of this is a stretch built to rescue a contradiction. Two coexisting calendar traditions in the same city, at the same time, is a documented feature of how Second Temple Judea actually worked — and once it's accounted for, all four Gospels describe the identical week without needing any of them to be wrong.

7. Responding to the Leviticus 25:2 Objection

Leviticus 25:2 places the counting of Sabbath years and Jubilees in the context of Israel's entry into the land under Joshua — a natural reading might start the count at the 1397 BC entry into Canaan, not the Exodus itself.

This has three parts to its answer:

- The calendar system itself — the instructions for counting — was given at Sinai, shortly after the Exodus (Leviticus 25:1), even though practical observance in the land would not begin for another 40 years.
- The 40-year wilderness period sits inside the same first cycle either way; the mathematical continuum and the practical agricultural observance can both be true without contradiction — one anchored at the Exodus, the other beginning at the entry into Canaan.
- The wider chain of alignments — Exodus to Hezekiah to the 457 BC decree to Daniel's 483 years to the crucifixion — only holds together as one unbroken system if the count starts at the Exodus. Starting at 1397 BC instead breaks those later alignments.

This is offered as the reasoning for prioritizing the Exodus anchor, not a claim that Leviticus 25:2 is being set aside — the calendar's origin point and its point of first practical application are simply being treated as two different, compatible things.

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