Old Testament Introduction
The Bible’s Buried Secrets
Chapter 2, Dating

***Dating***

Half of the dating systems which we will discuss behave in a statistical fashion. This is as true of 14C dating as it is of pottery dating; and even to some extent of epigraphic dating. We can predict the behavior of large groups, but we can never be sure of the behavior of individuals. When we estimate the archaeological age of a wall at 3000 ± 30 years; what, exactly, are we saying? We most certainly are not saying that this wall is 3000 years old, give or take 30 years (dated from the standard 1950 AD base date). What we are saying is that this wall could be 3000 ± 30 years old: but it could also be something quite different, because it is an individual. What we are saying explicitly is that walls of this type, based on samples of this type are 3000 years old, on average; and we have a 95% confidence that the average for walls of this type is good to within ± 30 years. We have nothing statistically specific to say about this particular wall, without a great deal more information. The additional information that we need to find is a bronze plaque with the following statement:

This palace was designed and built by Solomon and Company: Architects, Engineers, and Builders
between the third year of Pharaoh Psusennes II
and the thirteenth year of Pharaoh Shishak I
Kings of Egypt.
The following people gave their lives in the construction of the project.

And another:

This palace was damaged by Pharaoh Shishak I in the eighteenth year of his reign and repaired in the same year by King Rehoboam of Judah.

And yet another:

This palace was refurbished, remodeled, and refortified by King Hezekiah of Judea in the three hundredth year of King David, against the looming threat of Assyrian invasion. The principal modification consists of a new underground water tunnel leading into the City of David.

The Egyptians recorded such legal documents on stone monuments. The Jews, and to a lesser extent, other Israelites recorded such legal documents on papyrus or velum, which were then ceremonially and officially laid up in the Oracle (the most holy place), under the watchful eye and protection of Yahweh in His Shəkinah Glory.[[1]](#endnote-1)

***Methods***

*The Bible’s Buried Secrets* places undue weight on 14C dating. It uses, but does not draw attention to, provenance as a means of dating. This is why we added the hypothetical boxes above, to draw attention to the use of provenance.

***Provenance***

Provenance as we have used the term applies to the entire history of an artifact, not merely from its time of acquisition, but from its creation. The more we know about an artifact’s history, the more certainly we can determine its date. If the date is written on the artifact itself, usually in terms of the year of reign of an emperor, king, or pharaoh, and if that reign can be connected to other reigns, or even whole dynasties, then dates may be known with a high degree of certainty. If major climatological events can be linked (eclipses for example), the dates can be established even more confidently. If empires and kingdoms mesh together, so that the mesh is in solid agreement, then we may be almost positive, in dating events within a year or, at most two. This is the sort of essential information that *The Bible’s Buried Secrets* passes off with the glib phrase “the well-established Egyptian chronology.” Yet it is on this sort of provenance that the whole dating puzzle hangs. Compared to provenance all other dating methods are trivia.

So, it is possible to link the Egyptian, Mesopotamian, Greek Olympiad, and Roman dating systems together into a harmonious whole. Not that this was so easily done. There were many riddles to solve along the way. Many mistakes were made as well, which is how we developed a calendar that leaps from 1 BC to 1 AD with no zero; and how we date the birth of Christ to 6-4 BC. However, the bulk of these riddles have been cracked with great certainty.

Moreover, most of the mysteries of biblical chronology have also been cracked. Occasionally a new PhD dissertation will come along that sharpens the dates for some king or other, but the degrees of adjustment are very small now. Indeed, the biblical dates of the kings now mesh perfectly with Egyptian and other dates, so that very few are any longer willing to debate the dates of the Israelite and Jewish kings. All the dates from 1010 BC to 6 BC are quite firm. It is a fluke that the one date that should happen to be messed up is the birth of Christ: but now we know that date within a two year span because of the death of Herod.

We do well to contrast dating from provenance to other dating methods, such as 14C dating. The half-life of 14C is 5,730 ± 40 years.[[2]](#endnote-2) Libby's original value of 5,568 years had to be corrected shortly after 1960: so all dating prior to 1960 needs to be corrected. So, even if measurements are perfect, our original scale has a built in error of ± 40 years. Within this matrix the ratio of 14C to 12C is carefully measured, we hope with an accelerator mass spectrometer: however, less accurate methods have been employed. The ratio of 14C to 12C in the atmosphere is approximately 1.5 parts of 14C to 10 T-parts of 12C (1.5 parts per trillion). With a ratio this minute, the least error in measurement can displace the whole analysis by thousands of years. Dating is determined by comparing the atmospheric ratio with a ratio for deceased animal or plant materials. For example, a specimen with a ratio of 0.75 parts per trillion would be 5,730 ± 40 years old. Sample preparation and measurement must be absolutely impeccable or the method won’t work at all: the preparational and procedural errors must be added to the original error as vectors. Now several like specimens are measured so that a mean date with its SEM may be established.[[3]](#endnote-3) Since atmospheric 14C is not constant, the mean calculation must be calibrated. Calibration is accomplished on land by analysis of tree-ring history, which may show that the 14C mean dates are off by one hundred years or more with additional error. Now we have a resultant mean date estimate with a new SEM. This date, perhaps of seeds, must then be related to other artifacts such as pottery, monuments, or walls: there must be sound logical reasons to assume such relationships. In contrast to provenance 14C dating is at best a broad suggestion, a clue. It gives no date, rather it yields a mean date for general objects of a type. The resultant date says nothing at all statistically about an individual artifact, as we showed in our essay on statistics.

The contrast between provenance dating and pottery dating is even more precarious as we shall show in the section devoted to pottery dating below,

This leaves dating by epigraphy, philology, paleography, and the like. Such methods are really a highly perfected form of handwriting analysis. Once an original manuscript is copied even only once, all of the handwriting characteristics of the original author are lost. Perhaps even the original language is lost: for example, in the case of Moses, for whom we do not know the language(s) in which he writes.[[4]](#endnote-4) Furthermore, Moses may have dictated his message to scribes. If we are lucky, things like grammar and syntax may have survived unscathed. After the manuscript passes through many generations of copies, possibly unknown translations,[[5]](#endnote-5) and is finally reduced to print, very few of the grammatical and syntactical markers are left to identify.[[6]](#endnote-6) We are not attempting to distinguish two documents, originally written hundreds of years apart. We are attempting to distinguish printed versions of two adjacent chapters that appear to have been originally written days apart, according to the provenance markers, and to prove that the provenance markers are wrong: the two documents are not related in date.[[7]](#endnote-7) We submit that this is impossible to do. Moreover, such analysis is highly dependent on comparative samples from the same era; and such comparative samples simply do not exist.[[8]](#endnote-8) The idea that such a method may be used to separate chapters, or even paragraphs of a single document into manuscript and older oral tradition is absurd. Equally absurd is the idea that anyone can sort out more primitive source documents and separate them, and do it from modern printed versions. The real value of this dating method is limited to situations where original artifacts can be examined.

Here are some interesting quotes about a supposedly first century AD artifact. Dating problems only escalate as we move backward a millennium in time. There is simply no substitute for provenance in any time dependent study.

“Brice Jones, a papyrologist at Concordia University, told us that dating a text by handwriting, or paleography, ‘is not a precise science, and I know of no papyrologist who would date a literary papyrus to within a decade on the basis of paleography alone.’ ”

“According to Jones, if paleography is inexact, ‘radiocarbon dating is equally (and perhaps more) problematic, since one must allow for a time gap of a century or more.’ ”[[9]](#endnote-9)

***Carbon 14***

Looking at 14C and assuming that it is constant is like
looking at the Sun and assuming that it is constant.

http://expanse.collectivepress.com/they-pointed-this-telescope-at-the-sun-5-years-later-unbelievable/

Ostensibly, Radiocarbon Dating is an unbiased, precise, and accurate scientific tool.

<http://en.wikipedia.org/wiki/Radiocarbon_dating>

A cursory examination of this article reveals several fundamental sources of error. These combine to make Radiocarbon Dating a method which is neither accurate nor precise.

Where does 14C, carbon-14 come from?

“It is based on the fact that radiocarbon is constantly being created in the atmosphere by the interaction of cosmic rays with atmospheric nitrogen.”

Think about this. While the level of nitrogen in the atmosphere is relatively constant, the existence of 14C is not. The same article shows that fossil fuel combustion seriously depletes 14C; while nuclear testing increases 14C, nearly doubling it in a few decades.[[10]](#endnote-10) This means that deceased biologically sourced remains tested at any 14C peak will appear to be much younger than they really are, when comparing them to similar biologically sourced remains from only a few decades before.

It should also be clear that the principle source of cosmic rays is the sun, so that a single solar flare can greatly influence the atmospheric production of 14C. Moreover, this atmospheric 14C is also experiencing radioactive decay, following the supposed 14C half-life curve. Since solar cosmic radiation is many magnitudes more powerful than nuclear testing, and anything but constant, we are forced to conclude that 14C production is not constant and not homogenously distributed.

However, did 14C production attenuate rapidly as the solar system developed, solar activity became less violent, and the earth cooled? This would mean that a presupposition of uniform 14C production could greatly underestimate the true age of earth. On the other hand, was solar system development dominated by ordinary combustion as the earth cooled? This would lead to a gross overestimation of earth’s age. Nor are we aware of any catalytic, pressure, and temperature effects that might influence the uniform 14C production assumption.[[11]](#endnote-11)

The statement, “It is based on the fact that radiocarbon is constantly being created in the atmosphere,” is scientifically incorrect. The statement should be, “Radiocarbon is being created in the atmosphere, in an unidentifiable and unknown cyclical pattern.” This pattern is anything but constant, it cycles with solar effects, combustion, and nuclear detonations and tests. We haven’t been collecting data long enough to know.

This is not the only source of error. Plain clay pots contain no carbon. They are impossible to date by 14C methods. To achieve a possibility for dating, an artifact must contain incorporated subsurface carbon, possibly from straw used to improve the manufacturing process; or surface carbon, possibly from carbon based inks used for decoration. Obviously, the surface inks are more susceptible to surface contamination (dirt), so proper analysis requires meticulous cleaning. Equally, sub-surface samples require meticulous preparation: samples must be free from cracks especially, which would allow carbon contamination to penetrate deeply into an artifact. Surface tests and subsurface tests may also yield differing results, for there is no compelling reason to believe that pottery manufacture and decoration application always occurred on the same date.

Nor is there any reason to believe that old ink and young ink could not be in use at the same time. A given artist or scribe could as easily pick up a new bottle of ink, or find a bottle of ink manufactured decades earlier. I have laying around the house inks and glues that are several decades old. Since I tend to buy such items in bulk, they last a long time.[[12]](#endnote-12) This is exactly how clever forgeries are produced. The forger knows that age specific materials must be used. If modern vellum and ink are used 14C will certainly detect the fraud: for all its flaws 14C does know what happened yesterday and what did not happened yesterday. The forger might get away with using seventeenth century materials to falsify a sixteenth century document, but he dare not chance using modern materials stained with coffee and dirt, or artificially aged with heat and cold: not if they need to pass serious scrutiny. On the other hand a clever chemist with a good lab could create inks and paper doped with 12C that might pass as being much older than they really are. In case you wondered, the fraudulent manufacture of ancient artifacts is a lucrative and thriving business.[[13]](#endnote-13)

It would be counterproductive and tedious to expose other flaws in the test method.[[14]](#endnote-14) Suffice it to say that the test method itself is seriously flawed. That being said there may also be serious reporting errors: errors in the mathematical analysis applied.

Constructing a histogram requires that we get our greasy mitts on the actual data. Retesting the artifact will provide new information, but it can neither verify nor reevaluate the original data, because 14C is a destructive test method: the original test specimens are gone.[[15]](#endnote-15) Retesting the same artifacts, if they are available, will produce new results that will differ from the original results by some sort of error.

We are dealing with an area of statistics were popular confusion reigns. Let’s try an oversimplified homespun explanation. If we took 100 sample measurements ranging from 100 to 700 years, the standard deviation would be about 100 years, while the mean would be around 400 years. The standard error of the mean would only be 10 years.[[16]](#endnote-16) This means, based on the measurements taken, that the 14C dated age is somewhere between 370 and 430 years at a 99.7% confidence, or 400 years on average. In this example, so far, the 14C dated age is somewhere between 380 and 420 years at a 95% confidence, and the Margin of Error would be 40 years, or ± 20 years. However, this is only the error due to samples and mathematical variation, all of the errors caused by atmospheric change, contamination, artificial age, and technician procedure,[[17]](#endnote-17) have to be added as vectors to the standard error.[[18]](#endnote-18)

For the purpose of this discussion, a dating error of several decades, caused by such variability in human behavior is very significant. Yet, in our hypothetically-put, highly-plausible scenario we have increased the standard error of the mean from ± 10 to ± 40 years; from one decade to four, and now we have imagined what would amount to a very significant error in a setting where we would like to have errors smaller than half a year.[[19]](#endnote-19)

Still, “We have nothing statistically specific to say” about any particular artifact or object, without a great deal more information. In brief we must know its provenance;[[20]](#endnote-20) that is, if we wish to escape the world of speculation and subjectivity. What is amazing about *The Bible’s Buried Secrets* is that it seeks to breathe new life into an old-worn-out hypothesis by ignoring most of the provenance provided by the Bible.

***Pottery***

Pottery is also used for archaeological dating. It is also a statistical method, which must abide by all the same rules that apply to any statistical application.

“Pottery dating is based on two ideas: pottery styles evolve uniformly over time,[[21]](#endnote-21) and the further down you dig the further back in time you go. If pottery style A comes from the lowest stratum; then it is earlier than pottery style B that comes from the stratum above it. By analyzing pottery from well stratified sites, excavators are able to create what they call a relative chronology. But this chronology is floating in time without any fixed dates. To anchor this chronology William Foxwell Albright,[[22]](#endnote-22) considered the father of biblical archaeology, used events mentioned in both the Bible and Egyptian and Mesopotamian texts to assign dates to pottery styles.”[[23]](#endnote-23)

This theory, besides its numerous statistical problems is immediately confronted by the problem of social status and wealth. Wealthy, powerful people tend to collect and preserve fine art, including exquisite pottery long beyond its dating period. Poor, downtrodden people tend to collect and use the mundane, even when it is worn out, long after its dating period. So, the pottery discovered in association with Israelite houses, being mundane, is actually newer and more modern than the older pottery found at Hazor, which is more artistic and exquisite. Thus we are confronted with an impossible chronological inversion according to the general theory of pottery dating.

“Curiously, the mundane pottery found at these new Israelite villages is very similar[[24]](#endnote-24) to the everyday pottery found at the older Canaanite cities like Hazor.[[25]](#endnote-25) In fact the Israelite house is practically the only thing that is different. This broad similarity is leading archaeologists to a startling new conclusion about the origins of the ancient Israelites.”[[26]](#endnote-26)

“Conspicuously absent from Israelite villages are the grand palaces and the extravagant pottery associated with the kings and ritual-ese of Canaan.”[[27]](#endnote-27)

No one bothers to record the provenance of ordinary clay pots. Only the most artistic and exquisite potteries warrant such treatment. Such pottery may be so valuable that even the artist who made it may be known by name, along with the dates, eras, and styles of that artist. But the presence of such highly prized art has nothing to do with the dating of its associated environment. We don’t even know that the environment is older or younger than the valuable pottery artifact: an old pot may be found in a new house; as easily as a new pot is found in an old house.

So pottery dating is beset with several kinds of errors: standard statistical problems, a subjective floating scale, inversions caused by perceived value and the social status of its owners, and a complete or partial lack of provenance. At its best, pottery dating is not very good.

***Epigraphy***

Another kind of dating employs epigraphy, philology, paleography, and similar skills to date written artifacts. For example:

“To discover the most ancient text in the Bible, scholars examine the Hebrew spelling, grammar, and vocabulary.”

“The Hebrew Bible is a collection of literature written over about a thousand years. And as with any other language, Hebrew naturally changed quite a bit over those thousand years. The same would be true from English; I’m speaking English of the twenty-first century; and if I were living in Elizabethan times, the words I chose, the syntax I used would be quite different.”[[28]](#endnote-28)

Such methods may be quite valuable when evaluating original artifacts and documents such as the Dead Sea Scrolls or the miniature silver scrolls of Ketef Hinnom, but they are utterly worthless in the evaluation of copies.

Consider, for the moment the complexity of the problem. Most scholars of the Hebrew Bible are compelled to work from printed versions commonly called the Masoretic Text (MT). A printed text may preserve lexical and syntactical information, but it is doubtful that it provides sufficient definitive text to reveal the subtle nuances of spelling, grammar, and vocabulary; words, and syntax necessary to detect significant changes in date. It is simply impossible to draw firm conclusions from printed texts: yet, you are more than welcome to try.

We could search out the manuscripts behind printed MT versions.[[29]](#endnote-29) The Aleppo Codex dates from the tenth century AD. The Leningrad Codex dates to 1008/09 AD. Some other manuscripts may date from the ninth century AD, but few of these survive. There are no older surviving documents upon which the Masoretes could have based their work. Now supposedly, scholars approaching Hebrew as a second language are able to detect time related subtle nuances of spelling, grammar, and vocabulary; words, and syntax that went unnoticed and unmentioned by great historic Hebrew scholars, such as ben Asher and ben Naphtali (tenth century AD), Maimonides (1135-1204 AD), or even refuted by more modern scholars like Umberto Cassuto (1883-1951)[[30]](#endnote-30) Few modern Hebrew scholars have either the skills or the access to the codices to do such work, and given the lateness of available manuscripts, their findings, if any, would be irrelevant. These manuscripts are still removed from the original Torah by well over 2,000 years; by generation upon generation of copies; and possibly even by language, for we do not even know in what language Moses first wrote: cuneiform, hieroglyphic, or proto-Semitic. The following quote highlights some of the problems involved:

“The Talmud (and also Karaite mss.) states that a standard copy of the Hebrew Bible was kept in the court of the Temple in Jerusalem for the benefit of copyists; there were paid correctors of Biblical books among the officers of the Temple (Talmud, tractate Ketubot 106a). This copy is mentioned in the letter of Aristeas (§ 30; comp. Blau, *Studien zum Althebr. Buchwesen*, p. 100); in the statements of Philo (preamble to his "Analysis of the Political Constitution of the Jews") and in Josephus (*Contra Ap.* i. 8).

A Talmudic story, perhaps referring to an earlier time, relates that three Torah scrolls were found in the Temple court but were at variance with each other. The differences were then resolved by majority decision among the three.”[[31]](#endnote-31)

Next we would consider the ancient translations which predate MT scholarship by centuries: namely, the Vulgate (fifth century AD), and the Septuagint (third to first century BC).[[32]](#endnote-32) Yet, who could possibly believe that time related subtle nuances of spelling, grammar, and vocabulary; words, and syntax could possibly cross translational boundaries unscathed. We might as well attempt to detect such nuances from the English Bible: it is hopelessly impossible.

At last we may consider the Dead Sea Scrolls. The oldest of these is late fourth century BC, still nearly a thousand years removed from the original, and separated by many copies, and possibly by language as well. If we are to consider the Dead Sea Scroll evidence, we must also deal with the fact that these include Deuterocanon manuscripts (30%), Greek Septuagint manuscripts (3%), and a variety of other manuscripts (30%).[[33]](#endnote-33) We must also face the fact that many of these manuscripts are deteriorating rapidly, and some are already lost. More critically, while the Torah is represented only a few fragments ever existed, some of them unreadable. All of these are now published in photographs: yet the whole of available Torah fragments is contained in only 54 pictures, which you may easily examine for yourself.[[34]](#endnote-34)

Mind you, our quest is not to observe or detect time related subtle nuances of spelling, grammar, and vocabulary; words, and syntax between Deuteronomy and Daniel, which are obviously present for a variety of reasons.[[35]](#endnote-35) Nor is our quest to ferret out the presence of proto-Aramaic, Akkadian, or Egyptian loan words, for all of these variations were in play during the periods involved. Our task is to objectively identify the time related subtle nuances of spelling, grammar, and vocabulary; words, and syntax between Exodus chapters 14, 15, and 16: for which we have no original manuscripts and no comparative literature. We believe that anyone making such claims that these time related subtle nuances of spelling, grammar, and vocabulary; words, and syntax can be used to identify the Song of the Sea or any other portion of Torah is simply blowing smoke or turning on the snow machine: the task is simply impossible.

From the same line of logical enquiry it is equally impossible to detect subtle textual seams that would reveal the existence of basic root source documents, such as J, E, D, and P.

Nor can such divisions and dating be derived from poetic and prose or subject matter differences. One may as well argue that if I were to write verses of iambic pentameter, or haiku, or limerick, or free verse in this section that these would necessarily be the work of another person and time. Or one might argue that I cannot have knowledge or understanding of biblical text, science, and statistics at the same time. Or that I cannot possibly be qualified to write about the Vietnam War, energy policy, exponential mathematics, the Constitution, and the Bible in the space of a few years, or even in one lifetime. Or that polymaths have never existed in the experience of humanity. All such contentions are absurd.

We conclude that epigraphy, philology, paleography, and the like are useful for identifying, classifying, and dating original manuscripts, such as the Dead Sea Scrolls,[[36]](#endnote-36) the Ketef Hinnom scrolls, or the Tel Zayit ABJAD tablet; but are utterly worthless for anything else in the fields of biblical archaeology and biblical dating. Scholars who promote such ideas are merely aping or parroting the old wives fables and urban legends that they have heard from others. Nobody on earth is either smart enough, or has access to the necessary documents to form objective conclusions about such matters of dating as the dating of the Song of the Sea from epigraphy, and its kin.

Moreover, while we might readily believe that the whole of the Book of Genesis is a memorized oral tradition; there is absolutely no warrant for the idea that the Song of the Sea is sourced in memorized oral tradition, especially since Exodus 15 is filled with the same subject matter of triumph over Egypt as that found in Exodus 14 and earlier. Are we really to believe that Moses, at Yahweh’s direction, leadership, and power has just witnessed the overthrow of Egypt, and now quotes a song, about the same subject, which was written many ages before the event? What is there about the Song of the Sea that gives evidence that it is substantially prophetic in nature? Rather, if we were to assign a literary genre to the Song of the Sea, it would necessarily be that of Todah, which are invariably formally presented psalms of thanksgiving that commemorate a recent act of God, for which such thanks are obligatory. The Song of the Sea is placed exactly where it belongs both in time and in subject matter. If it was sung around the campfire, it was as the result of the Red or Reed Sea crossing and not in anticipation of it as some sort of universal exodus motif.

[[37]](#endnote-37)

1. From this discussion, it should be obvious to the discerning reader that the biblical record is in every way the archaeological and legal equivalent of Egyptian or other monuments. Only the surface media, inscription methods, and languages differ. Any pretense that the one is more historical, or otherwise superior to the other is purely subjective speculation of the worst sort. [↑](#endnote-ref-1)
2. How can a wall be dated to 3000 ± 30 years, when the first fundamental error is ± 40 years. That would yield a total error of ± 50 years: and there are still other errors to confront. [↑](#endnote-ref-2)
3. The dating is not based on a single olive seed. “Boaretto has meticulously collected and analyzed hundreds of samples from over 20 sites throughout Israel.” For example: a surviving clay urn, filled with barley, sealed, and forgotten in the tenth century; only to be discovered by archaeologists later, in an undisturbed strata; would provide a mean 14C date for the barley and an associated SEM. After correcting such a mean date from the calibration curve; an association can be drawn with the urn’s pottery dating style so that the pottery dating scale can be calibrated, provided that enough samples can be found to span the range of the pottery scale. Unfortunately, the weak link in this method is the paucity of samples: hundreds were analyzed where thousands, and even millions of samples were necessary. The Boaretto quote is buried toward the end of the discussion on Jerusalem. *The Bible’s Buried Secrets*: between times 57:20 and 1:10:00 [↑](#endnote-ref-3)
4. There is a very high probability that Moses wrote in Akkadian cuneiform; still, high probability is not certainty. There is an even higher probability that Moses did not write in Hebrew. The present limits of evidence indicate that Hebrew was not invented until 400 years after Moses (ca. 1000 BC). The best choice of language in 1406 BC is Akkadian cuneiform; however, there are several other possibilities. [↑](#endnote-ref-4)
5. While we do not at all agree with the P source as presented, it is clear that the Babylonian captivity had a precipitous effect on Semitic language. The Jews went to Babylon in 586, speaking one Semitic language, what we commonly call Hebrew (the lip of Canaan: Isaiah 19:18); and returned from Babylon in 516, speaking a different Semitic language, what we commonly call Chaldean (Chaldean Neo-Aramaic). Whatever, language and writing styles characterized the prototypical documents; when they were copied it was in Chaldean block letters. This transition may also have involved some translation, spelling alteration, and the like, since the language of 586 no longer made perfect sense to the average Jew. When Ezra reads in the Torah and gives the interpretation, the interpretation is most likely the translation from what he read into the Aramaic understood by the common people [↑](#endnote-ref-5)
6. Each of these transitions, whether copying, translating, or printing, is a filter which tends to remove the information that we seek. After more than 3,000 years, it cannot be done. [↑](#endnote-ref-6)
7. This is equivalent to examining a piece of Elizabethan literature, pulling out one segment and claiming that it was copied from oral tradition, stemming from decades, centuries, or even millennia earlier, even when that segment contains subject matter which is identical with the main body of that literature. [↑](#endnote-ref-7)
8. We have an excellent understanding of exactly how Elizabethan English (a subset of Early Modern English), although removed from us by four hundred years or more (1558-1603), is archaic, precisely because we have so many surviving examples. Far more is involved than “thee” and “thou”; and English is our first language. We also possess the transition forms of the English language up to today.

<http://en.wikipedia.org/wiki/Early_Modern_English>

<http://en.wikipedia.org/wiki/Elizabethan_era> [↑](#endnote-ref-8)
9. <http://www.cnn.com/2015/01/21/living/gospel-mummy-mask/index.html> [↑](#endnote-ref-9)
10. The half-life of 14C is 5,730 ± 40 years, at some unknown confidence interval, hence 95% is the commonly understood confidence. Doubling the mass of 14C in an artifact, de-ages it by 5,730 years, more or less. This is an intolerable error for an animal or plant dying at the peak of 14C radioactivity caused by nuclear testing. So, an animal or plant dying in 1961-62 would have been dead for less than a year or two, but could appear to have died 5,730 years in the future, or in the years 7691-92, if the variation went undetected. [↑](#endnote-ref-10)
11. If unidentified catalytic, pressure, temperature, or other effects are ever discovered in the future, they would most likely mean that 14C radioactive decay is, itself, not constant either. If both 14C production and decay should prove to be variable, then 14C dating is virtually worthless. Fortunately, at this point of time we can only be sure that 14C production is variable. Perhaps a means can be found to calibrate that variation using trees. [↑](#endnote-ref-11)
12. For want of a better term, let’s call this artificial age, where old materials are used in the manufacture or decoration of a new artifact, making at appear older than it actually is. [↑](#endnote-ref-12)
13. <http://en.wikipedia.org/wiki/Archaeological_forgery>

<http://en.wikipedia.org/wiki/Art_forgery> [↑](#endnote-ref-13)
14. A glance at the INTCAL13 calibration curve at the smallest marked axis scale indicates that a radio carbon age of 10k years represents an actual 11.5k years: around 1,500 years older than the tests indicate. Investigation of the magnified curve shows abrupt changes in slope around 3170 and 3220 years ago. So if we find radiocarbon dates around 3000 years ago (The Iron Age, and David’s realm are around 1000 BC, a little over 3000 years ago.), we approach our target fairly closely, since the charts provide no data for 1000 BC. The baseline date is 1950 AD (a radiocarbon age of around 2950 years. This means that for this age reading we calibrate to real dates ranging between 3100 and 3160 years ago; indicating that suspected Iron Age dates, predate David’s kingdom by 150 to 210 years. This puts such dates in the range from 1150 to 1210, well within the period of Judges: possibly around the time of Deborah (1235-1196) or Gideon (1190-1151). Armed with this data we may expect that objects radiocarbon dated 70 years after David’s ascension (940 or 933 BC), actually precede David by 80 to 140 years (1080-1140 BC), predating Saul, Samuel, possibly all of the lives of Eli (1043-1024) and Sampson (1062-1043); even Jephthah (1089-1084), as well as two of Gideon’s successors, Jair (1127-1106), and Tola (1149-1127). This is a serious error with which to try to cope.

<http://en.wikipedia.org/wiki/Radiocarbon_dating>

<http://en.wikipedia.org/wiki/Calibration_of_radiocarbon_dates>

<http://www.pathlights.com/ce_encyclopedia/Encyclopedia/06dat5.htm>

<http://www.essortment.com/carbon-dating-accuracy-flaws-carbon-dating-37183.html>

<https://journals.uair.arizona.edu/index.php/radiocarbon/article/view/16947> [↑](#endnote-ref-14)
15. As are almost all test methods. This is one practical implication of the uncertainty principle of physics. All measurements destroy something of the sample. If we measure length with a ruler, the degree of damage is small; so that we consider this test method to be nondestructive, because the degree of destruction is imperceptible. Measurement is a physical test method. In chemical test methods the sample is consumed and destroyed, at least in part, by the chemical reaction. For this reason, scientists work with the smallest practical specimen: but that test spot is gone and can never be tested again. Many physical tests are also destructive: tests which bend, break, crash, cut, fatigue, shatter, shear, twist, and the like are destructive. No matter how slight the damage, the specimen can never be restored exactly to its first condition. Because restoration is impossible, the test cannot be repeated exactly, so there is always uncertainty about each measurement. Ironically, to know something completely, it must be destroyed absolutely. Portions destroyed in one test cannot be subjected to other tests, so human knowledge is always severely limited. We draw conclusions based in similarities, not on identities: because identity is impossible for us. [↑](#endnote-ref-15)
16. The standard error of the mean is smaller than the standard deviation by 1 / √n. The standard deviation evaluates the dispersion of all test samples, so it is rather wide. The standard error of the mean, on the other hand is an estimate of how much the mean itself might be expected to drift. In our hypothetical example the test samples were dispersed over a span of 600 years, so a standard deviation of 100 would describe the mathematical conditions that would embrace almost 100% (99.7%) of all samples at ± 3 σ = ± 300. Under these conditions, based on 100 samples we expect that a standard error of the mean of 10 (100 / 10) would describe the mathematical conditions of central drift. This means that ± 10 would account for 68% of mean drift; ± 20 would account for 95% of mean drift; and ± 30 would account for 99.7% of mean drift. If we wanted confidence intervals of greater than 99.7% much higher values would be required. [↑](#endnote-ref-16)
17. Yes technicians have been known to make mistakes. A few have even falsified data. One anthropologist was discovered to have hidden his find, so that no one knew that it was not humanoid until after he died: then his fraud was finally exposed. Some such frauds escape detection. But even honest technicians err. [↑](#endnote-ref-17)
18. Vector addition is the square root of the sum of the squares of the errors, rather than the sum of the errors. A set having errors for atmospheric variation, contamination, artificial age, technical error, and standard error of the mean of 35, 9, 13, 5, and 10 years respectively, would add to 72 years, but the overall error would only amount to 40 years of total standard error. This would mean that our age estimate of 400 years could fall anywhere between 360 and 440 years at a confidence interval of 68%. At a confidence interval of 99.7% the span would run from 280 to 520. That amounts to an error of ± 10%, to as high as ± 30%, depending on what confidence was required, which is quite large as errors go, instead of our previously comfortable error of ± 2.5% to ± 7.5%. In reality these other unknowns are invisible realities and risks, which are all but impossible to measure. SEM is usually all that is reported. [↑](#endnote-ref-18)
19. The calibration start date is 1950 AD. A date of 3000 years ago from 1950 would be 3000 – 1950 – 1 = 1049 BC. The 1 corrects for the absence of 0 in the AD/BC scale: for our purposes here this correction is insignificant, because other errors are so much larger. David is supposed to have reigned around 1000 BC. So if we are to recalibrate a 1000 BC date, we must look at the calibration curve around 3000 years based on the 1950 AD start which puts us at around 1050 BC. Reading the curve, the calibration correction for 3000 ranges from around 3170 to 3210, or an error of about 190 ± 20 years. Fifty years earlier, at 1000 BC, the calibration correction for 2950 ranges from around 3100 to 3160, or an error of about 180 ± 30 years. The actual David/Solomon error is closer to 180 ± 30 years. This means that the figures reported by NOVA are understated. There is also a calibration error in addition to dispersion: which is to say that the radiocarbon method is plagued by an accuracy of 180 years (off target), and a precision error of ± 30 years (half of the grouping spread). Calibration was accomplished by comparing radiocarbon dates to tree ring dates. The method itself errs by this amount, even before the first measurement is taken.

<http://en.wikipedia.org/wiki/Calibration_of_radiocarbon_dates#/media/File:Radiocarbon_calibration_error_and_measurement_error.png> [↑](#endnote-ref-19)
20. <http://en.wikipedia.org/wiki/Provenance> [↑](#endnote-ref-20)
21. Yet we have already seen this notion contradicted: for the egalitarian Israelite society are supposed to have used plain and simple, mundane pottery, at a time after they had overwhelmed the Canaanite city-states, where more artistic pottery was in common use. This is the exact opposite of the pottery dating construct, which also flies in the face of the fact that wealthy people can afford nice expensive things, while the poor are always limited to the mundane. [↑](#endnote-ref-21)
22. William Foxwell (and Ruth) Albright (1891-1971), American archaeologist, biblical scholar, philologist, and ceramics expert with Johns Hopkins University and American Schools of Oriental Research. Works: Tell el-Fûl (1922: Gibeah), Tell Beit Mirsim (1933–1936), theory of ceramic pottery dating.

<http://en.wikipedia.org/wiki/William_F._Albright> [↑](#endnote-ref-22)
23. *The Bible’s Buried Secrets*: time 1:02:30ff [↑](#endnote-ref-23)
24. But quite dissimilar to the artistic, exquisite pottery found among the distinct wealthy, ruling class. [↑](#endnote-ref-24)
25. In which case, we must either date these houses and villages to 1250; or re-date Hazor to a later period, matching the Israelite houses; or reject the pottery dating system as an unworkable solution. [↑](#endnote-ref-25)
26. *The Bible’s Buried Secrets*: time 38:00ff [↑](#endnote-ref-26)
27. *The Bible’s Buried Secrets*: time 41:45ff [↑](#endnote-ref-27)
28. This is very glib, and it sounds so very credible, yet it is not the issue. The bone of contention is: if one were examining pieces of Elizabethan literature, which had been originally hand written, without any knowledge of provenance, and from a printed edition; could one pick out the one paragraph which was written by Bacon, and inserted by Bacon, in a work of Shakespeare’s? If we had a handy catalog of famous Bacon quotes, we might stand a chance. That being said, no such catalog exists for oral traditions in the days of Moses. *The Bible’s Buried Secrets*: time 19:10ff [↑](#endnote-ref-28)
29. <http://en.wikipedia.org/wiki/Masoretic_Text>

<http://en.wikipedia.org/wiki/Aleppo_Codex>

<http://en.wikipedia.org/wiki/Leningrad_Codex> [↑](#endnote-ref-29)
30. <http://en.wikipedia.org/wiki/Umberto_Cassuto> [↑](#endnote-ref-30)
31. See Origin and transmission at:

<http://en.wikipedia.org/wiki/Masoretic_Text> [↑](#endnote-ref-31)
32. <http://en.wikipedia.org/wiki/Vulgate>

<http://en.wikipedia.org/wiki/Septuagint> [↑](#endnote-ref-32)
33. The presence of a Deuterocanon witness opens the possibility that the MT may have tampered with Scripture by deleting books. A Greek witness is supportive of the primacy of the Septuagint, challenges the Jewish claim that Greek is not an “inspired” language, and partially confirms that Greek became the lingua franca of the Holy Land. Other manuscripts might not yield recognizable linkages, yet they are still evidence that may not be neglected even when its importance is not immediately recognizable: such mysterious evidence may provide a missing piece of the puzzle later. [↑](#endnote-ref-33)
34. <http://www.deadseascrolls.org.il/?locale=en_US> [↑](#endnote-ref-34)
35. According to the internal biblical provenance, Deuteronomy and Daniel are written nearly eight-hundred years apart. According to the internal biblical provenance, Exodus 14, 15, and 16 were written within days of each other. [↑](#endnote-ref-35)
36. We have not yet discussed the greatest difficulty in authenticating and dating the Dead Sea Scrolls: namely, they have no provenance whatsoever. There is no provenance making the essential authority connection between the Dead Sea Scrolls and the Jerusalem temple: without such a connection, they may as well be someone’s grocery shopping list. Nor is there any provenance linking the Dead Sea Scrolls with the community of Qumran: they are just in close geographical proximity. For all we know, the Dead Sea Scrolls are contraband copies of unidentifiable sources made by a handful of Moabite renegade criminals. Simply put, there is simply no evidence to tie the Dead Sea Scrolls to much of anything. [↑](#endnote-ref-36)
37. If you have been blessed or helped by any of these meditations, please repost, share, or use any of them as you wish. No rights are reserved. They are designed and intended for your free participation. They were freely received, and are freely given. No other permission is required for their use. [↑](#endnote-ref-37)