When Being Numerate Used to Mean Something Else

The Case of Number Symbolism in the Hebrew Bible

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Abstract. The aim of this paper is to present a new method of biblical criticism by drawing attention to the importance of numbers and their meanings in the biblical text, with and without concepts that are also known as being Pythagorean concepts. It is argued that the numerical symbolism of Sarah having lived 127 years is that it denotes the concept of perfectness, while the numerical symbolism of Moses having lived 120 years is that it denotes completeness. It is shown that the years of lives of the Patriarchs are set in a series, and they were no random numbers. The meaning and implications of the innovation is discussed, showing that it might be done in whatever language, not just in Hebrew.

Keywords: Number symbolism, Biblical interpretation, Pythagorean concepts.

1 About the Development of the Status of Arithmology in the History of Ideas[1]

1.1 Preliminary Considerations

The aim of this introductory section is to clarify a few concepts, as well as the cultural status, of *number symbolism* (or *arithmology* or *arithmosophy,* known *vulgo* as *numerology,* but the latter term has taken by now a negative connotation).

The aim of the remaining sections of this paper is to discuss a neglected aspect of the Bible: the implicit appearance of number symbolism indeed, taking numbers as qualities rather than as quantities. The concept will be discussed as well as applying it to some biblical text. An old method of number symbolism will be seen as highly relevant to biblical interpretation. Generations of learned scholars in the modern period provided little in this field, other than specialized studies concerned with details of the history of ideas (e.g., Allen 1994; Céard 1982; Most 1951; Valcke 1985).

1.2 The Parlous State of the Domain

Most people consider numerology a branch of New Age spirituality, or even more bluntly: unless they actually believe in it, they take number symbolism to just be

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[1] Ephraim Nissan contributed to the writing of this introductory section.

nonsense, a product of charlatanism. This is because most of the books more readily available on this subject are written other than in an academic scholarly spirit. Their books are full with numbers but they come without bibliography (or then, they are self-referential within their genre, citing literature of dubious academic value).

There is a paucity of scholarly books in number symbolism and its history (Brach 1994, 2nd edn. 1999; Zimmermann 1983–1984) as well as paucity of articles, in academic journals, on this issue, and the ones that do appear, are not easily detected. A scholar in the field, Jean-Pierre Brach, has remarked (2006, p. 874):

> Number symbolism, also known as the qualitative approach to number and mathematical objects in general, constitutes a universal cultural phenomenon and has existed from time immemorial. As such, it must be envisaged strictly apart from the so-called "numerology" which has emerged as its contemporary offshoot and is really, at best, an illegitimate child and, moreover, a mere waste-product of post-modern consumerism.

Just to give an idea of the bad company that numerology has kept in the history of ideas in the last two centuries, consider this quotation from a scholarly encyclopaedic entry by Nicholas Goodrick-Clarke about Ariosophy (2006, p. 91):

> A dualistic-gnostic racial religion which attracted followers in Austria and Germany during the first half of the 20th century. The term "Ariosophy", meaning esoteric wisdom of the Aryan race, was first coined by → Jorg Lanz von Liebenfels in 1915. He earlier used the terms "theozoology" and "Ario-Christianity" and founded the Ordo Novi Templi (ONT) at Vienna in 1900 as a Christian gnostic order to celebrate an Aryan cult of pure race. → Guido von List, whose ideas on the occult heritage of the Aryans supplied further inspiration for Ariosophy, actually called his own doctrine"Wotanism" or "Armanism". During the 1920s and 1930s Ariosophy embraced the expanded ONT under the leadership of Lanz von Liebenfels, and an associated group of writers who combined theories of Aryan supremacy and racial purity with → astrology, numerology [→ Number Symbolism], kabbalism [→ Jewish Influences], graphology and palmistry.

Brach (2006, Sect. 6, p. 880) pinpoints the period, in the history of ideas, when numerology became disreputable:

> The shift in intellectual and spiritual perspective which affected the European world-view in the aftermath of the "scientific revolution" and during the "pre-Enlightenment" era contributed to the gradual estrangement of number-symbolical speculations from the mainstream of western culture. Its long-standing partnership with esoteric currents resulted in the name and practice of arithmology becoming a near synonym of "magic" and/or "kabbalah", two disciplines henceforth considered as obsolete and reeking of "superstition" and

"obscurantism". It is therefore not to be wondered at that "mystical arithmetic" was rather shunned in academic circles and its cultivation mainly restricted to illuministic [→ Illuminism] or pietist [→ Pietism] circles. Perhaps the most telling example of this evolution is J.C. Lange's (1668-1756) *Theologia christiana in numeris* (1702, [2]1734), a learned esoteric dissertation published, *under a pseudonym*, by a professor of logic and mathematics at the University of Francfort. The *Theologia* is in fact an erudite attempt at ordering and interpreting some of the main articles of the Christian faith according to the pythagorean Decad, adorned with symbolic drawings of a declared theosophical nature.

At the same time, and interestingly enough, the bulk of the literary production, in the domain of 18th-century arithmology, no longer comes from the "latin" countries, but belongs predominantly to the German *Sprachraum*. [...]

When Brach mentions Illuminism, a clarification is called for, because such readers whose native language is Romance, such as Italian, may think that it is Enlightenment that is meant. Quite on the contrary, "The complex intellectual and spiritual movement known as "Illuminism" is an integral part of modern Western esotericism in Europe. Chronologically it covers the last third (or even the second half) of the 18th century and the first third of the 19th" (Bergé 2006, p. 600).

1.3   Ideas Related to Number Symbolism, from Across Eastern Mediterranean Cultures

The author, a scholar in Jewish studies, has researched number symbolism (as well as the history of astrology) for over a decade. He has remarked that when looking at a bibliography he compiled (for which, see in his book Bar-Ilan 2005), admittedly it is not easy to differentiate between valuable and valueless papers.

In the scholarly world, in 2006 this whole subject of number symbolism was covered in Brach's (2006) very learned encyclopaedic entry (which moreover provides a useful bibliography), and though Kabbalah is mentioned, the whole Jewish tradition concerning number symbolism is missing. This is due to several reasons (the explicit statement should suffice, that the entry would only delve into the history of Western number symbolism). Many take *gemátria* (traditional Jewish calculations based on the numerical value of letters of the alphabet, so that a word has a numerical value) to be numerology (Barry 1999), which leads to a straight attack by mathematicians (Dudley 1997).

Within Judaism, *gemátria* only retained ornamental value, after it was discredited during the 17th-century controversy about Sabbathianism (a messianic movement which spread from Smyrna): both Sabbathians and their opponents resorted to numerical equivalences of names, but the same name could be found to be numerically equivalent to something quite lofty, even divine, or quite on the contrary, to something despicable, even devilish — according to whether you supported or opposed the self-proclaimed messiah Sabbatai Sevi, whose supporters claimed that his

name had the same numerical value as a divine name, whereas adversaries of his movement pointed out that the name of that person had the same numerical value as *ruach sheqer,* i.e., "Spirit of Falsehood" (Scholem 1958/9, col. 687).

Finding that words have the same numerical value, as a non-Jewish cultural practice applied to the Greek alphabet, is known as *isopsephism.* In fact, in ancient Greece, too, there was a numerical practice similar to what eventually became Jewish gematria.

Bear in mind that letter mysticism is found in various cultures. "Speculation about the shapes of the letters has existed since very early times. In the Greek system Pythagoras himself is said to have used the upsilon (Y) to symbolize the initially similar, but ultimately radically divergent, paths of virtuous and wicked lives" (Billigmeier and Burnham 2005, p. 270). "The early Christians, too, saw religious significance in the shapes of the Greek letters." (*ibid.,* p. 271). "By the time of Alexander the Great (356–323 BCE), the Ionian alphabet, with its seven vowels, had spread throughout the Greek world. Athens had adopted it in 403–402 BCE. These vowels were soon the center of much mystical speculation, in good part because they numbered seven, which also designated the seven known 'planets'" (*ibid.,* p. 271).

Alphabetic numerology is just one facet of letter mysticism, but when Jews or Israelis write down the number denoting some year from the Hebrew calendar, they express that number in Hebrew letters, and so is the number of some chapter or section in a Hebrew book or article, and this is usually not taken to have any mystical significance. After mentioning the Jewish gematria, Billigmeier and Burnham claim (2005, p. 272):

> Though there are cuneiform parallels, the use of alphabetic signs as numerals is a Greek invention. The archaic epichoric alphabet of Miletos had twenty-seven letters: the familiar twenty-four plus *digamma*, or *wau* (ς, representing */w/*); *qoppa* (Ϙ, representing */q/*); and *sampi* (ϡ, or ⊤, representing */ts/*). It lent itself to serving as a numerical system, with A–Θ standing for numerals 1–9, I–Ϙ for 10–90, and P–ϡ for 100–900. Other numbers were expressed by the additive principle IA=11, IB=12, PNZ=100+50+7=157; 1000=,A, 2000=,B, and so on (the strokes are later additions). This Milesian system became dominant in the Hellenistic period and was applied to the Hebrew, Coptic, and Arabic alphabets, even though it fit them less well because they did not have exactly twenty-seven letters.
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> With this additive principle, names and words could be read as numbers. The Pythagoreans argued that every man, animal, plant, and city had its mystical number (*psēphos;* pl. *psēphoi*), which determined the course of its existence. It was a small step to identify this *psēphos* with the sum of the letter-numerals in that name or word. This system of arithmomancy spread rapidly in the Hellenistic period and plays a vital part in Egyptian and Jewish religious practice and later in Christianity and Islam.

The *psēphoi* played an important role in both religious and secular life. The *Sibylline Oracles* (8.148) predicted that Rome would last 948 years; this is the *psēphos* of ΡΩΜΗ [*Rōmē,* i.e., 'Rome' in Greek]. The great Gnostic *aiōn* Abraxas may owe the exact form of his name to its *psēphos*: 365. In the second and third centuries CE, Romans identified Mithra, the Persian god of light, with their Sol Invictus (Invincible Sun), patron deity of the army. Contributing to this syncretism is the *psēphos* of ΜΕΙΘΡΑΣ=365.

Brach has pointed out (2006, pp. 874–875) that the earliest surviving overt considerations about the quality of numbers are from ancient Greek literature, whereas among the unscholarly-minded there is a trend to seek numerology in other ancient cultures by which they are fascinated:

Within western culture, to which we shall naturally limit ourselves here, open considerations pertaining to "qualitative number" first appear with the Greeks. As a matter of fact, and difficult to explain though it may seem to us, no Egyptian or Babylonian/Assyrian document featuring explicit "number-symbolical" speculations actually survives (assuming any ever existed). Since some authors find this fact hard to adjust to, the book market is continuously flooded with inept claims to the contrary, that is, for instance, to the discovery of the sacred geometrical meaning hidden in the structure of the Gizeh Pyramids, or some such fantasy. Needless to say – as is the case with e.g. "the number of destiny in your name" – such claims hardly concern us here.

Even taking into account the lack of material evidence mentioned above, there can in fact be little doubt that, in the field of number symbolism as well as in many others, the Greeks are heirs to earlier, middle-eastern civilizations. The kind of correlative thinking which mathematical symbolism mainly depends on, with its full-fledged use of analogy and its conception of the universe as a multi-layered living organism, corresponding – in terms of structure – to individual human beings and laid out according to a continuous cognitive/ontological scale, pertains to a type of "wisdom" which most certainly predates the era of Pythagoras. For it is Pythagoras (around 570–490 B.C.) whose name has become to our day (and already was in ancient Greece) almost synonymous with "number symbolism" (along with vegetarianism and metempsychosis [→ Reincarnation]).

1.4   Further Considerations

Jewish tradition, in general, did not pay special attention to numbers in the Bible, except for chronological calculations. Few rabbis delved in number symbolism, such as R. Judah Loewe of Prague in the 16-17th centuries (Suriel 1978) but no school emerged from his hermeneutics. Modern scholarship, as well, ignored number symbolism except very few with focusing on the Book of Revelation's number symbolism (Yarbro Collins 1996, pp. 55–138). At times it looks that scholars are under the shade of less competent people. One must admit that numerology is

ill-famed and for good reasons, especially when authors, in some cases (on the evidence of what they wrote about the subject) dubious scholars, spread their ideas concerning the "secrets of the Bible" and their books become popular (Werlitz 2000, Schimmel 1993). It must be said however that Annemarie Schimmel has good scholarly credentials in a different domain. Number symbolism in the Bible is the subject of Bar-Ilan (2003, 2005) and Davis (1968).

In this paper we will not discuss gematria, and all sorts of concept-games that derive from gematria (based on false syllogism), nor we will pay attention to the now widely disreputed Bible codes. In both cases there are no numbers in the text; rather they are "invented" by an outsider, a critic from this aspect, who tells the reader to see numbers in the text either in a word or two, or by a sequence of *x*.

From the author's point of view this is no number symbolism, but rather an artifact based on misunderstanding of statistics, and also disregards the text. Real numerology is when one can do research in the text without paying attention to the language the text comes, and in the following pages the discussion on the Bible might be done in any language the text is converted to: it does not depend on the Hebrew letters rather on the number-words in the text, and they appear at any language the text was translated to.

One can talk about number symbolism only in case when a number appears in a given text and the main issue is: is it a random one, just happened to be (because objects, or years, are counted) or the specific number was intentionally made to convey something more than a quantity: a quality. In modern usage there are not too many cases when numbers convey a message of their own. For example, when one says, in Hebrew or English: "I have a friend; he is 10", he means to say that his friend is super in a way. No doubt, he didn't want to say his friend is 10 years of age. The issue now is not whether this is colloquial, rather that there are times when numbers are not meant to be understood as quantities, rather as qualities. What is even more remarkable about this sentence is that it sounds in Hebrew or English only, but it is meaningless in French or in German, Russian and several other languages. That is to say a number conveys a cultural weight only under the terms of a given culture; in other cultures (that is: languages) the meta-meaning disappears and the reader is left with the numbers only. The characteristic of the sentence as "colloquial" gives a hint: in few generations it is not clear whether the sentence will be understood properly since language and culture do not go necessarily hand in hand.

All in all, even those who condemn numerology might personify numbers relating them to people: 10, 4, 0, but it tells nothing about Antiquity, certainly there is nothing Jewish in this aspect. So now is time to move to Antiquity on the one hand and Jewish sources on the other.

2   "Pythagorean" Concepts in Biblical Text

2.1   Pythagoras, Plato, and beyond

We are going to concern ourselves with concepts usually associated with Pythagoras, whatever their origin may have been. The study of number symbolism goes hand in

hand with Pythagoras (c. 570–490, or, some say, 582–507 B.C.E.), who is considered to be the father of a whole bulk of numerologists during the ages. However, Pythagoras committed nothing to writings, his teachings were secretly taught, and all his ideas will be forever shrouded with clouds of a guess combined with later stories that were invented, without being able to prove or disprove any of them (Burkert 1972, pp. 465–482).

In many a way, Plato (427–347 B.C.E.) was a Pythagorean when it came to numbers, but though Plato's mathematics already been subject to many scholars his number symbolism has received not as visible scholarly scrutiny (but see Brach 2006, Sect. 2). Philo of Alexandria (*c.* 20 B.C.E.–42 C.E.), was in a way Platonist who, in his commentaries on the Bible, showed awareness of number symbolism. Augustine of Hippo (354–430 C.E.) was a theologian and scholar who tried to explain numbers (Most 1951; Brach 2006, Sect. 3).

It should be said, in the first place, that even though there were some precedents, and one can mention several more scholars and numbers as understood by them, the whole issue seems to be by and large *terra incognita*. Modern scholars avoided number interpretation, albeit there were few who took the challenge, with a bit of Pythagorean knowledge and a lot of speculation (Farbridge 1970, pp. 87–156).

2.2   Sarah's Lifespan of 127 Years

2.2.1   Questions Arising

Though the basic elements of numerology are numbers, as derived from the name, the whole field is part of literary and cultural criticism, religion included. Numerology can be acknowledged when one reads numbers in a given text, when there is no need for the numbers. For example, in Genesis 24 there is a well known story how Abraham bought the Cave of Machpelah in order to bury there his wife Sarah. This story begins with a statement that Sarah lived 127 years and a modern eye should wonder about this number. The main issue, of course, is not the probability: could one live 127 years? — since the book of Genesis states that some other people lived hundreds of years which leads one to assume the text has its own concept of time.

The main problem with 127 years of Sarah is, however, something else: what the narrator wanted to tell the reader, or the hearer, about Sarah. What importance is it to describe Sarah as one who lived 127 years? People are known for their talent and their spiritual contribution without paying attention for their lifespan. One remembers his grandmother, or all the other women in the Bible, without knowing their exact years of life, and all this puts a question-mark on the needy of the Biblical statement. And there is another question: did Sarah pass away just accidentally in this specific age, or was there any divine intention to let her live until this very age exactly?

Modern biblical scholarship is aware of the problems this text, but not because of the number per se, rather because according the *Qwellen Theory* the first introductory verse in Genesis 23, where 127 in announced, seems to be out of P. while the rest of the chapter seems to come from another source (Rendtorff 1990, pp. 154–163). All in all, we must admit that the first verse in Genesis 23 arises several questions that come

from several different angles though here forward it will be explained why the Lord gave Sarah 127 years exactly, and what was the purpose of this statement. Here we enter the meta-textual understanding, and since our text under discussion is nothing but number, it is clear that this type of meta-textual criticism is numerological.

2.2.2   The Number 127 Elsewhere in the Hebrew Bible

127 seems just a random number, a number that one shouldn't consider at all since it just derived from whatever archive, in this case, the Divine archive. This number is not highly-spread like 3, 7, or 100, for example, and certainly this is not a round number. As a matter of fact this number is a prime but nowhere in the Bible God acknowledges primes more than other numbers (except 7). Looking at the appearance of the number 127 in the Bible, and outside the Bible, send away the idea of randomness though still it doesn't make the number "intentional", but first we have to look at the texts where 127 appears. First, of course, one may recall that Ahasuerus had 127 states in his Empire (spread from India to Kush). If one does not know anything about the Persian Empire, without the Bible, this number seems to be quite natural: some countries have 36 states, some 50, and some 127. However, when one reads (I Kings 20:29-30), that the Israelites killed all their enemies in Afeq: 127,000 (while in the Bible, e.g. Deut 1:11, 1,000 denotes multiplicity and abundance), one wonders if the appearance of 127 in all these cases is just a coincidence. This is extremely so when considering the circumstances of the battle in Afeq, since this small place could not hold such a number of warriors not to speak of the forces that overcame them. So, if we talk about an exaggeration, one wonders why the scribe would bother denoting a specific number: 127,000 if he could state in a much simpler way, that they killed enormous number of enemies, as is done in the Bible elsewhere (e.g. Deuteronomy 2:34)?

Strange enough, the number 127 appears in another battle, but this time outside the Bible and does not look like this is a coincidence. Herodotus, who has been called the "Father of History", wrote on the wars between the Greeks and the Persians. In his famous book (*The Histories* 8:1), written around 440–430 BC, it is stated that even though the Greeks were outnumbered by the Persians, the Greeks defeated the Persians near Salamis with 127 ships. A well-known modern historian, expert in warfare, already noted that this number of ships could not be taken at first value and promised an explanation in the future, a promised that was never fulfilled (Delbrück 1913).

So now the puzzle is even greater: the same number appears four times, in two of the cases, in wars, where the numbers could not be real. In the other two cases: one doubts concerning the span of years of a living being and no historian of the Persians will verify that there were 127 states. So, if this is the case, why would the author give a specific number? Or to be more blunt: what is real?

2.2.3   An Explanation

To explain this number, 127, one should look at Pythagorean concept of "perfect number". We do not know when this mathematical concept was invented but we

know for sure that Euclid (323–283 BC), "Father of Geometry" knew four perfect numbers: 6, 28, 496 and 8128 (*Elements*, 36). A perfect number is a number that the sum of its devisors (except the number itself) equals itself. For example, 6 is a perfect number since it is divided by (6), 3, 2, 1 that equal 6. 8 is divided into (8), 4, 2, 1, that sums 7, which means that 8 is not a perfect number (but 'lesser', like 12 that is 'superfluous').

Ancient mathematicians used to write numbers with *psēphoi,* that is pebbles, in a triangular form known as *tetractys*. In each and every "row" the sum of pebbles grew by 1, so the pebbles were set like, 1, 2, 3, in an arithmetic progression. After setting 6 pebbles, for example, the last "row" of pebbles was 3, and if one sets 28 pebbles in a *tetractys*, he gets 7 at the last "row". It is quite easy to calculate the whole some of pebbles by the last "row" only by a simple equation:

$$Total = [(N + 1) \times N] / 2$$

All these mean that the last "row" of pebbles represents the total number of the pebbles. All is needed now is to look at the *tetractys* of the first 4 perfect numbers (see Table 1).

Table 1. Perfect Numbers, and Rows of Pebbles

Perfect Number	The last "Row"
6	3
28	7
496	31
8128	127

In other words, since 127 represents a "perfect number", in a concealed way, at least to laity, it becomes evident that the usage of that number denoted quality much more than quantity. So, all the enemies were completely killed (in a perfect mode), in numerals: 127, so King Ahasuerus who ruled over 127 states denoting perfectness or completeness (according the Sages: "King Ahasuerus ruled from one end of the world to the other"). This type of perfection and completeness was ascribed to Sarah. Now, Sarah was recommended by the Lord to Abraham to obey her in whatever she will tell him. Could it be that Sarah wasn't a perfect person? Did the Biblical heroes live just a coincidental number of years, or didn't the Lord give each and every person his own specific number of years, just as each had his own quality? And yet, another question: was there a connection between Herodotus and the Bible? Is it a coincidence that Ezra the scribe was a "governor" of Judea, sent by Artaxerxes, King of Persia, exactly at the same time when Herodotus used 127 in a symbolic manner?

So now, it looks like Sarah was perfect, in a way, resembling the Sages' idea of her perfection as denoted in their sermon, by equating: 100 = 20, 20 = 7. However, now one wonders what is a better way of explaining 127: by paying attention to the overflow of "years": "100 year and 20 year and 7 years" that led the Sages of old to the equation 100 = 20, 20 = 7, or that the perfectness of Sarah is derived not by the

way the number is given in the text with "years" rather from the very number itself, 127 conveys the "great" perfect number 8128 (to characterizes the great-grandmother)? But even if one intends to disregard all this explanation to the number 127 as a kind of a new word-play (though all what was stated so far is based on Ancient ideas), he might be reminded that other people in the Bible were given by the Lord a given number of years lo live upon earth, so it looks it is appropriate to discuss now the 120 years Moses lived.

2.3   Moses Lived to Be 120 (3×4×10)

The number 120, as a full-span of human life is already known in Genesis 6:3, and there were tries to understand where this number comes from (Klein 1990). One wonders why God decided to give human beings just 120, after generations that lived hundreds of years. Moreover, after God declared that 120 years (only) might a human being live, the story continues with Noah who lived 600 years before the Flood. But, except with the narrative problems, one should look at the 120 years of Moses, since it seems, this number is "explained" in the text, at least in a bit.

The text reads as follows (Deut. 34:7): "And Moses was a hundred and twenty years old when he died: his eye was not dim, nor his natural force abated". In other words, Moses' corporeal talents were perfect until his very last day, and it looks as if the whole number of 120 denotes some kind of perfection. No doubt, the number 12 denotes time, since there were always 12 months in a year, so 12 denotes a whole circle of time and a complete circle denotes perfect by itself. The number 12 itself is built by multiplying 4 by 3 (not 6 by 2), as is evident to anyone who studied basic arithmetic. The number 4 denotes the cosmos, since there are 4 directions of wind, as God has shown Abraham (Gen 13:14), and there were 4 rivers in the Garden of Eden. The number 3 denotes something that happens once and again, and again, in a repetitious manner that resembles intensiveness and permanence (Ecclesiastes 4:12; and in the Mishnah in tractate *Qiddushin* 1:10; and the Sages took 3 to denote a power of possession: in the Mishnah in tractate *Bava Bathra* 3:3).

That is to say that when one multiply power, exemplified in 3, with 4, that denotes cosmos, he gets 12, a round year (= time). 10 is the number that earlier was said to denote a perfect friend, and it is clear that 10 denotes corporeal talents, because each has 10 fingers. The idea that "Man is the measure of all things" is attributed to Protagoras (480-410 B.C.E.), and whether this attribution is true or not, one cannot suspect that a man without blemish has 10 fingers, 10 that make him perfect, if he is a real 10 (or "a strong number" in colloquial Hebrew).

All this leads to the assumption that when one multiplies 12 by 10, that is getting the power of time multiplied by the power of corporeal talent, he gets a man that lives 120 years, perfect in whole his abilities as Moses is said to have been. So now it is clear that God gave Man 120 years because this sum of years denotes his talents by numbers: complete time multiplies by perfect corporeal talents. There is no doubt, Moses lived 120 years, and it was not a coincidence; one cannot believe that God gave Moses a random number of years to live upon earth (Ex. 23:26). Meaningful life means also meaningful number of years; no number is in vain.

One final word should be said concerning 127 and 120. Esther 1:1 and Deut. 34:7 are the only verses in the Bible where the phrasing of the verse gives a concept and its numerological value simultaneously: Ahasuerus rule 127 states – his Empire spread from India to Kush, while Moses lived 120 years – with all his corporeal talents. Thus the narrator wanted not to add a notion as the verses seem to be rather to equate the notions: 127 means the complete world while 120 means the complete human life.

2.4   People and Palm Trees: 70 (7×10)

In Exodus 15:27 (Numbers 33:9) it is stated: "And they came to Elim, where were 12 springs of water, and 70 palm-trees; and they encamped there by the waters" (In the Biblical text published by the Jewish Publication Society: "and three score and ten palm-trees"; which is a different number indeed). One might take this verse with its numbers as a real description of a certain oasis, though it is argued here that this reading is naïve. The problem is not to make a modern identification of this place with an oasis in the Sinai Peninsula that has the same number of trees and springs, since the number of them might have been changed in the course of time. The main idea is not to take these numbers by their plain value, that is quantity, but rather as symbols, that is their quality. In other words, it was not a coincidence that the children of Israel encamped in a place with these certain numbers of trees and springs, rather the other way around. The numbers in the text convey numerological ideas, and the whole verse should be read as a numerological verse, embedded in the Biblical narrative showing the capabilities and orientation of the narrator, a writer with a kind of affiliation with numerology.

As already been discussed earlier, 12 is a highly symbolic number, known for its quality as denoting complete time: 12 months a year, 12 hours a day. The number 12 is also the number of the tribes of Israel, and this is no coincidence. So when the narrator writes that the children of Israel, divided into 12 tribes, encamped in a place where they found 12 springs of water, he meant to say either one of the following ideas. First, that each and every tribe had his own spring, so they all had plenty of water. However, the narrator may have also wanted to tell the reader that the children of Israel had water the whole year long, in each and every month, nothing to be ignored in the wilderness.

Moreover, not only 12 springs of water were in Elim, but the place had another merit: 70 palm-trees, and once again the reader should not take this number as "plain" but rather as denotes meta-textual meaning, the meaning of the number. Now, when one reads 7 in the Bible, he is aware, of course, that this number appears almost more than any other number. However, the meaning of this number is not clear, vagueness that leads people to make sermons over the number 7 or 70, and scholars alike (Fensham 1977). However, it should be noted that the first time this number appears in the Bible (Gen. 2:3) it comes together with God, blessing and sanctification (or: holiness). Later, in the story of Noah, the number 7 comes as the counter of pure animals (and non-pure as well). In other words, the number 7 denotes a blessing, holiness and purity as well, or in one word: God. This type of inter-textual

commentary approves the meaning of 7 in other cases as well, even when this number is multiplied by 10, for example.

As already seen earlier, 10 denotes a corporeal perfection, and since 70 is nothing but multiplying 7 by 10 (definitely not 5 x 14), it means that 70 denotes multiplication of Devine blessing, holiness and purity by perfect corporeal quality. This is why the number 70 is the number of Jacob and his whole family when they came to Egypt (according the Masoretic text). They were all blessed by God and went to Egypt with His approval to get food there. It looks like this is exactly the case demonstrated by Elim with its 70 palm-trees (and 12 springs of water). For a modern man a palm-tree is nothing but an exotics tree (that goes together with a fantasy of an oasis). However, in Antiquity, especially in the desert, palm-tree was the main (and sometimes: the only) food. So when the children of Israel came to Elim they were nurtures by God in such perfect way that they were never hungry or thirsty, the whole year round. They were all blessed in such a corporeal way, in the most contradicted way to the real life in desert. The number 12 represents the Cosmos ('order' in Greek) so order of the Lord in the upper world is clearly prevails on the lower world, in the desert also. By the way, if one assumes that the "original" name in Hebrew was "Elim" (without *yod*), the meaning of that wonderful place might be: Gods, or Angels. That is, the Children of Israel dwelled in the desert with Angels under the auspice of God.

On the whole, the nutrition of the children of Israel in Elim, by 12 springs of water and 70 palm-trees, is a story, fact or myth, which resembles in all its characteristics the story of the Manna – except the usage of numbers (and omitting the related Sabbath law). If one has thought that the numbers of the tress and springs in the desert are no miracle – he should thinks again.

3   "Honor Your Father" by Numbers

Some numbers are used in the book of Genesis in a very artistic way, as a kind of a literary device (and the number does not serve as a symbol). Although the numbers by themselves have no "value", that is they have no quality, still they serve the narrator's message, though in a concealed way. Before continuing, one should be reminded that *lex talionis*, which is the law of retribution, in its more general form (which medieval Christianity called in Latin *recirculatio,* whereas Judaism calls it in Hebrew *middah keneged middah,* "measure for measure") prevails a lot in the Bible, explicitly and implicitly. For example, Yael Shemesh analyzed this in the David stories (Shemesh 2003). *Lex talionis* denotes punishment, but the concept of retribution applies also to benefactors: you were good to me – I'll be good to you (Ruth 1:8; and in the Mishnah in tractate *Sotah* 1:9). See Nissan (in press). This type of benevolence is to be shown in the coming facts and numbers, all taken from the book of Genesis.

In Genesis 47:28 it is stated that Jacob lived 17 years in Egypt and then passed after living 147 years. What is interesting about this statement is that the first datum, 17 years, is superfluous. It is already stated, earlier at the same chapter (47:9), that Jacob came to Egypt, "standing before Pharaoh" while being 130 years of age (the same age of Adam when his son to follow him was born), so there is no need for the Narrator to tell that Jacob lived 17 years in Egypt. This type of superfluity should be

taken as a kind of an additional data the Narrator wants to tell his audience, in a way one may call concealed. Now, one should recall that the number 17 already been stated in the book of Genesis (37:2), as the age of Joseph when he left his father to look for his brothers, eventually leaving his father for many years (assumed to be 22). That is to say that Jacob raised his son, nurtured him, dressed him and took care of him for 17 years, when the child couldn't take care of himself. Later on in life, the aged father could not take care of himself, and his family, so now it was the turn of his son Joseph to take care of his father: *lex talionis* in benevolence terms, each generation takes care of the other, at his turn, for the same time.

The Rabbis made their own calculations, claiming that just as Jacob left his father, avoiding honoring his father for 22 years, so Joseph didn't honor him for 22 years (according to the Babylonian Talmud in tractate *Megillah* 17a). In other words, Jacob was punished in not being honored by his son in *recirculatio* fashion. These numbers are not in the Biblical text and one may wonder if they can be taken as valid. However, what is even more interesting is the numbers in the life of Abraham and his son Isaac in regard of honoring one's father. Just after the death of his father Terah, Abraham was told by the Lord to leave Haran (later to be renowned for its paganism as well as its mathematicians, astronomers and astrologers). Abraham left to the Promised Land, obeying the Lord while being 75. After 10 years of corporeal disadvantage, not having a child, Abraham took Hagar as his wife, and after a year, while being 86 was Ishmael born. When Abraham was 99, just a bit less than the perfection denotes by 100, a tiny piece of Abraham's flesh was removed, known as circumcision. So a year later, when Abraham turned 100, he became perfect, as is evident with the birth of his son Isaac, later to continue his mission.

100 years of age are no coincidence since they denote 10×10 (or: *crème de la crème*), resembling the better-known 7 power 2, or: 7×7 = 49, that appears at least in two different commands in the Bible (Lev. 23:16, 25:8). Now, since Abraham lived 175 years, or 100 years under the Lord's will, it is evident that Isaac lived with his father (i.e., honoured him) for 75 years, exactly the same number of years as Abraham, in his own turn, lived with his father, assuming he had to take care of his aged father, and only after his father's death he was told by the Lord lo leave. Once again one can see *lex talionis* in benevolence terms: 75 years in each case.

Summarizing the numbers of the fathers and sons relationships show that numbers were no coincidence. See Table 2 (Joseph was away from his father 22 years; Jacob was way from his father, apparently during a period of similar duration).

Table 2. Fathers and sons, and periods they lived in proximity of each other

	Terah	Abraham	Isaac	Jacob	Joseph	Jacob
Takes care of the other	Abraham	Isaac	Jacob	Joseph	Jacob	Joseph
Sum of years	75	75	–22?	–22	17	17

If one wants to make a generalization out of all these numbers he should think of "honor your father" as the command behind the numbers. That is to say that instead of presenting the audience with a command that is given from up above to the down

bottom: you should do this, you shouldn't do that, as is exemplified in the 10 commandments, the Narrator prefers to present his idea of honoring one's father not by a given command, rather by telling a story about ancestral families while taking care (or without taking care) of each other: *lex talionis* in benevolence; ethics by the numbers.

So, the lives of our fathers are described by a 'predestined' handful of numbers. It doesn't look anyone ever will say these numbers were a coincidence. Does it?

4   The Patriarchs' Lifespans: Numbers in a (Concealed) Progression

Taking a deep look into the number of years each and every patriarch in Pentateuchal sacred history lived, reveals a new understanding of these numbers, which seemed to be random. One may say it even better: it shows the acts of the Narrator. Reviewing the Patriarchs' numbers lead one to realize that the numbers come in a systematic way, a progression in mathematical expression, though it should be admitted, this progression is concealed in a way, at least for laity. The arithmetic progression of numbers goes as shown in Table 3 (Sarna 1966).

Table 3. Lifespans of the Patriarchs

	Sum	Equals
	15	$1 \times 1 \times 15$
	52	$2 \times 2 \times 13$
Abraham's age when circumcised	99	$3 \times 3 \times 11$
A key-number in Apocalypse	144	$4 \times 4 \times 9$
Abraham's years	**175**	$5 \times 5 \times 7$
Isaac's years	**180**	$6 \times 6 \times 5$
Jacob's years	**147**	$7 \times 7 \times 3$
	64	$8 \times 8 \times 1$

Looking into these numbers that appear in a certain regularity, which one might call progression, leads one to realize that these numbers are no coincidence since not only they come in a mathematical order, that is progression, but the numbers denote the progress of the Jewish people, in a way, resembling the Darwinian concept of progress, or, even better: in congruity with the progress of the world according Rabbi Judah HaLevi (a poet and philosopher of the 12th century) in his book *Kuzari*. The Rabbis had the same concept about our ancestors, though they said it in a non-numerological way. They said that Abraham had several children, but only Isaac followed his way of life, walking at the paths of the Lord. Isaac too faced the same defect: only Jacob followed him. With Jacob the improvement was seen: he was the first to have all of his children following him. So now one gets the impression of an

improvement in the lives of the Fathers, exemplified in progressive numbers. In a way, it may be added, that Isaac had to be 180 (living 120 years with Jacob), since his number is the highest number, or rather the "middle" in the progression (from the quantitative point of view). Isaac was in the middle, between his father and his son, and this position was found by the Lord (and His narrator) to be in correlation with his number.

One may admit that 175, 180 and 147 do not look like a progression, and for any 3 given numbers a progression might be found. Certainly this is not an intuitive progression. However, it should be said that there are several types of progressions, such as, for example: 2, 4, 6, 8, or, a bit more complex: 0,1,1,2,3,5 named after Fibonacci (1170–1240). It is true that not everyone has the skills to find the sequence of 0,1,1,2,3,5 or (even worse): 175, 180, and 147 as a series, or progression, though it doesn't mean they are not. In the Bible some numbers are well known as being X power 2 (such as: 6^2, 7^2, 10^2, 100^2), and other numbers in the progression have their own similarities to Biblical numbers (such as 52, 99, 14,700). This might lead the reader to assume that the complication of these numbers, in a way, reflects the complication of human life: ups and downs reflected in numbers. God rules one's life in a way, from his birth to his death (as stated in the Mishnah, in tractate *Aboth* 4:29), in a concealed way. It might be called providence, and that divine concept is shown to be spelled out in a numerological thinking: God rules man by the numbers (some of them: powered and complicated).

5   The Meaning and Implications of the Innovation

After analyzing many numbers that appear in the Bible it becomes apparent not only what Numerology is but what it is not: It is not gematria and it is not Bible-codes. Using these two methods are not recommended, to say the least, unless one wants to find a wit using it in a sermon (which is, of course, no science). However, looking into the depth of these methods reveals that they are no methods at all, rather a way of proving postulated assumptions. Numerology should be used only in regard to numbers that are attested in the text, not invented by the reader or "figured out" from the text (such as the way the Sages came into the idea that Isaac was 37 when his father took him to Mt. Moriah in order to carry out the command he received to sacrifice him, and then it worked out differently).

There are several types of numbers and the usage of them is not the same in each and every case. For example, 120 and 127 have their own merit, though 120 plays a role in the text (twice) while 127 looks like an "addition". This assumption is due to the fact that the editor, or the redactor, who made a statement by this number without taking any advantage of it. In the opening of the story of the purchase of the cave of Machpelah, when the narrator tells that Sarah was 127, he doesn't "play" with this number.

Moreover, looking at the text discloses that the text has two opening "expositions": one without any number (the second verse), and one with a number. It seems like the

text in hand has two openings, signify two layers of traditions and transmissions. It is just a guess to say that the older opening had no number while a later redactor added that number to make the text more meaningful (to the inner circle of people who know the meaning of the number).

A more crucial issue about 127 is the fact that this number needs a bit of Pythagorean mathematics which makes this specific number, just like understanding 31, a source of contemplation whether these numbers derived by affiliation in one way or another with Pythagoras (or his own sources).

Some numbers have no merits by their own, such as the case of 75, but their role in the story "binds" the narrator to make them up. In other words, since Abraham lived a sum of years according to a progression, and the narrator thought Abraham is 100 (the number is mentioned twice in his story) it led Him to make Abraham 75 years of age when he left Haran, though 75 by itself is meaningless. If that is the case with Abraham, that first the Narrator had calculated Abraham sum of years and only later He made some calculations and redactions, one may come to an idea that the dates in the life of Jacob were made according to a similar pattern. That is to say that Jacob "had" to be living 147 years, as the rule of the progression. Since Joseph was sent to his brother while being 17, an age of strength, to get the equation discussed above of 17 years by *recirculatio* or poetic justice, led the narrator to bring Jacob to Egypt while he was 130 years of age. In other words, the numbers 130 and 75 have no quality of their own but they both (and all) serve the story very well because of their role in the meta-textual meaning of the numbers, since they portray the redactor's fingerprint. The main idea is theological: nothing happens in man's life without the Lord's providence, one's ages included.

6   Conclusions

One cannot but agree with Mircea Eliade that man is a *Homo Symbolicus* (Henderson 1971), and now it becomes clearer than ever before that numbers were (and are) symbols. The ancients' world was combined with less technology than ours but it was much richer in symbols, numbers in particular.

The whole issue is clear to one who wants to pay attention to numbers, not only to words and letters. Just as the philologists claim that the world of knowledge stands on the exact meaning of the word, the minor spelling of a letter or the dot that denotes in Hebrew the way a word should be pronounced, here is a new method of understanding texts. This method, it is hoped, aims not only to deepen our understanding of the existed world, rather to expand and enrich our understanding of the world of past generations.

Numbers in the text are the core issue of understanding, a degree not given to them until now for several reasons. Numbers are valuable data waiting to be analyzed, and they, in return, will yield further data on the text and its development. New ideas will lead the world to new paths of understanding, understanding texts, and understanding God who is depicted in these texts with the help of numbers. New frontiers are ahead of us.

Numbers Discussed or Analyzed in This Article

The numbers that were discussed or analyzed here include the following: 3, 4, 5, 6, 7, 10, 12, 17, 20, 22, 28, 31, 37, 49, 70, 75, 86, 99, 100, 120, 127, 130, 147, 175, 180, 496, 600, 1,000, 8,128, 14,700, 127,000

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