

Four Rivers, Two Trees, and the Garden of Eden

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A Google search on the word “Pishon” is revealing. One of the first items to come up is an entry from the *HarperCollins Bible Dictionary* (1996), which is published in conjunction with the Society of Biblical Literature:

Pishon, one of the rivers in the Garden of Eden (Gen. 2:11), but a minor one in the company of the Tigris and the Euphrates. There is no scholarly agreement on whether the reference in Genesis is to a river, or to a larger body of water, such as the Persian Gulf.

Though numerous other articles come up, we do not learn much from any of them. In spite of intense efforts on the part of thousands of Bible scholars through the centuries, we know virtually nothing about the four rivers mentioned in Gen 2:11–14.

Those who take the Bible literally and try to locate the four rivers on a map generally take one of three positions on the Garden of Eden: they locate it in eastern Turkey near the source of the Tigris; they place it in the Persian Gulf near the mouth of the Tigris and Euphrates; or they argue that Noah’s flood wiped out all traces of the original Garden of Eden so that its location cannot be found. The position taken in historical-critical scholarship is not all that different. In his massive commentary on Genesis 1–11, Westermann concludes that, “The problem about the passage 2:10–14 has not yet been clarified” (1974:215). His summation of opinion in regards the identity of the river Pishon illustrates the matter: “Pishon has been identified as the Indus (A. Dillmann, F. Delitzsch, K. Budde, F. M. Th. Böhl, C. A. Simpson) or the Ganges (Josephus), or the Nile (Rashi), the Kercha (and the Gichon Karun, G. Hölscher), and about half a dozen other rivers” (1974:217). In short, no one really knows.

In this paper, I argue that Gen 2:11–14 is the structural center of Genesis 2 and thus the proper focus of attention; and I describe a way of reading the biblical text that has been ignored in biblical scholarship for centuries.

The Four Rivers as Center in Genesis 2

Current research indicates that most, if not all, of the Tanakh is written in the language of poetry and should be analyzed and translated as such. It is highly structured speech that is composed according to established principles, which have more to do with what we normally classify as poetry than prose. In particular, the biblical text is a numerical and a musical composition in its final canonical form, which was written primarily for the ear—to be heard in a quasi-musical form. Moreover, it was composed to be Scripture from the outset, as a numerical composition. This conclusion says nothing at all about the prior history of the biblical text. Our focus of interest is on the end product—the text we have in our hands, as canonical Scripture. The biblical text was composed according to established rules in which symbolic weaving of the divine name into the fabric of the text accomplishes a number of objectives simultaneously. The method of logoprosodic analysis explores the poetic nature of that text in detail.

The first thing to note about the four rivers of Gen 2:11–14 is the fact that the river Pishon is the most important of the four rivers by far, and not “a minor one in the company of the Tigris and the Euphrates”—and it is most certainly a river and not “some larger body of water, such as the Persian Gulf.”

Logoprosodic analysis indicates that Gen 2:11–14 is the seventh of thirteen strophes in Genesis 2. As the middle strophe, it has two parts, which are mirror images of each other in prosodic structure. There are 42 words in this strophe and 20 of these words are given to the river Pishon. Each one of the **153** letters in the 42 words is significant. The other three rivers are grouped together in the second half of this central strophe, with ten words given to Gihon, eight to Hiddekel, and four to Perath. The fourth river is the only one that can be identified with any certainty with a known river as such, and nothing at all is said about it beyond the four words in the Hebrew text, which say: “and the fourth river is Perath.”

There are 328 words in Genesis 2 and the middle two words are the words “all the land [of Cush]” in v. 13. A *meaningful center* is found by including 14 words on either side of the *arithmological center* as follows:

It (the Pishon) encircles all the land of Havilah, where there is gold—
 and the gold of that land is good;
 there (too) are bdellium and the onyx stone.

And the name of the second river is Gihon;
 it encircles all the land of Cush.

And the name of the third river is Hiddekel (Tigris);
 it goes to the east of Assyria;
 and the fourth river is Perath (Euphrates).

And YHWH-God took the human;
 and he put him in the Garden of Eden, to work it and watch it.

The content of the seven strophes at the center of Genesis 2 may be outlined in a menorah pattern, which is determined primarily on prosodic grounds:

God Creates the Human and Puts Him in the Garden of Eden (Genesis 2:7–19)

- | | | | |
|---|--|-----------|---------|
| A | The human (<i>adam</i>) is formed from the ground (<i>adama</i>) as a living being | [4.5] | 2:7 |
| B | God plants a Garden of Eden in which he places the human (<i>adam</i>) | [7.6] | 2:8–9a |
| C | God creates two special trees and a river to water the Garden | [5.6] | 2:9b–10 |
| X | The four “riverheads” (sources)—a “riddle in the middle” | [6.4.4.6] | 2:11–14 |
| C | God puts the human (<i>adam</i>) in the Garden to take care of it | [6.5] | 2:15–16 |
| B | God prohibits eating the fruit of the Tree of Knowledge | [6.7] | 2:17–18 |
| A | Animals/birds formed from <i>adama</i> and named by the human (<i>adam</i>) | [5.4] | 2:19 |

In the outermost frame we find specific reference to both the human being (Adam) and the ground (*adama*) from which he is created. In the first case it is the human who “is formed from the ground” and in the second it is the animals/birds that are formed from the ground. The first half of the second frame focuses on the planting of the Garden and

the placing of the human in it. In the second half a restriction is placed on the human in the Garden—he is not to eat of the fruit of the Tree of the Knowledge of Good and Evil. The innermost frame moves from God’s action to take care of the Garden by watering it with a certain unnamed river, and the human’s task to care for the Garden. And in the center we find the description of the four “riverheads” that separate from this unnamed river that flows from Eden to water the Garden.

Since the outer frame in this concentric structure focuses on two aspects of God’s creation (the human on the one hand and animals/birds on the other), a comparable creation is in view at the middle in conjunction with the four “riverheads”—namely the creation of language as such. Language is present from the beginning; for without language there is no communication between God and his creation.

The Four Rivers and the Creation of Language

The river that goes out from Eden to water the Garden (Gen 2:10) is without a name. That is remarkable because it divides into four specific river-heads, which *are* named: Pishon, Gihon, Hiddekel and Perath (Gen 2:11–14). Of these four, the most information given concerns the Pishon, which encircles the land of Havilah, where there is gold, bdellium, and the onyx stone. The second in importance is Gihon, which “encircles all the land of Cush.” The Hiddekel goes to the east of Assyria; but no information is given about the Perath.

David Crookes suggests that the river that flows out of Eden to water the Garden is the *Hebrew alphabet*. Its division into four “river-heads” refers to four ways in which the Hebrew alphabet is used as part of a numerical system in the phenomenon of gematria (Hebrew numerology). The fact that the letters of the alphabet also have numerical values is obvious to anyone who stops to think about it. Thus we use the letters A, B, C, etc. to list successive items. The Hebrew alphabet has 22 letters and these letters are arranged in a sequence, which reflects the numerical value of those letters; for in Jewish thought, the letters of the alphabet *are* also numbers.

The alphabet constitutes a creation on God’s part comparable to the animals and birds that he brings to the human for him to name. It is not possible for the human to name anything without the use of language, and the alphabet constitutes the essential building blocks in which language is expressed in written form. The two special trees in the Garden refer to a comparable creation of perhaps greater importance in matters of communication—namely the tonal system of the phenomenon we call music.

The four “river-heads” represent four systems of counting by using the 22 letters of the Hebrew alphabet:

<i>Name</i>	<i>Description of the Numerical System</i>	<i>Sum of the 22 Letters</i>
Pishon	400 gematria: normal system of “Jewish” counting; the 22 nd letter = 400	1495
Gihon	22 gematria: place-value, where the 22 letters represent 1 through 22	253
Hiddekel	406 gematria: in which the letter names are spelled out in 400 gematria	4249
Perath	28 gematria: in which the letter names are spelled out in 22 gematria	712

In each system, the number given to name that “river-head” represents the numerical value of the 22nd letter of the Hebrew alphabet in that system. The total numerical value of each system of gematria (i.e., the sum of the numerical value of the 22 letters) is given in the right column. For reference purposes, it is useful to list the respective numbers in the four systems of counting: {see handout}

The only “river-heads” of any importance for our purposes are those of the Pishon and Gihon—namely 400 gematria and 22-gematria. The most obvious use of this distinction is found in the appearance of the four primary compositional numbers (**17**, **23**, **26** and **32**) in relation to the two ways of writing the word *kb(w)d* (“glory”) in Hebrew—with and without the vowel-letter *wau*:

kbd = “glory” כבד

numerical value in 22-gematria $(k = 11) + (b = 2) + (d = 4) = 17$
 numerical value in 400-gematria $(k = 20) + (b = 2) + (d = 4) = 26$

kbwd = “glory” כבוד

numerical value in 22-gematria $(k = 11) + (b = 2) + (w = 6) + (d = 4) = 23$
 numerical value in 400-gematria $(k = 20) + (b = 2) + (w = 6) + (d = 4) = 32$

Let’s take a closer look at Pishon in Gen 2:11–12. *The name of the first is Pishon: that is it which encompasses the whole land of Havilah, where there is gold; and the gold of that land is good: there is bdellium and the onyx stone.*

Pishon is the 400 alphabet; and the three minerals of Havilah (gold, bdellium, and onyx) stand for the three kinds of counters (units, tens, and hundreds), in that alphabet.

Hebrew numbers:	x1	x10	x100	
1	א	י	ק	
2	ב	כ	ר	
3	ג	ל	ש	
4	ד	מ	ת	= 400
5	ה	נ	ך	
6	ו	ס	ם	
7	ז	ע	ז	
8	ח	פ	ך	
9	ט	צ	ץ	

“The gold of that land is good” means that the 400 alphabet is by far the most useful of the numerical alphabets. In 400 gematria, the three Hebrew words וזהב הארץ ההוא, “and the gold of that land” = 333, an attractive display of a unit, a ten, and a hundred. “Bdellium” [הבדלח] = 49, and “the onyx stone” [ואבן השהם] = 409. Here we see the

capacity of the 400 alphabet to form both a two-digit and a three-digit number. The 400 alphabet has a total value of **1495** = **23** x 13 x 5 {three prime factors}

And the name of the second river is Gihon: the same is it that compasses the whole land of Cush (Gen 2:13).

The 22 alphabet has a total value of **253** = **23** x 11 {two prime factors}

The total value of all four alphabets is 6709 [= 1495 + 253 + 4249 + 712]; and the total number of letters needed to spell all four alphabets is 168.

$$6709 + 168 = 6877 = \mathbf{23} \times \mathbf{23} \times 13 \quad \{\text{three prime factors}\}$$

The “mountain” from which the four rivers flow is the pangram of **153** letters in vv 11–14; for there are exactly **153** [= 40 + 30 + 34 + 49] letters in these four verses. The number **153** is the triangular number of **17**, and the Hebrew names of the four rivers involve a total of **17** [= 5 + 5 + 4 + 3] letters.

Crookes explores the meaning of the number **153** as a figurative number in detail. He also presents an intriguing argument to tie this number to the four pairs of tone numbers in the 864–432 musical octave. Each pair exhibits the lesser-to-greater ratio of 8:9. And here we find at least part of the meaning of the number **17** (= 8 + 9) as one of the four primary compositional numbers in the Tanakh.

The “Tree of Life” in the Garden of Eden and the Language of Music

The Garden of Eden is a symbolic location in the future as well as in the past—as “Paradise Lost” and “Paradise Regained.” The thing that characterizes Paradise as the crowning achievement in God’s creation is music, which is of primary importance to understand the meaning of the Garden of Eden. At one point in recent discussion in the BIBAL Forum, one member of the group suggested that the Garden of Eden is the pentatonic scale, which is characteristic of black spirituals and other popular forms of folk music.

The place of music in the Garden of Eden is explored in an entirely different way by Ernest McClain in terms of Plato’s “Chiastic” World Soul as “Tree of Life.” His Figure 1 (on page 3 of the handout) illustrates the Platonic theorem about “square numbers” and “cube numbers,” but the pattern may be extended and continues endlessly.

The two trees in the Garden of Eden have their origin in the structure of ten “pebble” counters in the Pythagorean “holy tetractys” (the “sacred four” of Greek harmonical theory). Picture ten pins arranged in four rows on a bowling alley with the apex of the triangle at the bottom: 1+2+3+4 = 10 [= triangular 4]. Now invert that group of ten bowling pins so that it becomes an upright triangle: 4+3+2+1 = 10. These two triangles represent the most mysterious trees in Western horticulture—the “Tree of Life” and the “Tree of the Knowledge of Good and Evil” in the Garden of Eden. Two harmonical formulas abstracted by Plato decode the numerology of these biblical “trees.” The content of the “Tree of Life” is explored in McClain’s diagram (see Figure 2) to form a glyptic hour glass of musical information. The “Tree of Life” extends in both directions to

the infinitely “Great and Small” in the marvelous world of music as number and metaphor—in tuning theory.

Strange as it seems, in studying Plato’s concept of the “world soul” as “tree of life” we are exploring an essential aspect of the “Tree of Life” in the middle of the Garden of Eden. Plato’s formula is designed for “base 60” arithmetic, which is conceived as “emanating” symmetrically from the center with successive powers of 60, which is treated as the “big ONE.” The basic triangle is $3 \times 4 \times 5 = 60$, and the number 60 in Mesopotamian mythology represents the god An(u). All “tone” values must lie within the double octave $30:60::60:120$ and this double octave is coded in the word Eden; for the sum of the Hebrew letters in the word עֵדֶן (“Eden”) = $70+4+50 = 124$ (i.e., $1:2::2:4$).

Starting with the base 60 as the “big ONE,” multiply that number by itself in the first expansion of 60^2 ($9 \times 16 \times 25 = 3,600$). Now we have a “bigger ONE.” In the second expansion of 60^3 ($27 \times 64 \times 125 = 216,000$) the pattern becomes musically useful with seven values in the lower two rows of the “Tree of Life.” This is Philo’s musical “plinth” of $4+3=7$ tones, which defines the biblical “mode of the Pentateuch” in Jewish musicology (Dorian in ancient Greece). When this system is expanded to 60^5 we reach the quintessential ONE—the “biggest ONE” in biblical theology, for this is the meaning of the name יהוה YHWH (10.5.6.5), when read exponentially as: $10^5 \times 6^5 = 60^5 = 777,600,000$. In Greek thought this is also Apollo’s number, as John Bremer has shown (“Apollo’s Number,” 2005:299–328). And when we have some understanding of what this number means in the marvelous world of music as number and metaphor, we too are empowered to walk and talk with God in the Garden of Eden (*Gan Eden*), which is also an essential part of Paradise future—in *Olam HaBa*’.

Handout Attached (below)

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Four Rivers, Two Trees, and the Garden of Eden

NAPH Panel: *Gan Eden and Olam HaBa'* November 20, 2005

Files on Genesis 1–11 may be downloaded from our website.

See Master Table: <http://www.bibal.net/04/proj/proj-tnk.html>

A copy of this paper will be posted on our website for reference. We invite you to join with us in the BIBAL Forum as we ask new questions of the biblical text and explore new methodologies, some of which are cross-disciplinary in nature.

<i>God Creates the Human and Puts Him in the Garden of Eden (Genesis 2:7–19)</i>			
A	The human (<i>adam</i>) is formed from the ground (<i>adama</i>) as a living being	[4.5]	2:7
B	God plants a garden in Eden in which he places the human (<i>adam</i>)	[7.6]	2:8–9a
C	God creates two special trees and a river to water the garden	[5.6]	2:9b–10
X	The four “riverheads” (sources)—a “riddle in the middle”	[6.4.4.6]	2:11–14
C'	God puts the human (<i>adam</i>) in the Garden of Eden to take care of it	[6.5]	2:15–16
B'	God prohibits eating the fruit of the Tree of Knowledge	[6.7]	2:17–18
A'	Animals/birds formed from the <i>adama</i> and named by the human (<i>adam</i>)	[5.4]	2:19

The four “river-heads” represent the four major systems of counting by using the 22 letters of the Hebrew alphabet:

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Four Primary Compositional Numbers: 17, 23, 26 and 32

***kbd* = “glory” כבד**

numerical value in 22-gematria: $(k = 11) + (b = 2) + (d = 4) = 17$

numerical value in 400-gematria: $(k = 20) + (b = 2) + (d = 4) = 26$

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numerical value in 400-gematria: $(k = 20) + (b = 2) + (w = 6) + (d = 4) = 32$

In each of the four systems of gematria, the number given here to name that “river-head” represents the numerical value of the 22nd letter of the Hebrew alphabet in that system. The total numerical value of the four systems of gematria (i.e., the sum of the numerical value of the 22 letters) is given in the right column. For reference purposes, it is useful to list the respective numbers in the four systems of counting:

Letter/Number			400 Gematria	22 Gematria	406 Gematria	28 Gematria	
א	אלף	1	aleph	1	1	111	30
ב	בית	2	beth	2	2	412	34
ג	גימל	3	gimel	3	3	83	38
ד	דלת	4	daleth	4	4	434	38
ה	הא	5	he	5	5	6	6
ו	וּו	6	wau	6	6	12	12
ז	זינ	7	zayin	7	7	67	31
ח	חית	8	cheth	8	8	418	40
ט	טית	9	teth	9	9	419	41
י	יוד	10	yodh	10	10	20	20
כ	כפ	11	kaph	20	11	100	28
ל	למוד	12	lamedh	30	12	74	29
מ	מימ	13	mem	40	13	90	36
נ	נונ	14	nun	50	14	106	34
ס	סמכ	15	samekh	60	15	120	39
ע	עינ	16	ayin	70	16	130	40
פ	פא	17	pe	80	17	81	18
צ	צדי	18	tsaddi	90	18	104	32
ק	קופ	19	qoph	100	19	186	42
ר	ריש	20	resh	200	20	510	51
ש	שינ	21	shin	300	21	360	45
ת	תו	22	tau	400	22	406	28
Sum of the 22 letters:		1495		253	4249	712	

Hebrew words are written from right to left. In order to keep things as simple as possible, we have chosen not to use the final consonantal forms for the letters *mem*, *nun* and *pe* in the spelling of the Hebrew names of the 22 letters of the alphabet in this table.

Hebrew numbers: x1 x10 x100

1	א	י	ק	
2	ב	כ	ר	
3	ג	ל	ש	
4	ד	מ	ת	= 400
5	ה	נ	ך	
6	ו	ס	ם	
7	ז	ע	ן	
8	ח	פ	ף	
9	ט	צ	ץ	

GOD CREATES THE HUMAN AND PUTS HIM IN THE GARDEN OF EDEN (Gen 2:7–19)

A. Strophe 4: The Human is Formed from the Ground as a Living Being (2:7)

[4.5]

2:7 And YHWH-God formed / the human (*ha-adam*) /
of dust / from the earth //

19 2 5 5 0
12 2 3 3 0

2:6–7b

17 12 5

And he breathed in his nostrils / the breath of life //

13 2 4 4 0

and the human (*ha-adam*) / became / a living being //

16 3 4 0 4

2:4–7

59 32 27

B. Strophe 5: G-d Planted a Garden in Eden in Which He Placed the Human (2:8–9b)

[7.6]

2:8 And YHWH-God / planted / a garden in Eden / in the east //
and there he placed / the human / whom he had formed //

20 4 6 6 0
19 3 6 0 6

2:2–8

101 52 49

2:9 And YHWH-God / caused to spring up / from the ground (*adama*) /
every tree / desirable to look at / and good to eat //

20

3 5 5 0
17 3 6 6 0

2:8–9b

23 17 6

C. Strophe 6: G-d Creates Two Trees and a River to Water the Garden (2:9c–10)		[5.6]				
	And the Tree of Life / in the middle of the garden /		13	2	4	0 4
	and the Tree / of the Knowing / of Good and Evil //		<u>12</u>	<u>3</u>	<u>4</u>	<u>0 4</u>
		2:6–9			56	33 23
2:10	And a river l goes out from Eden / to water m the garden //		<u>22</u>	<u>2</u>	<u>6</u>	<u>6 0</u>
		2:9–10a			25	17 8
	And from there / it divides /		10	2	2	0 2
	it becomes / four river-heads //		<u>15</u>	<u>2</u>	<u>3</u>	<u>0 3</u>
		2:9–10			30	17 13
D. Strophe 7: The River from Eden Becomes Four “River-Heads” (2:11–14)		[(6.4).(4.6)]				
2:11	The name of the one / is Pishon (Spreader) //		11	2	3	3 0
	it encircles / the land of Havilah /		<u>18</u>	<u>2</u>	<u>6</u>	<u>0 6</u>
		2:8–11b			51	26 25
	Where there is / gold //		<u>9</u>	<u>2</u>	<u>3</u>	<u>0 3</u>
		2:10–11			23	9 14
2:12	And the gold / of that land n is good //		14	2	4	4 0
	there (too) are bdellium / and the onyx stone //		<u>14</u>	<u>2</u>	<u>4</u>	<u>0 4</u>
		2:9–12			50	24 26
2:13	And the name of the second river / is Gihon (Gusher) //		17	2	4	4 0
	it encircles / all the land of Cush //		<u>14</u>	<u>2</u>	<u>6</u>	<u>0 6</u>
		2:10–13			41	17 24
2:14	And the name of the third river / is Hiddekel (Tigris) /		<u>17</u>	<u>2</u>	<u>4</u>	<u>4 0</u>
		2:9–14a			64	32 32
	It goes / to the east of Assyria //		12	2	4	4 0
	and the fourth river / is Perat (Euphrates) //		<u>18</u>	<u>2</u>	<u>4</u>	<u>0 4</u>
		2:11–14			42	19 23
E. Strophe 8: G-d Put the Human in the Garden of Eden to Take Care of It (2:15–16)		[6.5]				
2:15	And YHWH-God / took / the human (ha-adam) //		19	3	5	5 0
	and put him in the Garden of Eden / to work it / and watch it //		<u>21</u>	<u>3</u>	<u>5</u>	<u>0 5</u>
		2:13–15			32	17 15
2:16	And YHWH-God / commanded / the human (ha-adam) o saying //		23	3	6	6 0
	from every tree of the garden / you may freely eat //		<u>16</u>	<u>2</u>	<u>5</u>	<u>0 5</u>
		2:12–16			51	27 24

F. Strophe 9: G-d Prohibits Eating the Fruit of the Tree of Knowledge (2:17–18)

[6.7]

2:17	But from the Tree of / the Knowing p of Good and Evil /	15	2	4	4	0
	you shall not eat q from it //	9	1	3	3	0
	for / on the day r that you eat from it / you shall surely die //	<u>18</u>	<u>3</u>	<u>6</u>	<u>0</u>	<u>6</u>
		2:15–17		34	18	16
2:18	And YHWH-God / said /	13	2	3	3	0
	“It is not good / for the human (<i>ha-adam</i>) / to be alone //	17	3	5	5	0
	I will make him a helper / corresponding to him” //	<u>12</u>	<u>2</u>	<u>4</u>	<u>0</u>	<u>4</u>
		2:15–18		46	26	20

G. Strophe 10: Animals/Birds Formed from the Ground are Named by the Human (2:19)

[5.4]

2:19	And YHWH-God formed / from the ground (<i>adama</i>) /	20	2	4	4	0
	every beast of the field / and every winged bird of the sky /	<u>18</u>	<u>2</u>	<u>8</u>	<u>8</u>	<u>0</u>
		2:14–19b		66	46	24
	And he brought (each one) s to the human (<i>ha-adam</i>) /	<u>12</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>0</u>
		2:18–19c		27	23	4
	To see what he would call it //	9	1	4	4	0
	and whatever the human (<i>ha-adam</i>) called it /	16	1	5	0	5
	as a living being / that became its name //	<u>10</u>	<u>2</u>	<u>4</u>	<u>0</u>	<u>4</u>
		2:17–19		53	34	19