

## Mathematics in the Torah

### Parashat Yitro: Connecting creation with Torah

Multiples of Havayah and Elokim

The first of the Ten Commandments reads,<sup>1</sup> “I am Havayah your God who has taken you out of the land of Egypt, from a house of bondage” and in the original Hebrew, אֲנֹכִי יְיָ הוֹצֵאתִיךָ מֵאֶרֶץ מִצְרַיִם מִבֵּית עַבְדִּים.

The value of this verse is 2495, or 5 times 499, which is the value of God’s Name, *Tzevakot* (צִבְאוֹת), and since this Name consists of 5 letters, 499 is also the value of *Tzevakot*’s “run and return”: **צ צב צבא צבאות באות אותות**: **ת** must also equal 2495.<sup>2</sup> We saw the special significance of the Name *Tzevakot* in our article on parashat *Bo* (5780). Here too the Torah is alluding to the Name *Tzevakot* as revealed by Channah, Samuel’s mother.

To appreciate another special property of 2495, we need to recall the unique mathematical property possessed by 1118, which is the *gematria* of our most essential declaration of Jewish faith in one God, “Hear O’ Israel, *Havayah* is our God, *Havayah* is one” (שְׁמַע יִשְׂרָאֵל הוִי אֱלֹהֵינוּ הוִי אֶחָד). This essential declaration of our faith in God being one draws an identification between the Name *Elokim* (אֱלֹהִים),<sup>3</sup> alluding to God’s imminent aspect<sup>4</sup> and God’s essential Name, *Havayah* (יְיָ), referring to God’s transcendental aspect, thereby stating that *Elokim* is *Havayah* and both are one. The value of *Elokim* (אֱלֹהִים) is 86, the value of *Havayah* (יְיָ) is 26 and 1118 (the *gematria* of the entire verse) is the smallest number that is a multiple of both 26 and 86 (their least common denominator), illustrating mathematically the unification of *Havayah* and *Elokim*!

Now, the two numbers before and after 2495 are a multiple of 86 (*Elokim*) and a multiple of 26 (*Havayah*), respectively. 2494 is 29 times *Elokim* (86) and 2496 is 96 times *Havayah* (26)!

The Shema series of numbers

This already presents a meaningful connection between the Ten Commandments and the unification of *Havayah* and *Elokim* that is the basis of the *Shema*, the essential statement of faith, as above. But, let us continue our analysis of this number 2495 by

<sup>1</sup> Exodus 20:2.

<sup>2</sup> The easiest way to see this is by pairing the parts of the run with the parts of the return. **צ** is completed by **באות**, **צב** is completed by **אות**, **צבא** by **ות**, and **צבאו** by **ת**, which together make up 4 times **באות**, plus an additional complete **צבאות** make up 5 times **באות**, or 2495.

<sup>3</sup> In the Hebrew, *Elokim* appears in the possessive form, “our *Elokim*” (אֱלֹהֵינוּ).

<sup>4</sup> I.e., how God is present throughout mundane reality, throughout nature. Indeed, *Elokim* (אֱלֹהִים) equals the value of “nature” (הַטֶּבַע).

asking: What other integers possess the same property: that the integer before them is a multiple of *Elokim* (86) and the integer following them is a multiple of *Havayah* (26)?

The number before 2495 that possesses this property is 1377. The integer before, 1376 is the product of *Elokim* and 16 and the integer following it, 1378 is the product of *Havayah* and 53. 1377 itself is related to parashat *Yitro*, our parashah since it is the product of “I am” (אֲנִי), the first word of the first commandment, whose value is 81 and 17, where *Yitro* is the 17<sup>th</sup> Torah portion from Genesis!

The number before 1377 that possesses this property is 259. The integer before, 259 is the product of *Elokim* and 3 and the integer following it, 260 is the product of *Havayah* and 10. 259 itself is the value of “Reuben” (רְאוּבֵן).

Now, let us look at the rule generating this number by looking at the differences between them:

259      (+ 1118)      1377           (+ 1118)      2459

Amazingly, the differences between the numbers is 1118, the value of the *Shema*, the smallest common denominator of *Elokim* and *Havayah*, prompting us to name this linear series, the *Shema* series of numbers, formally generated by the function:

$$f[n] = 1118n + 259.$$

It follows then that the next number with this property after 2459 can be found by adding another 1118, giving us 3613, which is the interface number of 43 (or 43<sup>2</sup> plus 42<sup>2</sup>). The sum of the first 4 numbers in the *Shema* series is 7744, the square of 88.

Connecting creation with the Torah

The qualitative significance of the numbers in the *Shema* series is that they serve as a medium between the Name *Elokim* representing creation, or more formally “the workings of creation” (מַעֲשֵׂה בְרָאשִׁית) and the Name *Havayah*, representing the Giving of the Torah at Mt. Sinai. The Giving of the Torah at Mt. Sinai is considered the implicit illustration, “the workings of the chariot” (מַעֲשֵׂה מְרֻכְבָּה). The workings of the chariot were revealed more explicitly by the later prophets, with the most detailed description appearing in the first chapter of Ezekiel.

Where the world was created with the Ten Utterances of creation, the Torah was given through the Ten Commandments, and while God is concealed behind the veil of creation, He is revealed through the letters of the Torah. These numbers thus serve as a conduit representing the link between the two—creation and Torah—a link that is alluded to in the verse, “Ten [and] ten per ladle”<sup>5</sup> (עֶשְׂרֵה עֶשְׂרֵה הַכֶּף). In effect, these numbers elevate the Name *Elokim* found in the Ten Utterances of creation to the *Elokim* found in relation to the Workings of the Chariot and described in the phrase,

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<sup>5</sup>. Numbers 7:86.

“Elokim’s chariot is twice ten-thousand [and] two thousand”<sup>6</sup> (רָכַב אֱלֹהִים רֶבְתַּיִם אֶלְפֵי שָׁנָאן), to the state in which Elokim is included in the chariot of God’s Name, Havayah, the secret of the Ten Commandments first three words, “I am Havayah, your Elokim” (אֲנִי־יְהוָה אֱלֹהֶיךָ). Furthermore, the value of the Name Tzevakot, 499, is 5 times “Havayah your Elokim” (יְהוָה אֱלֹהֶיךָ) from the first commandment together with “Havayah is one” (הוּאִי אֶחָד), from the *Shema*.

Extending the series

We might continue to ask whether there are other integers with a similar property, except that the multiple of 86 will follow said integers and the multiple *Havayah* will precede them. To find them we can simply extend the *Shema* series into the negative numbers and then take the absolute value of the numbers we generate.

The number before 259 is obtained by subtracting 1118, arriving at -859. The absolute value of |-859| is 859 and 858 is *Havayah* (26) times 33 and 860 is *Elokim* (86) times 10. Continuing we will obtain 1977 and then 3095. We can interlace the two parts of the series, the positive branch and the absolute value of the negative branch together obtaining the following integers:

259    859    1377    1977    2495    3095    3613 ..

Notice that now the differences between the numbers are 600 and 518, repeatedly. Of course the sum of 600 and 518 is 1118. This new division of 1118, the *Shema*, into 600 and 518 is a truly new result, and in the *Shema* itself is reflected by a division of the verse into the two letters *shin* (ש), totaling 600 and the rest of the letters:

$$\text{שמע ישראל הוּאִי אֱלֹהֵינוּ הוּאִי אֶחָד} = 600$$

$$\text{שמע ישראל הוּאִי אֱלֹהֵינוּ הוּאִי אֶחָד} = 518$$

This newly discovered division based on the *Shema* series can motivate further insight into the *Shema*.

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<sup>6</sup>. Psalms 68:18.