



THE VILNA GAON (1720-1797), also known as the GRA, is acknowledged as one of the greatest rabbis of the past 500 years. At age 5, the GRA knew the Five Books of Moses by heart; he went on to author numerous volumes of Jewish philosophy and law.

The following piece appears in his commentary on a work of Jewish mysticism, *The Book of Hidden Things* ("Sifra Ditzniuta").

The rule is that all that was, is, and will be until the end of time is included in the Torah from "Bereishit" (the first verse of Genesis) to "L'eynei kol Yisrael" (the last verse of Deuteronomy). And not merely in a general sense, but including the details of every species and of each person individually, and the most minute details of everything that happened to him from the day of his birth until his death.

Sifra Ditzniuta, Chapter 5

והכלל כי כל מה שהיה והיה ויהיה עד
עולם הכל כלול בתורה מבראשית עד
לעיני כל ישראל. ולא הכללים בלבד אלא
אפילו פרטיו של כל מין ומין ושל כל
אדם בפרט וכל מה שאירע לו מיום
הולדו עד סופו וכל גלגוליו וכל פרטיו
ופרטי פרטיו.

R' MOSHE CORDEVARO (1522-1570), also known as the Ramak, served in the illustrious position of Head of the Rabbinical Court ("Av Beit Din") in Tzfat, Israel, during the 16th century – a time when Tzfat stood as the worldwide center for Jewish scholarship.

The following piece appears in *Pardes Rimonim*, the Ramak's voluminous commentary on the classic kabbalistic work, *The Zohar*.

The secrets of our holy Torah are revealed through knowledge of combinations, numerology (*gematria*), switching letters, first-and-last letters, shapes of letters, first-and-last verses, skipping of letters (*dilug otiot*) and letter combinations.

These matters are powerful, hidden and enormous secrets. Because of their great hiddenness, we don't have the ability to fully comprehend them. Further, to see different angles through these methods is infinite and without limit. On this the Torah says, "its measure is longer than the world."

Pardes Rimonim, 68a

ידיעת סודות תורתנו הקדושה הוא ע"י
הצדופים והגימטראות והתמורות וראשי
תיבות וסופי תיבות ותוכי אותיות וראשי
פסוקים וסופי פסוקים ודלוג אותיות
וצרוף אותיות.

ועניינים אלו נשגבים ונעלמים וסודם
נשגבה ואין לנו פח להשיגם לרוב העלמם
כי יתחלפו על פי דרכים אלו לאין סוף
ולאין תכלית. ועל זה נאמר ארוכה מארץ
מדה וגו' (איוב יא, ט).



SIGNIFICANT NUMBERS



THE NUMBER 7 is considered one of the most significant numbers in Judaism:

- Shabbat is the 7th day of the week.
- The Sabbatical Year (Shmita) takes place every 7th year.
- When someone passes away, relatives sit "Shiva" for 7 days.
- At a traditional Jewish wedding, the bride walks around the groom 7 times.
- Gentiles are required to observe the 7 Laws of Noah.
- There are 7 major holidays.



THE NUMBER 49, being 7-times-7, has great significance in Judaism:

- Between the holidays of Shavuot and Pesach, we "count the Omer" for seven weeks, or 49 days.
- The Jubilee Year occurs after 49 years, following 7 cycles of the 7-year Sabbatical.
- The Zohar reports that the spiritual world contains 49 levels of spiritual elevation and decline.

GEMATRIA

In Hebrew, there is no set of "numbers." Rather, each letter has a corresponding numeric value, and these serve the dual purpose of letters and numbers. The science of assigning numeric values to entire words or phrases is called "Gematria" — Jewish numerology.

א	=	1
ב	=	2
ג	=	3
ד	=	4
ה	=	5
ו	=	6
ז	=	7
ח	=	8
ט	=	9
י	=	10
כ	=	20
ל	=	30
מ	=	40
נ	=	50
ס	=	60
ע	=	70
פ	=	80
צ	=	90
ק	=	100
ר	=	200
ש	=	300

RESEARCH OF IVAN PANIN MATHEMATICIAN AT HARVARD UNIVERSITY

Ivan Panin was a Russian immigrant known at the turn of the century as a brilliant literary figure, multi-lingual scholar, and mathematician at Harvard University. He was also a devout Catholic.

Panin knew Hebrew, and began studying the Bible in its original language. Aware of the numerical values of the Hebrew alphabet, Panin experimented one day by replacing the letters with their corresponding numbers. Suddenly, his trained scientific mind picked up an elaborate mathematical pattern: In the first verse of the Torah alone, Panin discovered over 50 patterns of the number seven! According to Panin, the statistical odds of this pattern being an accident are one in 33 trillion — 0.000000000000003.

Following this discovery, Panin devoted his entire life to the study of Bible numerics, and eventually submitted to the Nobel Research Foundation over 43,000 sheets of his research.

90 200 1 5 400 1 6 40 10 40 300 5 400 1 40 10 5 30 1 1 200 2 400 10 300 1 200 2

בְּרֵאשִׁית בָּרָא אֱלֹהִים אֶת הַשָּׁמַיִם וְאֶת הָאָרֶץ

"In the beginning of God's creating the heavens and the earth..."

In this verse, Prof. Panin found over 50 combinations of "seven." Below are a few examples.

Number of words in the verse.....	7	(7 x 1)
Number of letters in the verse.....	28	(7 x 4)
Numeric value of the one verb... בָּרָא.....	203	(7 x 29)
Numeric value of the three nouns. אֱלֹהִים, הַשָּׁמַיִם, הָאָרֶץ.....	777	(7 x 111)
Numeric value of first-and-last letters, in the first-and-last words... 497	(7 x 71)	
Numeric value of the first-and-last letters of every word.....	1393	(7 x 199)

FIRST DAY

In the beginning God created heaven and earth. The earth was without form and empty, with darkness on the face of the depths, but God's spirit moved on the water's surface. God said, "There shall be light," and light came into existence. God saw that the light was good, and God divided between the light and the darkness. God named the light "Day," and the darkness He named "Night." It was evening and it was morning, one day.

SECOND DAY

God said, "There shall be a firmament in the middle of the 'mayim,' and it shall divide between the 'mayim' and the lower water." So God made the firmament, and it separated the water below the firmament from the 'mayim' above the firmament. It remained that way. God named the firmament "Heaven." It was evening and it was morning, a second day.

THIRD DAY

God said, "The waters under the heaven shall be gathered to one place, and dry land shall be seen." It happened. God named the dry land "Earth," and the gatherings of the water, He named "Seas." God saw that it was good.

God said, "The earth shall send forth vegetation. Seedbearing plants and fruit trees that produce their own kinds of fruits with seeds shall be on the earth. It happened. The earth sent forth vegetation, plants bearing their own kinds of seeds, and trees producing fruits containing their own kinds of seeds. God saw that it was good. It was evening and it was morning, a third day.

FOURTH DAY

God said, "There shall be lights in the heavenly firmament to divide between the day and night. They shall serve as omens (and define) festivals, days and years. They shall be lights in the heavenly firmament, to shine on the earth." It happened. God (thus) made the two large lights, the greater light to rule the day, and the smaller light to rule the night. (He also made) the stars. God placed them in the heavenly firmament to shine on the earth, to rule by day and by night, and to divide them between the light and the darkness. God saw that it was good. It was evening and it was morning, a fourth day.

FIFTH DAY

God said, "The water shall teem with swarms of living creatures. Flying creatures shall fly on the earth, on the face of the heavenly firmament. God (thus) created the great sea monsters, and every living being that crawls, with which the waters teem, and all winged flying creatures. God saw that it was good. God blessed them, saying, "Be fruitful and multiply. Fill the waters of the seas. Let the flying creatures multiply on the earth. It was evening and it was morning, a fifth day.

SIXTH DAY

God said, "Let the earth bring forth living creatures, species of livestock, crawling animals, and beasts of the earth. It happened. God made the beast of the earth according to its kind, and livestock according to its kind, and crawling animals according to its kind. God saw that it was good.

God said, "Let us make man in our image and likeness. Let them rule over the fish of the sea, the flying creatures of the heavens, the livestock, the whole earth, and every crawling thing that crawls on the earth. God created man in His image; in the image of God He created them, male and female He created them. God blessed them. God said to them, "Be fruitful and multiply. Fill the earth and conquer it. Dominate the fish of the sea, the flying creatures of the heavens, and every beast that crawls on the earth."

God said, "Behold, I have given you every seedbearing plant on the face of the earth, and every tree that has seedbearing fruit. It shall be yours for food. To every beast of the earth, flying creatures of the heavens, and everything that crawls on the earth, which has in it a living soul - all vegetation shall be food." And so it was. God saw all that He had made, and behold it was very good. It was evening and it was morning, the sixth day.

THE SABBATH

Heaven and earth and all their components were thus completed. By the seventh day, God completed all the work that He had done. He ceased on the seventh day from all the work that He had been doing. God blessed the seventh day, and declared it 'holy,' for it was on it God ceased from all the work that He had been creating.



A pattern of "sevens" runs through the Creation account like a numerical harmony. The word "God" (circled here in the text) appears 35 times. The word "earth" (underlined here) appears 21 times.

Many other significant words appear in this Creation account in multiples of seven — including "day," "heavens," "good," "flying" and "crawling."

In the early 20th century, a Jew in Cracow, Poland, named Pinchas Zalman Hurwitz, researched the Torah for occurrences of God's Name, YHVH. In the system of Gematria (Jewish numerology), the numeric value of God's Name YHVH equals 26. Hurwitz discovered that in the entire Torah, the total number of occurrences of YHVH is 1,820. This, remarkably, is 70 X 26!



THE RAMBAM CODE

Maimonides is recognized in the four corners of the globe as one of the most famous of all Jewish commentators. Acclaimed author, esteemed philosopher, renowned physician, and master Talmudist – this is his legacy. Maimonides is known more popularly as the "Rambam," an acronym for his Hebrew name, Rabbi Moses ben Maimon.

The Rambam, who lived in Egypt, was a much sought-after medical expert, and he served as the personal physician for the royal Egyptian court.

But most of all, the Rambam was a prolific writer on the most important topics of Judaism. His magnum opus, Mishne Torah, ("Review of the Torah") on the subject of the 613 mitzvahs, is revered until this day as the most authoritative, comprehensive codification of Jewish law. It is a marvel of Jewish scholarship, and was composed in Egypt.

In fact, so revered is Rabbi Moses ben Maimon, that he is popularly mentioned in the same breath with the Moses who led the Jews out of Egypt and brought them to Mt. Sinai. As the ancient Jewish maxim goes:



THE RAMBAM
1135-1204

"From Moses until Moses there was none as great as Moses!"

God said to Moses, "Pharoah will not heed you,
so that My marvels may be multiplied in the land of Egypt."
EXODUS 11:9

וַיֹּאמֶר יְהוָה אֶל-מֹשֶׁה לֹא-יִשְׁמַע אֵלֶיכֶם פַּרְעֹה
לְמַעַן רַבּוֹת מוֹפְתֵי בְּאֶרֶץ מִצְרַיִם:

ר מ ב" ם

As was stated by the Vilna Gaon (page 5), every person is alluded to in the Torah. When the Vilna Gaon was challenged to locate the Torah's reference to the Rambam, he pointed to this verse. Here, the acrostic RaMBaM is formed by the first letters of each word in the phrase "My marvels may be multiplied in the land of Egypt" (Ribot Moftai B'ereztz Mitzraim). Mishne Torah, his marvel of Jewish scholarship, was composed in Egypt!

When the computer searched the entire Torah to find any other appearance of four consecutive words which form the acrostic RaMBaM, it was discovered that this is the only occurrence! Out of approximately 80,000 words, this is the only place in the entire Torah where we find the acrostic "RaMBaM."



THE AHARON CODE

The Book of Leviticus chronicles the service performed by the priests in the Holy Temple. Below, we see the first section of Leviticus which describes in great detail the priestly service. Aharon, Moses' brother, was the High Priest.

Though Aharon's sons are mentioned in this important section, Aharon himself is inexplicably absent! Computers, however, revealed that he is in fact very much present: the name "Aharon" is encoded at equidistant jumps in this section – 25 times!

Leviticus 1:1-13

+150	וַיִּקְרָא אֶל־מֹשֶׁה וַיְדַבֵּר אֲדָמָה לֵאמֹר: דִּבְרֵי אֱלֹהִים בְּנֵי	+9 +180
+36	יִשְׂרָאֵל וְאָמַרְתָּ אֲלֵהֶם אָדָם כִּי־יִקְרָא מִכֶּם קָרְבָן ל' ד' מִן־	+141
4	הַבְּהֵמָה מִן־הַבְּקָר וּמִן־הָאֵימָר תִּקְרִיבוּ אֶת־קָרְבָנְכֶם: אֵשׁ־עֹלָה קָרְבָנוֹ	
+76	מִן־הַבְּקָר זָכָר תָּמִים יִקְרִיבוּ אֵלֶיךָ מִן־הָאֵשׁ מִן־הָאֵשׁ מִן־הָאֵשׁ	+136
+87	לְרַצְנוֹ לִפְנֵי ד': וְסָמַךְ יָדוֹ עַל־רֹאשׁ הָעֹלָה וְנִרְצָה לוֹ לְכַפֵּר עָלָיו:	
+64	וְשָׁחַט אֶת־בֶּן־הַבְּקָר לִפְנֵי ד' וְהִקְרִיבוּ בְנֵי אַהֲרֹן הַכֹּהֲנִים אֶת־	+109
+78	הַדָּם וְזָרְקוּ אֶת־הַדָּם עַל־הַמִּזְבֵּחַ סָבִיב אֲשֶׁר־פָּתַח אֹהֶל מוֹעֵד:	
4	וְהִפְשִׁיט אֶת־הָעֹלָה וְנִתַּח אֹתָהּ לְנִתְחֶיהָ: וְנִתְּנוּ בְנֵי אַהֲרֹן הַכֹּהֲנִים אֵשׁ	+18
4	עַל־הַמִּזְבֵּחַ וְעָרְכוּ עֵצִים עַל־הָאֵשׁ: וְעָרְכוּ בְנֵי אַהֲרֹן הַכֹּהֲנִים אֶת־	+62
26	הַנִּתְּחִים אֶת־הָאֵשׁ וְאֶת־הַפֶּדֶר עַל־הָעֵצִים אֲשֶׁר עַל־הָאֵשׁ אֲשֶׁר	87
32	עַל־הַמִּזְבֵּחַ: וְקָרְבוּ וַיִּכְרְעוּ יָרְחָץ בַּמַּיִם וְהִקְטִיר הַכֹּהֵן אֶת־הַכֹּל	21
4	הַמִּזְבֵּחַ עֲלֵה אִשָּׁה רִיח־נִיחֹחַ ל' ד': וְאִם־מִן־הַצֹּאן קָרְבָנוֹ	6
4	מִן־הַכֶּשֶׁבִּים מִן־הָעִזִּים לְעֹלָה זָכָר תָּמִים יִקְרִיבוּ: וְשָׁחַט אֹתוֹ	
+26	עַל יָרֵךְ הַמִּזְבֵּחַ צִפְנָה לִפְנֵי ד' וְזָרְקוּ בְנֵי אַהֲרֹן הַכֹּהֲנִים אֶת־דָּמֹ	+44
+36	עַל־הַמִּזְבֵּחַ סָבִיב: וְנִתַּח אֹתוֹ לְנִתְחָיו אֶת־רֹאשׁוֹ וְאֶת־פָּדְרוֹ וְעָרַךְ	
139	הַכֹּהֵן אֶת־הָאֵשׁ עַל־הָאֵשׁ אֲשֶׁר עַל־הַמִּזְבֵּחַ: וְהִקְרַב	
	וְהִכְרִיעַ יָרְחָץ בַּמַּיִם וְהִקְרִיב הַכֹּהֵן אֶת־הַכֹּל וְהִקְטִיר הַמִּזְבֵּחַ	
	עֲלֵה הוּא אִשָּׁה רִיח־נִיחֹחַ ל' ד':	

NOTE: Each circled letter "Aleph" marks the beginning of an equidistant letter sequence, forming the word "Aharon." The accompanying number represents the distance and direction of the skip sequence.



STATISTICAL TESTS

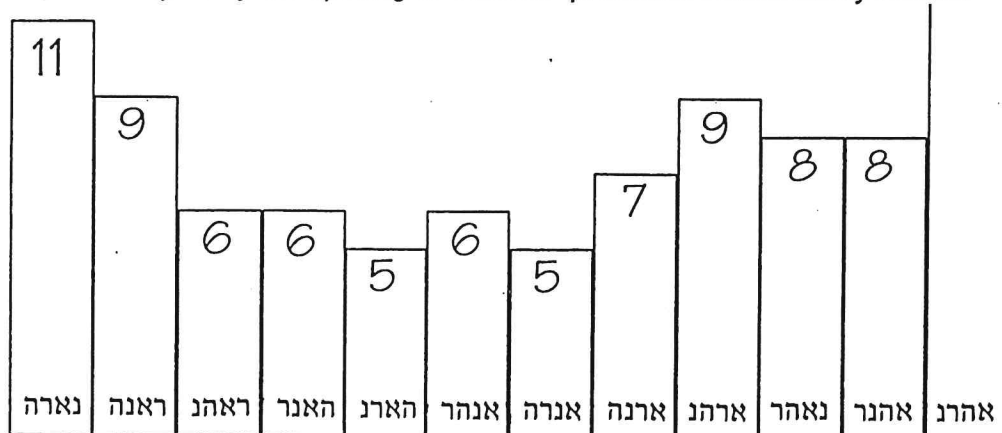
This short section of Leviticus contains 716 letters. Taking into consideration how often the four Hebrew letters of the word "Aharon" are used – and considering as well the nature of the Hebrew language – statisticians determined that the expected number of random occurrences of "Aharon" appearing at equidistant letter sequences (in a text this size) is about 8. They then compared that to the actual number of appearances – 25. The probability of finding 25 "Aharons" encoded in any Hebrew text this size is 1-in-2,666,818.

x \ y	-5	-4	-3	-2	-1	0	1	2	3	4	5
-5	5	9	10	6	7	11	8	7	5	9	9
-4	9	5	5	8	8	8	9	7	8	2	9
-3	5	10	7	3	4	8	2	5	3	4	10
-2	5	8	5	8	6	10	4	5	6	3	7
-1	8	7	9	4	8	10	7	7	11	8	9
0	9	8	14	6	8	25	5	8	4	6	15
1	8	5	10	11	7	6	8	8	5	5	10
2	9	4	10	9	5	8	8	7	5	9	9
3	5	11	8	12	9	5	5	4	12	5	8
4	11	9	6	4	6	9	6	7	8	7	6
5	4	8	11	5	8	9	7	8	6	6	9

25

The upper chart represents the number of appearances of א-ה-ה-א at unequal intervals. The numbers x and y vary from -5 to 5. For each pair x/y, the total number of "Aharons" is shown in the table. The number 25 (encircled) corresponds to x=y=0 (i.e. equal intervals).

The lower chart shows variable combinations of א-ה-ה-א, represented by the equation 2x3x4=24 (forward and backward count as one). The computer searched for appearances of every combination. All results center around 8 with a deviation of +/-3, in complete agreement with statistical probability. Only the spelling of "Aharon" produced extraordinary results.





CONTROL EXPERIMENTS

As a control experiment, let us look at the same Torah text we used for the "Aharon code," except that now we'll omit one letter Vav from the middle of our text. The results: nothing even remotely approaches the statistical odds of the Aharon code (represented by the circle at the far right).

	1	1/10	1/100	1/1000	1/10000	1/100000	1/1000000
40							
39							
38							
37							
36							
35							
34							
33							
32							
31							
30							
29							
28							
27							
26							
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09							
08							
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04							
03							
02							
01							
00							

Next, the scientists sought to "discover" codes in a modern, secular text. They selected the novel *Hach'nasat Kallah* by Nobel Prize-winning Israeli author Shai Agnon.

Researchers used the same parameters as for the Aharon experiment: they selected a 716-letter section from Agnon's novel, then ran the computer, allowing for all 117,128 possible letter combinations. The result: no meaningful word passed a probability limit of 1/1000.

A1	number representation of A1	expected mean number of appearances	n= number of appearances	statistical probability	probability on logarithmic scale
א א	01 01 10 14	mexp = 2.147	appear = 09	lprob = 0.00039516	Scale -lg = 3.403
א ה	01 05 19 15	mexp = 0.216	appear = 04	lprob = 0.00015693	-lg = 3.804
א ט	01 09 16 05	mexp = 0.145	appear = 03	lprob = 0.00045563	-lg = 3.341
א צ	01 09 18 10	mexp = 0.039	appear = 02	lprob = 0.00075663	-lg = 3.121
א י	01 12 10 21	mexp = 5.480	appear = 16	lprob = 0.00019251	-lg = 3.716
א ק	01 19 12 21	mexp = 1.227	appear = 08	lprob = 0.00004314	-lg = 4.365
א כ	02 04 11 22	mexp = 0.392	appear = 04	lprob = 0.00071909	-lg = 3.143
א נ	02 07 19 04	mexp = 0.037	appear = 02	lprob = 0.00067146	-lg = 3.173
א ב	02 10 08 17	mexp = 0.300	appear = 04	lprob = 0.00026539	-lg = 3.576
א ג	02 16 18 02	mexp = 0.153	appear = 03	lprob = 0.00052772	-lg = 3.278
א ד	03 20 08 15	mexp = 0.036	appear = 02	lprob = 0.00064148	-lg = 3.193
א ו	04 01 15 16	mexp = 0.132	appear = 03	lprob = 0.00035008	-lg = 3.456
א ז	04 07 09 09	mexp = 0.001	appear = 01	lprob = 0.00060146	-lg = 3.221
א ח	04 18 21 18	mexp = 0.026	appear = 02	lprob = 0.00033741	-lg = 3.472
א ט	04 19 12 12	mexp = 1.069	appear = 06	lprob = 0.00083566	-lg = 3.078
א י	05 07 13 05	mexp = 0.818	appear = 06	lprob = 0.00020804	-lg = 3.682
א ק	05 15 10 18	mexp = 0.185	appear = 03	lprob = 0.00092522	-lg = 3.034
א כ	05 21 21 22	mexp = 2.530	appear = 11	lprob = 0.00006848	-lg = 4.164
א נ	06 01 02 06	mexp = 8.026	appear = 19	lprob = 0.00067579	-lg = 3.170
א ב	06 06 12 15	mexp = 3.239	appear = 11	lprob = 0.00054885	-lg = 3.261
א ג	06 09 06 12	mexp = 1.080	appear = 06	lprob = 0.00088051	-lg = 3.055
א ד	06 11 01 16	mexp = 1.356	appear = 08	lprob = 0.00008569	-lg = 4.067
א ז	06 12 21 12	mexp = 11.942	appear = 25	lprob = 0.00064163	-lg = 3.193
א ח	06 12 13 16	mexp = 5.521	appear = 17	lprob = 0.00006620	-lg = 3.179
א ט	06 19 08 16	mexp = 0.399	appear = 04	lprob = 0.00077044	-lg = 3.113
א י	06 20 01 08	mexp = 1.733	appear = 08	lprob = 0.00043940	-lg = 3.357
א ק	06 21 20 07	mexp = 0.416	appear = 04	lprob = 0.00089991	-lg = 3.046
א כ	06 21 20 14	mexp = 2.156	appear = 10	lprob = 0.00008569	-lg = 4.067
א נ	06 22 15 11	mexp = 0.399	appear = 04	lprob = 0.00077163	-lg = 3.113
א ב	07 19 21 12	mexp = 0.140	appear = 03	lprob = 0.00041222	-lg = 3.385
א ג	08 19 11 15	mexp = 0.036	appear = 02	lprob = 0.00063011	-lg = 3.201
א ד	09 11 01 11	mexp = 0.041	appear = 02	lprob = 0.00080513	-lg = 3.094
א ז	09 12 02 12	mexp = 0.377	appear = 04	lprob = 0.00062128	-lg = 3.207
א ח	09 16 01 10	mexp = 0.141	appear = 03	lprob = 0.00041845	-lg = 3.378
א ט	09 21 21 17	mexp = 0.031	appear = 02	lprob = 0.00045754	-lg = 3.340
א י	10 07 12 10	mexp = 1.048	appear = 06	lprob = 0.00001427	-lg = 4.846
א ק	11 07 20 22	mexp = 0.094	appear = 03	lprob = 0.00012779	-lg = 3.894
א כ	11 21 07 13	mexp = 0.152	appear = 03	lprob = 0.00052178	-lg = 3.283
א נ	12 11 09 15	mexp = 0.428	appear = 02	lprob = 0.00037413	-lg = 3.427
א ב	12 13 01 21	mexp = 4.017	appear = 13	lprob = 0.00068138	-lg = 3.167
א ג	13 12 09 16	mexp = 0.188	appear = 03	lprob = 0.00096579	-lg = 3.015
א ד	13 15 10 18	mexp = 0.145	appear = 03	lprob = 0.00045698	-lg = 3.340
א ז	13 20 12 16	mexp = 2.321	appear = 09	lprob = 0.00068453	-lg = 3.165
א ח	15 12 03 22	mexp = 0.136	appear = 03	lprob = 0.00037489	-lg = 3.426
א ט	15 17 10 22	mexp = 0.138	appear = 03	lprob = 0.00039680	-lg = 3.401
א י	16 22 12 17	mexp = 0.418	appear = 04	lprob = 0.00091493	-lg = 3.039
א ק	18 16 20 22	mexp = 0.148	appear = 03	lprob = 0.00048757	-lg = 3.312
א כ	20 21 21 20	mexp = 0.697	appear = 05	lprob = 0.00077205	-lg = 3.112
א נ	21 02 02 21	mexp = 0.697	appear = 05	lprob = 0.00077205	-lg = 3.112
א ב	21 05 09 22	mexp = 0.190	appear = 03	lprob = 0.00098866	-lg = 3.005
א ג	21 07 21 22	mexp = 0.194	appear = 03	lprob = 0.00098866	-lg = 3.005

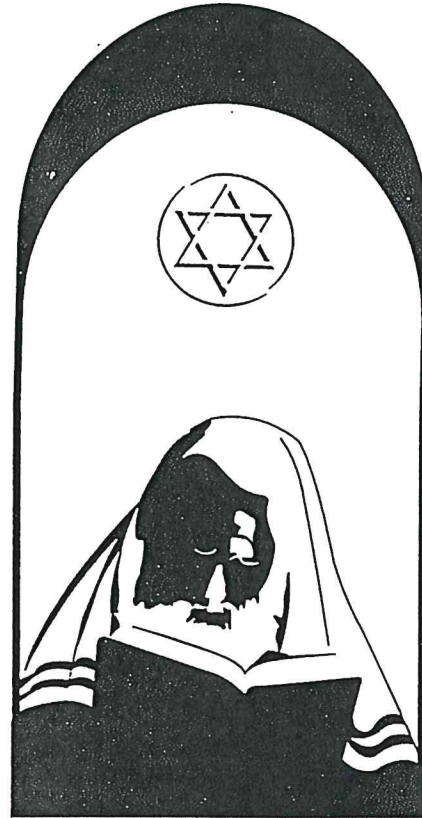


"GREAT RABBIS" EXPERIMENT

For this experiment, great rabbis' names were taken from the *Encyclopedia of Great Men in Israel*, edited by Professor M. Margalioth in 1961. The criteria for selection was that an entry contain at least 3 columns of text, and that the date of death ("yahrtzeit") be specified. 34 rabbis qualified for the test.

In the second experiment, we employed exactly the same methodology as the first. This time, we were asked to select entries from the *Encyclopedia of Great Men in Israel* containing 1.5-to-3 columns of text. In addition, a control experiment was conducted using a cyclic shift of data. That is, we used [name of i^{th} person, date of $i+1^{\text{st}}$ person] as the set of word pairs.

The results of these experiments have been rigorously tested, verified and validated by leading statisticians worldwide. In August 1994, the "Great Rabbis Experiment" was published in its entirety in the prestigious scientific journal, *Statistical Science*. (see page 17)



Illustrated below, from the first experiment (#33), is the example of the Maharshal – Rabbi Shlomo Luria, a great 16th century sage. In the following table, we see ELS's with **minimum skips** for key elements in the Maharshal's life.

5334
Jewish year of death
corresponding to (1573)

Shlomo
His first name

א	ת	כ	ל	ה	ד	ב	ר	י	מ	ה	א	ל	ה	ב	א	ז	נ	י	ה	מ	ו	י	י	ר	א	ו					
א	י	ע	ש	ו	ע	י	ת	ע	מ	ד	י	ו	י	א	מ	ר	א	ב	י	מ	ל	כ	א	ל	א	ב					
א	ח	ת	י	ב	ת	א	ב	י	ה	ו	א	א	כ	ל	א	ב	ת	א	מ	י	ו	ת	ה	י	ל	י					
ק	ח	א	ב	י	מ	ל	כ	צ	א	נ	ו	ב	ק	ר	ו	ע	ב	ד	י	מ	ו	ש	פ	ח	ת	ו					
ה	ה	ו	א	ל	כ	כ	ס	ו	ת	ע	י	נ	י	מ	ל	כ	ל	א	ש	ר	א	ת	כ	ו	א	ת					
א	ב	י	מ	ל	כ	ע	ל	ד	ב	ר	ש	ר	ה	א	ש	ת	א	ב	ר	ה	מ	ו	י	ה	ו	ה					
מ	א	ת	ש	מ	ב	נ	ו	ה	נ	ו	ל	ד	ו	א	ש	ר	י	ל	ד	ה	ש	ר	י	ל	ו	ה					
ק	ע	ש	ה	ל	י	א	ל	ה	י	מ	ל	ה	ש	מ	ע	י	צ	ח	ק	ל	י	ל	ו	ה	א	מ					
ר	א	ש	ר	ה	א	ת	ב	נ	ה	ג	ר	ה	מ	צ	ר	י	ת	א	ש	ר	י	ל	ד	ה	ל	א					
ל	א	ו	ד	ת	ב	נ	ו	י	א	מ	ר	א	ל	ה	י	מ	א	ל	א	ב	ר	ה	מ	א	ל	י					
כ	ה	ו	א	ו	י	ש	כ	מ	א	ב	ר	ה	מ	ב	ב	ק	ר	ו	י	ק	ח	ל	ת	מ	ו	ח					
ש	י	ח	מ	ו	ת	ל	כ	ו	ת	ש	ב	ל	ה	מ	נ	ג	ד	ה	ר	ח	ק	כ	מ	ס	ת	ו					
מ	י	מ	ו	י	א	מ	ר	ה	ל	ה	מ	ה	ל	כ	ה	ג	ר	א	ל	ת	י	ר	א	י	כ	י	ש				
ר	א	ב	א	ר	מ	י	מ	ו	ת	ל	כ	ו	ת	מ	ל	א	ת	ה	ח	מ	ת	מ	י	מ	ו	ת					
ע	ת	ה	ו	ה	ו	א	ו	י	א	מ	ר	א	ב	י	מ	ל	כ	ו	פ	י	כ	ל	ש	ר	צ	ב	א				
ת	ע	ש	ה	ע	מ	ד	י	ו	ע	מ	ה	א	ר	צ	א	ש	ר	ג	ר	ת	ה	ב	ה	ו	י	א					
ח	ה	ד	ב	ר	ז	ה	ו	ז	ה	ו	ג	מ	א	ת	ה	ל	א	ה	ג	ד	ת	ל	י	ו	ג	מ	א	נ	כ		
י	א	מ	ר	א	ב	י	מ	ל	כ	א	ל	א	ב	ר	ה	מ	ה	ה	כ	ה	ש	ב	ע	כ	ב	ש	ו	א	ב	ר	
ו	א	ב	ר	ה	מ	ב	א	ר	צ	פ	ל	ש	ת	י	מ	י	מ	י	ש	ת	י	ש	נ	י	ה	מ	ו	י	כ	ר	ת
א	ב	ר	ה	מ	ב	א	ר	צ	פ	ל	ש	ת	י	מ	י	מ	י	ש	ת	י	ש	נ	י	ה	מ	ו	י	כ	ר	ת	
ו	ל	כ	ל	כ	א	ר	צ	פ	ל	ש	ת	י	מ	י	מ	י	ש	ת	י	ש	נ	י	ה	מ	ו	י	כ	ר	ת		
ו	י	ל	כ	א	ל	ה	מ	ק	ו	מ	א	ש	ר	א	מ	ר	ל	ו	ה	א	ל	ה	י	מ	ב	י	ו	י	ו	י	

12th of Kislev
Jewish date of death

HaMaharshal
How he was called

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STATISTICAL PROBLEMS IN GENETICS AND MOLECULAR BIOLOGY

A Collection of Papers by R.C. Griffiths and Simon Tavaré;
W. Navidi and N. Arnheim; David O. Nelson and Terence Speed;
E.A. Thompson; and Michael Waterman and Martin Vingron

SOME APPLICATIONS OF NUMBER-THEORETIC METHODS IN MULTIVARIATE STATISTICS

by Kai-Tai Fang, Yuna Wang and P.M. Bentler

EQUIDISTANT LETTER SEQUENCES IN THE BOOK OF GENESIS

by D. Witztum, E. Rips and Y. Rosenberg

JOURNAL EDITOR'S COMMENTS

Equidistant Letter Sequences in the Book of Genesis

Doron Witztum, Eliyahu Rips and Yoav Rosenberg searched the Book of Genesis looking for pairs of words spelled by picking every d th letter, where d is some integer. The pairs of words were names of personalities and dates of their birth or death taken from the *Encyclopedia of Great Men in Israel*.

When the authors used a randomization test to see how rarely the patterns they found might arise by chance alone, they obtained a very highly significant result, with $p=0.000016$.

Our referees were baffled: their prior beliefs made them think the Book of Genesis could not possibly contain meaningful references to modern-day individuals, yet when the authors carried out additional analyses and checks, the effect persisted. The paper is thus offered to *Statistical Science* readers as a challenging puzzle.

SCROLL OF ESTHER

CHAPTER 9, VERSES 5-14

ויכו היהודים בכל איביהם מכת חרב והרג ואבדו ויעשו בשנאיהם כרצונם: ובשושן הבירה הרגו היהודים ואבדו חמש מאות איש: ואת

פרשנדתא

דלפון

אספתא

פורתא

אדליא

ארידתא

פרמשתא

אריסי

ארידי

לידתא

ואת

ואת

ואת

ואת

ואת

ואת

ואת

ואת

ואת

עשרת

And the Jews struck at all their enemies with the sword, and with slaughter and destruction, and did as they pleased to those who hated them. And in Shushan the capital, the Jews slew and destroyed five hundred men, including

Parshandata	and
Dalfon	and
Aspata	and
Porata	and
Adalya	and
Ardata	and
Parmashta	and
Arisay	and
Ariday	and
Vayzata	the ten

sons of Haman, son of Hammedasa, the enemy of the Jews. But they did not lay their hands on the spoils.

That same day the number of those killed in Shushan the capital was reported to the King. The King said to Queen Esther: "In Shushan the capital, the Jews have slain and destroyed five hundred men including the ten sons of Haman; what have they done in the rest of the King's providences? What is your request now? It shall be granted to you. What is your petition further? It shall be fulfilled."

Esther replied: "If it pleases the King, allow the Jews of Shushan to do tomorrow as they have done today, and let Haman's ten sons be hanged on the gallows."

The King ordered that this be done.

בני המן בן המדתא לרר היהודים הרגו ובבזה לא שלחו את ידם: ביום ההוא בא מספר ההרוגים בשושן הבירה לפני המלך: ויאמר המלך לאסתר המלכה בשושן הבירה הרגו היהודים ואבדו חמש מאות איש ואת עשרת בני המן בשאר מדינות המלך מה עשו ומה שאלתך וינתן לך ומה בקשתך עוד ותעש: ותאמר אסתר אם על המלך טוב ינתן גם מחר ליהודים אשר בשושן לעשות כדת היום ואת עשרת בני המן יתלו על העץ: ויאמר המלך להעשות כן ותנתן דת בשושן ואת עשרת בני המן תלו:



NUREMBERG TRIALS

"All the News
That's Fit to Print"

The New York Times.

LATE CITY EDITION

Bunny and mild today. Fair
and warmer tomorrow.
Temperature today from 44 to 59 (High 52)
Wind from N.W. to N. 10 to 15 M.P.H.
Full moon. Weather Bureau Forecast, 1946

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NEW YORK, WEDNESDAY, OCTOBER 16, 1946.

THREE CENTS NEW YORK CITY

GOERING ENDS LIFE BY POISON, 10 OTHERS HANGED IN NUREMBERG PRISON FOR NAZI WAR CRIMES; DOOMED MEN ON GALLOWS PRAY FOR GERMANY



*Courtroom photo of
Nazi War Crimes trial in
Nuremberg, Germany.
Though the trial ended
in June, 1946, sen-
tencing was repeatedly
postponed due to
appeals for amnesty.*

Self-Sacrifice for Evil

The Torah says (Deuteronomy 25:17-18): "Remember what Amalek did to you on your way out of Egypt. When they encountered you, ("karcha") on the way."

The word *karcha* is connected with another word, *kar*, meaning cold. That is to say: Amalek cooled you off, making you lukewarm after the boiling heat you had before, because all the nations were afraid to challenge you (after the mighty 10 Plagues, Exodus from Egypt, and splitting of the Red Sea), but Amalek came and paved the way for others.

A parable: This is compared to a boiling hot bath that nobody was able to enter. Then along came a stranger and jumped in! Even though he suffered bad burns - he cooled it off for others to follow.

Rashi - R' Shlomo Yitzhaki
France, 1040-1105

With the Nazi invasion of Hungary in 1944, top German military officers determined that railway lines must be prioritized to transport vital troops and equipment to the battlefield. The Wehrmacht urged Hitler to provide this infusion of desperately-needed supplies.

Ignoring their warnings, Hitler instead gave orders to allocate the precious rail-lines to deport hundreds of thousands of Hungarian Jews en masse to the extermination camps.

Historians acknowledge this decision as a key factor in further debilitating the German war effort. Hitler, it seems, regarded the killing of Jews even more important than winning World War II.

Aaron Breitbart, Senior Researcher
Simon Wiesenthal Center, Los Angeles

