

Bardon's 360 Zone-Girdling-Earth Genies: Names, Squares and Sigils

Final summary

Names. The 360 names are the spirit names of Peter Hammer's 1725 German edition of the Book of Abramelin, with the dukes left out, dealt out in groups of 12: the k -th name goes to sign $(k-1) \bmod 12$ and degree $(k-1) \div 12 + 1$. Dehn's appendix states this, and the order of Hammer's list matches Bardon's rank (Spearman $\rho = 0.96$). Bardon's spellings follow the German manuscripts and Hammer rather than Mathers' French-based text (Hammer against Mathers: 32 cases to 1). 263 of 360 names have a located source form. Bardon then edited the endings by the parity of the degree: at odd degrees 133 of 146 names keep their ending class, and at even degrees 86 of the 104 consonant-ending names receive a vowel ending ($p = 4e-36$). About 100 names have no located source yet.

Sigils. Their width depends on parity (p about $1e-5$) and their amount of line grows with the degree (skeleton length $\rho = 0.58$, ink 0.52, rising in all 12 signs), through more segments of the same length. Sigils at the same degree in different signs resemble each other more than chance ($p < 0.001$). No link was found with the letters of the name, its language class, the sign, or a style measure.

Not supported. Elements, planets, gematria, the Shem ha-Mephorash, Kircher's wheel and tree, Bardon's quality and quantity keys, mirror transformations, the Mercury, Moon, Sun and Jupiter genii, Egyptian decans, Mesopotamian star lists, Persian and Avestan stars and lexica, Manichaean Middle Persian, Agrippa's fixed stars, Arabic star names. The Old Persian, Avestan and Manichaean substring excesses disappear against an English control.

Reading. The zodiac position of each genie is its position in an existing list. The names are compiled from the Abramelin tradition and edited with a parity rule. The sigils are series drawings with a rising complexity, not an encoding of the name.

Other spheres: Stejnar's cipher. Emil Stejnar found that Bardon passed some names on in a simple substitution cipher ($A=E, E=A, B=R, T=B, I=O, N=G, M=L, S=N, Z=C, TZ=K, LH=SCH, ZH=CH, CH=H$ and others; the key is on the Bardon Sigils site and on Stejnar's page). Applied to the 45 names of the Sun sphere it gives star names: EMNASUT to ALGENIB, LUBECH to SIRAH, TERAS to BATEN, DUBEZH to MIRACH, BUNAM to RIGEL, GELER to WASAT, DABETZ to MERAK, DUKEB to MIZAR, VASAT to DENEK. 9 decoded names are identical to a star name from my list and 20 of 45 are within similarity 0.8, against 2.2 on average (maximum 6) for shuffled names. The 28 Moon names decode to forms such as ALBOTHAJIM, ALDEBORA, ALZARFA and many begin with AL or EL (16 of

28), which points to the lunar-mansion names of Agrippa that Stejnar mentions. The Mercury (72), Venus, Jupiter and Mars names give no star match (0 to 2 close decodes). The key does not apply to the ZGE names: applied to the 360 names it turns none of them into a name found in Dehn's tables, and the similarity between a ZGE name and its aligned source falls from 0.86 to 0.19. So the Sun and Moon spheres use a star and mansion vocabulary hidden by a cipher, while the 360 earth-zone names come from Hammer's list. Stejnar also reports the Hammer origin of the 360 names; the ordering by degree within each sign and the numerical confirmation here ($\rho = 0.96$, 263 aligned names) are independent checks.

Open. The source of about 100 names, the source of the sigils (Bardon gives no account), and a check against the facsimile of Hammer's edition.

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I tested more than a dozen hypotheses linking the 360 genie names to their zodiac degree, element, planet, numerical value, Abramelin square and sigil. Most fail. Two patterns hold up on held-out data: the parity of the degree predicts whether a name ends in a consonant or a vowel (88% of 360 names), and it also predicts whether the sigil is taller or wider.

Data and method

The data are the 360 genie names of Franz Bardon's *Practice of Magical Evocation* (PME), their sigil images (one per degree, 1° Aries = file 0) and, for 12 genies, the Abramelin word squares in Mathers' translation of *The Book of Abramelin*. Names were matched to Abramelin names through the table in Emil Stejnar's article.

Every hypothesis was tested against a permutation null: the same data with the zodiac positions shuffled. Where I tried several variants, I counted them and corrected for multiplicity. Where a pattern was found by exploring, I re-tested it by learning on half of the signs and checking it on the other half.

Letter attributions come from Bardon's Quabbalah tables (element, planet, number) as summarised on the Bardon Companion and the Bardon Interactive Mandala pages. The mandala page derives each letter's sign and planet from its element only, so it adds no independent information.

What held: the parity of the degree

Names at odd degrees (1°, 3°, 5°...) end in a consonant 88% of the time; names at even degrees (2°, 4°, 6°...) end in a vowel 88% of the time. 316 of 360 names follow the rule, against about 50% by chance, and it holds in all 12 signs.

Degree (Aries)	Example names	Ends in
1°	MORECH	consonant
2°	MALACHA	vowel
3°	ECDULON	consonant
4°	LURCHI	vowel
5°	ASPADIT	consonant
6°	NASCELA	vowel
7°	OPOLLOGON	consonant
8°	RAMARA	vowel

The vowel share of the name is lower at odd degrees (0.451 against 0.505, Mann-Whitney $p = 1.7 \times 10^{-13}$), and the pattern replicates between independent halves of the zodiac (correlation of letter profiles between halves $r = +0.52$, permutation $p = 0.001$). N and S are more frequent at odd degrees (40% vs 23% and 37% vs 21%); A at even degrees (81% vs 64%).

There are 44 exceptions: 22 odd-degree names ending in a vowel (mostly I and A) and 22 even-degree names ending in a consonant. Treating H as a vowel makes the rule worse (84.4%), so H stays a consonant here. The exceptions are not concentrated in any sign (chi-square $p = 0.24$), and their length and initial letter do not differ from the other names. For the sigils, the degree parity is what matters, not the name ending: in a regression of $\log(\text{height}/\text{width})$ on both, the degree parity has $t = 2.9$ and the ending $t = -0.5$.

The sigils follow the same parity

New: sigil size and complexity grow with the degree. On the 360 sigil images, the total ink, the skeleton length and the number of junctions increase from degree 1 to degree 30, in all 12 signs. Spearman correlation with the degree: ink 0.52 ($p = 1e-26$), skeleton length 0.58 ($p = 2e-33$), junctions 0.36 ($p = 1e-12$), width 0.43, height 0.36; ink and skeleton length rise in 12 of 12 signs. Stroke thickness (ink divided by skeleton length, $\rho = -0.03$) and the number of connected components ($\rho = -0.06$) do not change, so the sigils get more line, not thicker line. The trend is independent of name length (the name length and the

degree are uncorrelated, $\rho = 0.08$, and name length does not predict ink, $\rho = 0.03$). On top of it, the parity effect (wider sigils at even degrees) remains. After the parity effect is removed, sigils at the same degree in different signs are more alike than random (within-degree variance 0.84 of total against 0.92 for permutations, $p < 0.001$), and sigils at the next degree or at the next sign are alike, which fits a construction keyed to the degree (and so to the position in Hammer's list) and not to the letters of the name. Decomposing the skeletons into branches shows how the growth happens: the number of branches rises from about 9.5 at degrees 1 to 5 to about 15.7 at degrees 26 to 30 ($\rho = 0.38$, $p = 7e-14$), junction clusters from 4.1 to 7.6 ($\rho = 0.39$), and branches of 8 pixels or more from 6.3 to 10.5 ($\rho = 0.43$). The mean branch length does not change (24.5 against 24.3 px, $\rho = 0.01$). So sigils of higher degrees have more segments of the same size, about six more across the 30 degrees, and not longer segments. The growth is gradual, roughly linear ($r = 0.54$ with the degree, 0.55 with its square root). A visual check of the 30 Aries sigils shows no repeated element: they look like individually drawn glyphs, mixing curved and loop-based forms, zigzag and angular forms, and cleaner geometric shapes. The growth in segments is therefore a trend of the series and not a visible modular rule. A style measure (fraction of branch length in straight branches, 0.26 on average) is independent of parity (0.245 odd, 0.281 even, $p = 0.16$), sign ($p = 0.82$), vowel or consonant ending ($p = 0.22$), ending class Greek, Semitic, Latin, -I or other ($p = 0.62$), vowel or consonant initial ($p = 0.66$), degree ($\rho = -0.04$) and name length ($\rho = 0.03$).

I measured eight shape features on each sigil. One passes a Bonferroni correction for eight tests (threshold 0.0063): the height-to-width ratio of the drawing. Sigils at odd degrees are taller than wide (median 1.061); sigils at even degrees are wider than tall (median 0.955). The difference is significant ($p = 8 \times 10^{-5}$), appears in all 12 signs, replicates in both halves of the zodiac ($p = 0.001$ and 0.020), and stays significant when the name ending is taken into account ($z = -2.9$). The effect is modest, about 10%, but it is the only name-to-sigil link I found that survives the controls.

Why does the parity rule hold?

I found no mechanism, but the endings read like an alternation of grammatical gender, and several other explanations can be ruled out.

- **The endings look gendered.** At odd degrees the consonant endings are mostly -ON (38 names), -OS (9), -EL (8), -IS (8), -CH (7), -AN (6) and -IM (6), which are masculine or neuter endings in Greek, Latin and Hebrew. At even degrees the vowel endings are -A (63), -I (43), -O (36) and -E (10), and -A is the usual feminine ending in the same languages (Hebrew -ah). Read this way, odd degrees are masculine and even degrees feminine. This is a reading of the endings, not a test of it.

- **The descriptions are not gendered.** Bardon's texts for even-degree genies are not more feminine: her, she, woman or female appear 10 times in odd-degree texts and 2 times in even-degree texts (small counts).
- **It is not the same alternation as the Mercury names.** The 40 Shem names ending in -el and the 32 ending in -iah (list from the 72-names page in the sources) do not follow the odd/even rank (20 and 16 in both), the parity of the sign ($p = 0.10$) or the vowel endings of the genie names in their 5° block ($p = 0.56$).
- **The rule weakens along the zodiac.** Names obeying the rule per sign: 28, 27, 28, 30, 29, 27 of 30 from Aries to Virgo, then 24, 24, 27, 25, 24, 24 from Libra to Pisces. That is 94% in the first half and 82% in the second. The exceptions are spread like random positions (mean gap 8.1 degrees against 8.2 expected). This fits a compiler who applied a convention carefully at first and loosely later, but it is an interpretation.
- **Abramelin names are too few to say.** Of the 7 names matched to Abramelin squares, 5 follow the rule (THIRANA and POTHER do not).

The sigil result adds one clue: the parity of the degree predicts the shape of the drawing even when the name ending is taken into account, so the alternation is not only a spelling habit.

Classifying the names by the language their ending suggests gives the same picture. I assigned each name to a class from its last letters (an approximate, hand-made rule):

Class (from the ending)	Names	At odd degrees	At even degrees
Greek (-ON, -OS, -IS, -ES...)	76	69	7
Semitic (-EL, -AH, -TH, -CH, -IM...)	38	30	8
Latin or Italic (-A, -US, -O, -U...)	121	16	105
Ending in -l	50	8	42
Other	75	57	18

Latin-looking endings are the largest class (121 names, a third of the list) and 105 of them fall at even degrees, so Latin is the main language of the even-degree names, while odd-degree names are mostly Greek or Semitic-looking (99 of 160). The class does not depend on the sign ($p = 0.16$), the element (0.40), the half of the zodiac (0.55) or the season (0.08). Among even degrees alone it varies by sign ($p = 0.013$), but I did not predict that, so I do not count it.

The initial letter and the 5° blocks

Neighbouring names inside the same 5° block start with the same letter more often than chance, but the effect is not specific to blocks of five.

- Neighbours in the same block share their initial in 8.7% of cases (25 of 288 pairs), against 1.4% across a block boundary (1 of 71) and 5.8% expected by chance. Over all pairs inside the 72 blocks the figures are 8.2% against 5.7% (permutation p between 0.002 and 0.007 in two runs).
- Blocks of 3 ($p = 0.001$), 4 ($p = 0.015$) and 5 ($p = 0.002$) all show it. Blocks of 6 ($p = 0.10$) and 10 ($p = 0.20$) do not. The signal is a short-range clustering of initials among neighbours, so it gives no support to a link with the 5° division of the Shem ha-Mephorash.
- A possible cause is that neighbouring names were taken from the same source list or built from one root. I have not tested that.

What did not hold

None of the following links between a name and its degree, sign or sigil exceeds chance once the controls are applied.

Hypothesis	Result	p
Name contains letters of its sign's element (Bardon's letter elements)	79.2% vs 80.6% by chance	0.80
Dominant element of the name equals the sign's element	24.4% vs 25.0%	0.62
First letter's element equals the sign's element	21.4% vs 24.2%	0.90
Name contains the letter of the planet of its degree's Egyptian term	45.0% vs 45.0%	0.54
Same, planet of the decan (Chaldean order)	53.1% vs 53.6%	0.65
Gematria value (4 systems, 56 tests) against degree, sign, element, decan or Shem block	best $p = 0.036$	Bonferroni threshold 0.0009

Hypothesis	Result	p
The 10 Jupiter-sphere genies against the 30 genies of their sign (6 measures)	at or below chance on every measure	0.76 to 0.997
Kircher's 4-letter divine names found inside genie names	8 of 60 found, but 7.7 expected once the vowel/consonant pattern is preserved	0.53
Sigil of a degree mirrors the sigil of the opposite sign (3 mirror axes)	no better than random pairs	0.44 to 0.90

The Jupiter test used the 10 genies present in my source; two (Virgo and Scorpio) were missing.

Fragile signals

These results look interesting but do not survive correction for the number of variants tried. They are leads, not findings.

Signal	Result	Why it is fragile
Shem ha-Mephorash: the 72 three-letter Hebrew names (Exodus 14:19-21), each assigned to a 5° block; its consonants appear in the block's genie names	1.369 vs 1.280 letters per genie (loose letter mapping, $p = 0.019$); 1.053 vs 0.950 (strict, $p = 0.008$). The true order ranks 2nd and 1st among 72 rotations; the reversed order shows nothing	Four variants tried (corrected p about 0.03-0.05); shifting the blocks by 1 to 4 degrees keeps $p < 0.04$, so a neighbour effect is possible; driven mainly by , 7, 9, 18
Chaldean decan ruler's letter (Golden Dawn attributions) appears in the name	24.4% vs 19.2%, $p = 0.003$	Disappears with Bardon's letters ($p = 0.37$) and with triplicity decans
A seven-planet cycle through the degrees, matched with planetary letters	best configurations $p = 0.004$ to 0.009 , 10 of 12 signs above chance each	56 configurations tried; corrected $p = 0.24$ to 0.5

Signal	Result	Why it is fragile
9th degree of each sign (9 is the Moon's number): N in 8 of 12 names, M in 7 of 12	3.8 and 3.7 expected; $p = 0.014$ and 0.043	20 letters tested, 2 hits where 1 is expected by chance; the 9th degree is not special in a test across all 30 degrees ($p = 0.32$ and 0.74)
S peaks at the 21st degree (8 of 12 names) and G at the 7th (7 of 12)	Permutation $p = 0.001$ each, about 0.02 after correcting for 20 letters; the degree profiles of S and G replicate between independent halves of the zodiac ($r = 0.41$ and 0.31)	Chosen after looking at the data; I have no explanation for these degrees

On the idea that 7 planets and $3 \times 7 = 21$ matter: letter frequencies at the multiples of 7 (7, 14, 21, 28) show no significant concentration for any of 19 letters. The S peak at 21 stands alone.

Are the 360 names built from the 72 Mercury genies and the other spheres?

Bardon says the Mercury names carry a quality key (the genie's name, built from the Hebrew verses of Exodus 14:19-21) and a quantity key (a divine name from Kircher's wheel), and that each of the 360 names contains both. I tested whether the 5 names of each 5° block are built from the Mercury name and Kircher word of the same block, and whether the Moon, Sun and Jupiter genies play a role. No simple derivation appears.

Test	Result	p
Letters of the 5 names in a block come from the Mercury name (quality) plus the Kircher word (quantity)	0.460 vs 0.459 by chance	0.49
Vowels from the Kircher word, consonants from the Mercury name	0.272 vs 0.271	0.46
Same with the Hebrew triplet of the Shem and the Kircher consonants	0.305 vs 0.300	0.37

Test	Result	p
Consonants of the Mercury name alone (quality)	0.166 vs 0.152	0.09
A name starts with the first 3 letters of a Kircher word	29 vs 19.7 expected	0.003 (about 0.04 after correcting for 12 tests)
Same with 4 letters	9 vs 4.6	0.013 (about 0.16 corrected)
A name starts with the stem of a Mercury name (3 letters)	24 vs 26.2	0.71
Letters of the name inside the Moon (28), Sun (45) or Jupiter (12) genie that covers the degree	0.313, 0.320, 0.449 vs 0.323, 0.316, 0.458	0.93, 0.35, 0.88
First letter of the name found in the Mercury name of its block	0.389 vs 0.344	0.010 (about 0.2 to 0.4 corrected)
Mirrors: reversed name, Atbash, 25 Caesar shifts (35 tests)	best p = 0.011	0.37 corrected
Free letter-to-letter substitution, first and last letters (23 tests)	best p = 0.019 (Jupiter, 12 sections)	0.44 corrected
Gematria of the Mercury name against the names of its block (Latin and Hebrew, mod 7, 9, 12, 36), first syllable (13 tests)	best p = 0.26	not significant

The nine Kircher words found at the start of a genie name are TARATO (Tara), KALOTE (Kalo), ABAGRION (Abag), CANALI (Kana), AGLASIS (Agla), SIPILLIPIS (Sipi), PARACHMO (Para), ARISALEA (Aris) and PORASCHO (Pora). The rank of the Kircher word does not match the degree of the genie, so the words look reused, not placed by the wheel.

The only signal that survives is the weak one on initial letters. Mercury is the only sphere that shows it, and it is a direct presence of the letter, not a transformation. A different construction (a table I do not have, a syllable or numerical rule) cannot be excluded. Robert Eisler (1926) argues that the 72-letter name comes from Exodus 34:6-7 and not from Exodus 14:19-21; I did not test a derivation from that passage.

Kircher's tree, Bardon's letter keys and other traditions

I also tried to attach the genies to Kircher's Tree of Life, to the quality and quantity keys of the letter SH, and to the lists of Egypt, Persia and Sumer. Nothing reaches significance.

Kircher's tree (1652) and d'Aquin's tree (1625). In Kircher's *Systema Sephiroticum* each of the ten circles carries a divine name at its centre and the same ring of the ten sephiroth names around it; the 22 paths are numbered and carry the letters. The 72 names are not distributed among the sephiroth. D'Aquin's tree writes the 72 three-letter names on a vine and a palm tree and has twelve text boxes on a zodiac tree and seven on a planet tree, which suggests six names per sign, the same grouping as the 5° blocks. The boxes were too small for me to read.

Test	Observed	Chance	p
Letter of the sign (Kircher / Sefer Yetzirah: Aries He, Taurus Vav...) found in the names of that sign	0.378	0.386	0.67
The 22 path letters spread over 360° (16.4° each)	0.378	0.378	0.52
Ten sephiroth of 36° each, letters of their divine name	0.482	0.488	0.79

The strict Hebrew-to-Latin mapping gives $p = 0.61$, 0.29 and 0.77 , and reversing the order of the sephiroth changes nothing.

Quality and quantity keys of SH. On the Bardon pages I used, the quality key of SH is S (spell out Shin, drop the first letter: Yod 10 + Nun 50 = 60, Samekh) and the quantity key is K ($|320 - 300| = 20$, Kaph). The quantity rule belongs to that page, not to the classical Aiq Beker, where Shin goes with Gimel and Lamed. Applied to all 22 letters, the question was whether a letter's key letters also appear in the same name: quality 0.279 against 0.209 by chance ($p = 0.12$), quantity 0.244 against 0.207 ($p = 0.19$). The 13 names containing SH have no separate S (0 found, 3.8 expected, $p = 0.011$, about 0.23 after correcting for 21 letters), so they avoid the key rather than carry it.

Tradition	Division	Result
Egyptian decans, Greek names	$36 \times 10^\circ$	consonants $p = 0.92$, initials $p = 0.63$
Egyptian decans, Egyptian names	$36 \times 10^\circ$	consonants $p = 0.025$ (2nd of 36 shifts), initials $p = 0.09$
Persian days (30 yazatas)	degree within the sign	consonants $p = 0.17$, initials $p = 0.026$

Tradition	Division	Result
Sumerian names of the 12 signs	$12 \times 30^\circ$	consonants $p = 0.15$, initials $p = 0.47$

The two p-values near 0.025 become about 0.2 after correcting for the number of tests. The S peak at the 21st degree and the G peak at the 7th do not match the Persian day names (Ram, Amurdad). The Mesopotamian star lists are tested in the next paragraph; the reference edition is Hunger and Pingree, *MUL.APIN* (1989).

Babylonian star lists. I tested the 18 constellations of the Moon's path listed in MUL.APIN (18 blocks of 20° , a convention of mine) and the 36 stars of the Three Stars Each lists (12 months $\times$ 3 lists, 10° each, month I = 0° Aries), taken from Table 2 of Rogers (1998). Nothing is significant.

Test	Observed	Chance	Result
18 constellations in the given order, consonants	0.293	0.291	$p = 0.43$
18 constellations, best of 36 alignments, consonants	0.323		$p = 0.13$ after correction
18 constellations, best of 36 alignments, initial letter	0.203		$p = 0.48$ after correction
36 stars in natural order, consonants	0.248	0.251	$p = 0.55$
36 stars in natural order, initial letter	0.139	0.156	$p = 0.85$
36 stars, best of 144 alignments (6 list orders, 12 starts, 2 directions), consonants	0.294	about 0.27	$p = 0.047$ before correcting for the other tests

The star names were read from an image of the table and the list from Elam is Rogers' reconstruction, so these transliterations are uncertain.

Conclusion

Two regularities are solid; I found no rule that builds the names from anything else.

- **What holds.** The parity of the degree predicts the ending of the name (about 88%, weaker in the second half of the zodiac) and the shape of the sigil. Neighbouring names also share their first letter more often than chance, over short distances.
- **What does not.** No derivation of the names from the 72 Shem names, Kircher's wheel and tree, the Moon, Sun or Jupiter genies, letter mirrors, substitutions, numerical values, Bardon's letter keys, or Egyptian, Persian and Mesopotamian lists survives correction for the number of tests (several hundred variants were tried).
- **Best reading.** The list looks like a compiled corpus of names of Greek, Latin and Semitic appearance, ordered by degree with a masculine/feminine ending convention that loosens along the zodiac, with sigils drawn separately. I put this at roughly 85% against 15% for a hidden construction my tests cannot see; this is a judgement, not a measurement.
- **What would change it.** Bardon's own tables for the quality and quantity keys, the original Abramelin sources (the 1725 German edition) and the squares of the other names.

Old Persian, Avestan and the Abramelin source

The names are not Hebrew, and the best-supported origin is a compiled corpus drawn from the *Abramelin* tradition (edition unknown, since Bardon wrote in 1956, about sixty years after Mathers), not a hidden code. The names also appear in Mathers' Book 3 squares (5 identical, 33 close). Dehn's appendix (Dehn & Guth, 2006) tabulates the spirit names in four versions: Wolfenbüttel 1608 (MSW), Mathers (SM, from the French manuscript), Hammer's 1725 German print (PH) and Dresden c.1720 (MSD2). On the 133 servant-name rows where the versions differ, the ZGE spelling matches the German branch and not the French one. Rows where the ZGE name equals exactly one of two versions: PH vs Mathers 32 to 1 ($p = 8e-9$), MSW vs Mathers 18 to 0 ($p = 8e-6$), MSD2 vs Mathers 22 to 2 ($p = 4e-5$), PH vs MSW 15 to 2 ($p = 0.002$), PH vs MSD2 13 to 2 ($p = 0.007$), MSW vs MSD2 6 to 4 (not significant). Examples: APOLLYON (PH) against Mathers' APOLHUN, KOHEN against COELEN, MYRMO against MERMO, POTHER against POTER, SCHALUAH against SCHABUACH. Bardon therefore worked from a German text close to Hammer's 1725 edition (or a reprint of it), not from Mathers or the French manuscript. The parsing comes from OCR of an English book, so the counts are approximate. Across all of Dehn's tables (510 distinct names in the four versions), 57 ZGE names are identical to a source name and 112 more are close (similarity at least 0.8), 169 of 360 in total; shuffled-letter controls give 10 to 21. The parity rule is an editorial change to these source names. Among the 112 close ones, the ending was changed from consonant to vowel in 53 of 65 even-degree names, but in only 1 of 47 odd-degree names (Fisher $p = 3e-16$). Examples at even degrees: MALACH → MALACHA (2), TABORIX → TABORI (10), MOLABED → MOLABEDA (32), CAMALON → CAMALO (53), KOLAN → KOLANI (80). So the rule that

odd degrees end in a consonant and even degrees in a vowel was applied by Bardon (or his source) to Abramelin names, which explains why it holds at about 88% and is independent of sign, element and meaning. These tables cover the servant lists only. Historical context (Dehn's introduction): the 1608 Wolfenbüttel manuscripts (Cod. Guelf. 10.1, encoded, and 47.13, a clear copy) carry no known scribe. The text presents itself as a letter from Abraham of Worms to his son Lamech, and Dehn takes Abraham as the author, writing in German in south-western Germany. Authenticity and date remain debated. Hammer's 1725 Cologne edition was reprinted by Scheible in Stuttgart around 1850 and was known in German occult circles, including the *Fraternitas Saturni*, so it was accessible to a German reader before 1956. That access does not show Bardon read it. Fixed-star tests (null): the 15 stars of Agrippa (longitudes from Wikipedia, precessed to 2020, 1950, 1510 and AD 137) against the ZGE name at each star's degree (plus or minus 1 degree), with a rotation null over the 359 other offsets: mean similarity 0.394, 0.419, 0.391 and 0.370 against a null mean of 0.388, $p = 0.38, 0.10, 0.42, 0.78$. The four Persian royal stars (Tishtrya, Vanant, Satavaesa, Haptoiringa, with Avestan, Pahlavi and Arabic-Persian forms) at epochs 500 BC, AD 300, 1950 and 2020: $p = 0.11, 0.88, 0.45, 0.42$. Low power (15 and 4 stars); no ZGE name is clearly close to a star name. A larger catalogue (Ptolemy, al-Sufi) was not tested. Manichaean Middle Persian and Parthian (Durkin-Meisterernst's dictionary, about 3,600 normalised phonemic forms): ZGE names sharing a substring of 4 or 5 letters with a form number 208 and 34, against 185 and 23 for shuffled names that keep their consonant-vowel pattern ($p = 0.03$). The excess is not specific to Iranian. Three size-matched random samples of English words taken from the same books give 213, 214, 213 and 33, 32, 33, so the signal comes from short letter strings common to any natural lexicon. At 6 letters or more there is no excess (2 against 1.3). No link with Manichaeism or Yazidism is documented or found. A name-only comparison with about 260 Arabic star names (from memory, not al-Sufi's catalogue) is also null: 10 ZGE names within similarity 0.8 against 5 on average for shuffled controls (p about 0.10). The mechanism, stated in Dehn's appendix ("How Franz Bardon used the spirit names from the Abramelin") and confirmed here: Bardon takes Hammer's 1725 list of spirit names, leaves out the dukes, and deals it out in groups of 12. The k -th name goes to sign $(k-1) \bmod 12$ and degree $(k-1) \div 12 + 1$, so the first 12 names are the 1st degree of Aries to Pisces, the next 12 the 2nd degree, and so on to 360. The order of Hammer's list matches Bardon's degree-major rank with Spearman $\rho = 0.96$ ($p = 4e-48$, 84 matched rows). The zodiac position is therefore the position in a pre-existing list, not a calculation, and neighbouring degrees of one sign are 12 names apart in the source. Ending conventions (odd degrees consonant, even degrees vowel) were then applied to the source names. Roughly 250 of 360 names are traced to the Abramelin lists (80 more than the first count, found by searching all of Dehn's lists instead of only the cleanly parsed rows); about 110 remain without a located source. A second pass aligns the 360 names, in Hammer's order, against Dehn's table rows by dynamic programming: 249 names are aligned in order (77 identical, 149 at similarity

0.85 or more) and 14 more by position inside gaps, so 263 of 360 have a located source form. On these, the ending rule is sharp. At odd degrees the source ending class is kept in 133 of 146 names (121 consonant to consonant, 12 vowel to vowel, 5 consonant to vowel, 8 vowel to consonant). At even degrees 86 of the 104 consonant-ending source names get a vowel ending, and no even-degree name ends in a vowel unless it was changed or already ended in one (Fisher $p = 4e-36$). The change is not only a final letter: 23 add letters at the end (MALACH to MALACHA), 16 replace the end (TABORIX to TABORI), and 45 reshape the name more (PAKID to PADIDI, HELEL to HELALI, BADAD to BADET, NABHI to NABLUM). Bardon therefore edited the names of the list, with a deliberate rule tied to the parity of the degree, while keeping the list order. **Abramelin Book 2, chapter 19** lists about 440 spirit names under the Princes and Sub-Princes. 117 of them are close to a ZGE name (string similarity ≥ 0.8), 15 are identical. Controls with the same names shuffled or reversed give 7–23 matches, so the overlap is real. The list order does not follow the zodiac: rank correlation between list position and degree is $\rho = -0.07$ ($p = 0.44$, $n = 119$).

Test	Result	Reading
Abramelin Bk 2 ch. 19 names vs ZGE	117 close, 15 identical; controls 7–23	Source corpus
List order vs zodiac degree	$\rho = -0.07$, $p = 0.44$	Order not kept
Old Persian lexicon (Kent), substring ≥ 5 / ≥ 6 / ≥ 4 letters	$p = 0.02$ / 0.047 / 0.80	Not significant once corrected (about 0.06–0.14)
Avestan stems (Bartholomae), ≥ 5 / ≥ 6 / ≥ 7 letters	$p = 0.11$ / 0.38 / 1.0	Null; OCR noisy, low power
Sigil complexity vs name length or vowel count	best $p = 0.06$ raw, 0.89 corrected	Null
Border vs interior ink share (7 sigils)	percentiles 13–90%, no pattern	Null

The word squares. The 14 squares I transcribed (Book 3) are doubly symmetric: $A[i][j] = A[j][i]$ and $A[i][j] = A[n-1-i][n-1-j]$. The first row and column are the name, the last row and column are the name reversed. Only 4 cells (5×5), 9 (7×7) or 12 (8×8) are free, and just 38% of those letters occur in the name, so the interior cannot be derived from it. Book 3 also supplies the effect each square serves, and Mathers' notes derive many names from Hebrew roots. Seven ZGE names occur as square words: NASI (35), DEBAM (79), CORILON (83), KOSEM (121), ODAC (137), ROTOR (167), MILON (271). That is too few to test sigil strokes against squares for the other 350 names, since most have no square.

Case study: the four cardinal genies at 1°

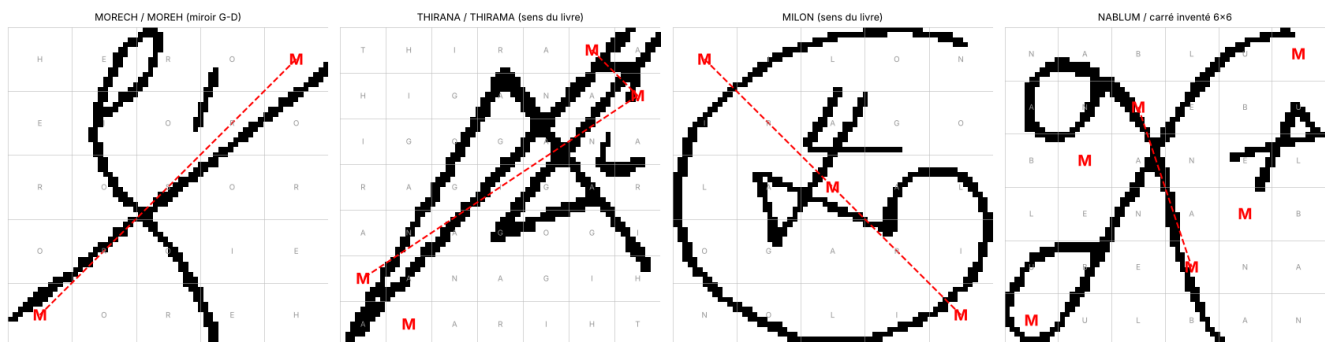
The four names at the first degree of the cardinal signs have consonant skeletons that mirror each other across opposite signs:

Sign	Name	Consonants
1° Aries	MORECH	M-R-CH
1° Libra	THIRANA (THIRAMA in Abramelin)	CH-R-M, reading TH as CH
1° Cancer	NABLUM	N-L-M (without B)
1° Capricorn	MILON	M-L-N

Aries and Libra are exact reversals, as are Cancer and Capricorn. Among the 180 pairs of opposite signs at the same degree, Nablum/Milon ranks first and Morech/Thirana third by consonant similarity under reversal. Two of the top three falling on 1° pairs has a naive probability of about 0.003, but the choice of 1° was made after looking, and the other four pairs at 1° show no mirror. Across all 360 names, reversed similarity (0.131) is no higher than direct similarity (0.133), so mirroring is not a general rule. All four names contain M, and the 1° degrees of the cardinal signs mark the equinoxes and solstices.

The M line on the sigils

Linking the M cells of the Abramelin square with a straight line gives a line that follows a main stroke of the sigil in two cases: MOREH (the line between its two M cells runs along the long diagonal when the square is mirrored left-right, as in Hebrew reading) and THIRAMA (the line between two M cells coincides with the long diagonal in the book's orientation, 0.9 px mean distance at 64 px, 6th percentile of all possible lines). After calibrating against random sets of the same number of cells, and for the 8 orientations tried, none is significant ($p = 0.07$ to 0.74). MILON shows only a weak match. The NABLUM square of the book (NABHI) has no M.



Limits and next steps

- The parity rule was found by exploring the data, then confirmed on independent halves of the zodiac. It has not been tested on new data. Replicating it on another source (for example the 1725 German edition of Abramelin that Stejnar says contains all 360 names) is the key next check.
- I have no proven explanation. The endings look like a masculine/feminine alternation that weakens along the zodiac (94% in the first half, 82% in the second), which points to how the list was compiled; I could not test that against the sources.
- Only 12 Abramelin squares were transcribed (MILON, THIRAMA, NABHI, KOSEM, ALLUP, SARAPI, MALACH, MELABBED, NVDETON, MEBHAER, MELAMMED, ROTHER) plus MOREH, whose missing R I completed. The squares of the other names are needed to test the M-line idea at scale.
- Hebrew letters were matched to Latin letters with loose tables (CH as one letter, TH read as CH). The Shem result holds with a strict one-to-one mapping as well ($p = 0.008$), but the mapping remains a choice.
- Sigils were measured from images; shape features are approximate.
- All p-values come from permutation tests against shuffled positions. When I tried several variants I say so and give the corrected figure.

Next: check the parity rule in the original sources, transcribe more squares, and compare the second half of the zodiac, where the ending rule weakens, with the original sources. The exceptions do not cluster in any sign.

The Abramelin hierarchy behind the 360 names

Bardon's 360 names are the servant spirits of the Abramelin hierarchy; the rulers above them were left out, and the servants follow bands of degrees, not signs.

The hierarchy in Hammer's list (Book III, chapter 19, as given by Dehn & Guth). Four kings (Lucifer, Leviathan, Satan, Belial); eight dukes (Astaroth, Magoth, Asmodi, Beelzebub, Oriens, Paymon, Ariton, Amaymon); then the servants of each duke. Bardon takes only the servants, in the order of the book, twelve per degree, one per sign.

Which degrees belong to which duke. Servants of one duke are consecutive in Hammer's order, so a degree row (12 names, one per sign) falls in a single group for 21 of 30 degrees. Boundaries are approximate by a few names: my alignment finds 166 of the 360 names directly and fills the rest from their neighbours.

Degrees	Servants of	Note
1-8	Oriens, Paymon, Ariton, Amaymon (shared)	8 pure degrees

Degrees	Servants of	Note
9-12	Astaroth and Asmodeus	pure
13-14	Amaymon and Ariton, then Astaroth	mixed
15	Astaroth	pure
16	Astaroth (6), Magoth (6)	mixed
17-21	Magoth	degree 21 has 1 Asmodeus
22	Asmodeus (10), Beelzebub (2)	almost pure
23-25	Beelzebub	pure
26-28	Beelzebub, Oriens, Paymon, Ariton	mixed
29-30	Ariton	degree 30 has 2 Amaymon

Test: are the servants in their duke's sign? No. With each duke given a sign (scheme below), 58 of 360 names sit in a sign of their duke, against 59 expected by chance ($p = 0.94$). Each group has the same number of names in every sign, so duke and sign are unrelated in Bardon's table: the duke is a property of the degree, not of the sign.

Element chains (reconstruction). Dehn & Guth read the four kings as the four elements at the cardinal signs and the eight dukes as the other eight signs. I placed each prince and duke by the element of the chapters of Book IV that he governs (list of chapters per duke in Book III, chapter 19) and by element words in Bardon's ZGE descriptions. The kings have no chapters, so their elements are traditional.

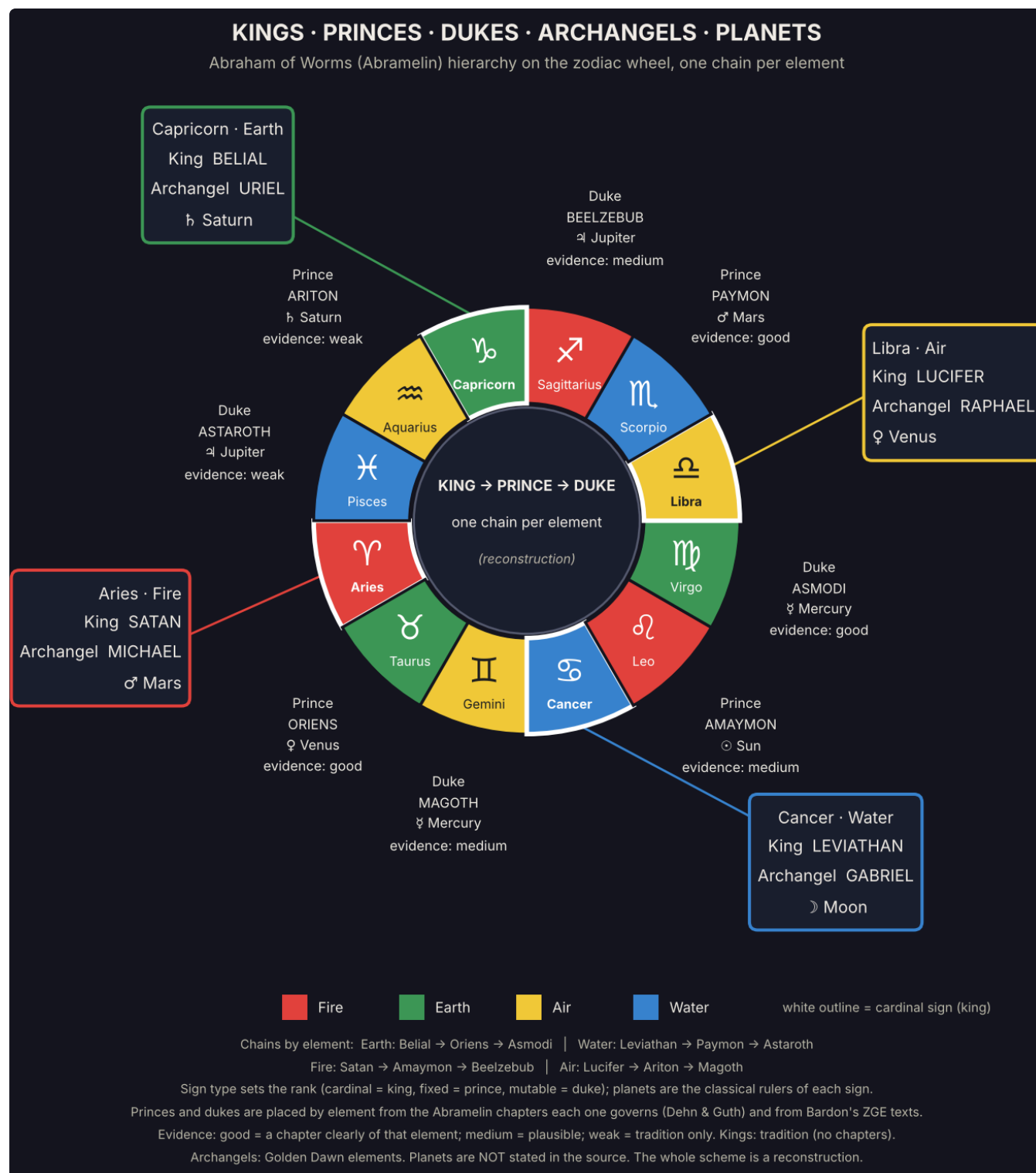
Element	King (cardinal sign)	Prince (fixed sign)	Duke (mutable sign)	Archangel	Evidence for prince / duke
Earth	Belial (Capricorn, Saturn)	Oriens (Taurus, Venus)	Asmodi (Virgo, Mercury)	Uriel	good / good
Water	Leviathan (Cancer, Moon)	Paymon (Scorpio, Mars)	Astaroth (Pisces, Jupiter)	Gabriel	good / weak
Fire	Satan (Aries, Mars)	Amaymon (Leo, Sun)	Beelzebub (Sagittarius, Jupiter)	Michael	medium / medium
Air	Lucifer (Libra, Venus)	Ariton (Aquarius, Saturn)	Magoth (Gemini, Mercury)	Raphael	weak / medium

What supports it: Paymon governs chapter 25 (staying under water), Oriens chapter 28 (coins), Asmodi with Astaroth chapters 6 and 16 (mines, treasure), Beelzebub chapters 20 and 22 (enmity, sickness). In Bardon's ZGE texts the word earth is commoner in earth signs (39 of 87 against 75 of 257, $p = 0.009$), fire likewise (6 of 86 against 5 of 258, $p = 0.03$),

and the water word differs between duke groups ($p = 0.0045$, mostly Ariton's group: 13 of 27). These keyword counts are mine and come from about eight tests, so they are suggestive only. Ariton's element is not settled: tradition says north and earth, his chapters are ambiguous, his servants speak of water.

Planets are the classical rulers of each sign and archangels follow the Golden Dawn elements; neither is stated in the source.

Density of the letters across the twelve princes (fragile signal). Giving each letter its element in Bardon's Key to the True Quabbalah (akasha 0, fire 1, air 2, water 3, earth 4; C counted as fire/air; table read from a web summary, not from the book), the mean element level of the letters rises from the row of the four kings (Lucifer, Leviathan, Satan, Belial: 2.06) and the first four dukes (Astaroth, Magoth, Asmodi, Beelzebub: 2.10) to the row of the four kings of the quarters (Oriens, Paymon, Ariton, Amaymon: 2.68; 3.00 with the spellings Paimon and Amaimon). The row of the quarters is denser, so the letters go from fire and air towards water and earth. Against 20,000 shuffles of the twelve names into three rows of four, the gap is +0.62 ($p = 0.007$ one-sided, 0.015 two-sided) and +0.94 with Mathers' spellings ($p = 0.002$ and 0.003). It holds in each of the four columns (4 of 4 against 1.9 expected, $p = 0.06$) and when any one name is removed. With the Golden Dawn letter table instead of Bardon's the result is weaker ($p = 0.044$). The pattern does not hold for the servants of each duke (their letters are not denser in the quarter groups), and it does not mean that each prince carries the letters of his own element: with the element or modality given to each prince in the scheme above, the share of his letters in that element is at chance ($p = 0.57$). A letter-by-letter transformation (a letter moving one or two steps towards earth in its element row) is also at chance ($p = 0.4$ to 0.9). The gap rests on twelve names and 25 to 29 lettered signs per row, the direction was chosen after seeing a first trend, and many other tests were run on the same names, so I treat it as a lead and not as a result.



Spirits Bardon took from the list but placed elsewhere. Hammer ends Amaymon's list with eight names of the element of air (Parahim, Apilki, Erkeya, Dalep, Capisi, Drisophi, Glisi, Cargoste). These are the air group of Bardon's 4 Elements sphere. For the other spheres (Moon, Mercury, Venus, Sun, Mars, Jupiter) I compared 309 names with 501 Abramelin forms that Bardon did not use: the matches are at chance level (Jupiter 4 against 0.2 expected, but these are common angel names).

Other links tested without result. The 36 decan names (Egyptian, Testament of Solomon, Greek and Latin Hermetic lists), Picatrix, eight calendars (Zoroastrian, Egyptian, Babylonian, Hebrew, Hindu, Maya, Aztec, Islamic), the 72 Shemhamphoras angels at 5 degrees each, the analemma and Golog/Camalo repeats, Hindu divisions (nakshatras, padas) and a sidereal or epoch shift of up to 45 degrees, and a match of the sigils to star patterns (5,044 stars of magnitude 6 or brighter, three scales, with mirror image). Each result is within chance. Spellings of non-Abramelin lists were written from memory and the star test ignores rotation.

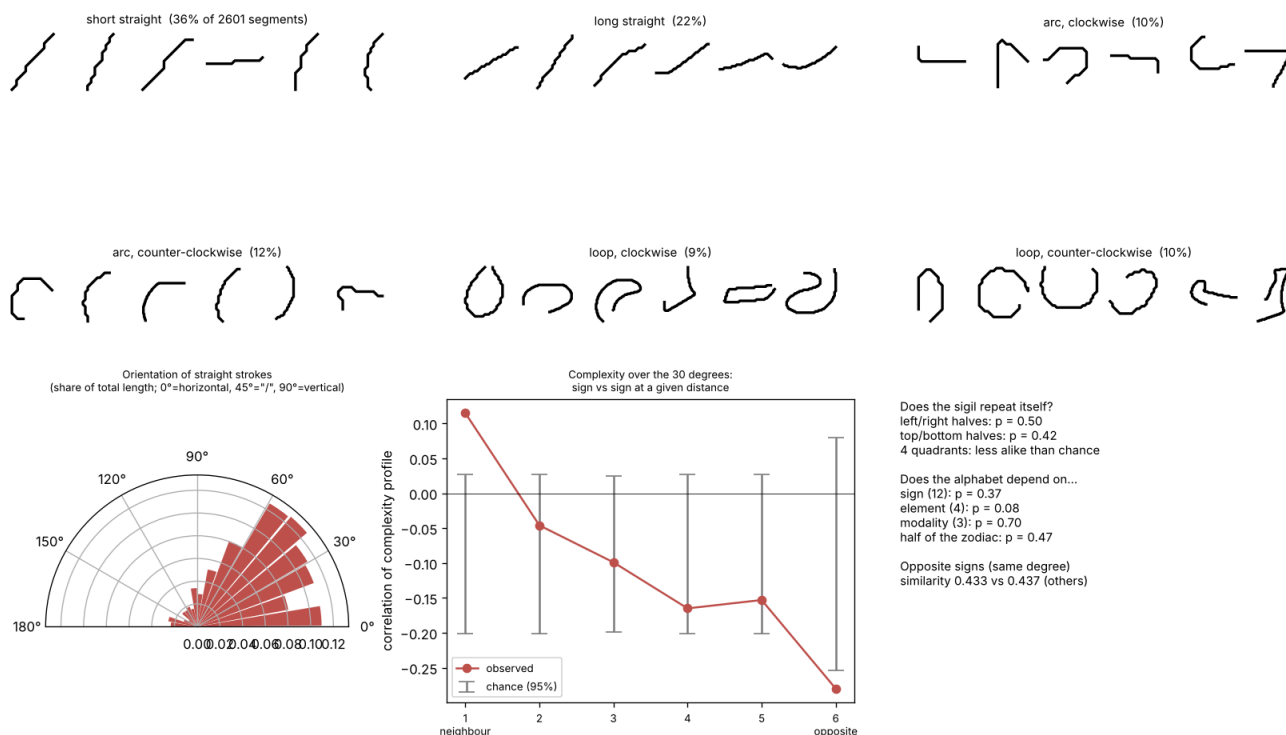
Stroke direction of the sigils. In the oblique straight strokes detected in the 360 sigils (skeleton and Hough transform, strokes between 15° and 75° or between 105° and 165° from the horizontal), 85% of the total length runs "/" (up and to the right) and 15% runs "" (38,655 px against 6,931 px). "/" dominates in 326 of 354 sigils and in every sign (share 0.80 to 0.89). Mirroring the images reverses the ratio (0.17), so the method is sound, and the pixel mass is balanced between left and right (0.502). A preference this regular points to a construction rule, or to a systematic orientation of the scans, rather than free drawing. It says nothing about the handedness of the draughtsman, which printed reproductions cannot show.

Continuity of the drawing. Counting the connected components of the ink in each of the 360 sigils (8-connectivity, 1 px tolerance to ignore scan breaks), 333 sigils (92%) are drawn in one piece, 20 are split into two shapes, 4 into three and 3 into four or more; without tolerance the figure is 327 (91%), with 3 px it is 346 (96%). The breaks cluster in the first degrees: 12 of 60 sigils at degrees 1 to 5 are split, against 15 of 300 at degrees 6 to 30 (Fisher $p = 0.0004$). Odd degrees are split slightly more often than even ones (11% against 4%, $p = 0.044$, weak), and the share of continuous sigils is similar in all twelve signs (87% to 100%). The two most fragmented sigils (Notiser 29° Virgo, 7 components; Forsteton 17° Pisces, 10) are probably thin strokes broken by the scan rather than true breaks.

Primitive strokes of the sigils (an alphabet?). Each sigil was cut into skeleton segments between crossings and endpoints (2,601 segments of 10 px or more, about 7 per sigil). Three types are clearly separated: straight strokes (68%), and curves or loops turning left (17%) or right (15%); a finer split gives six types (short straight 36%, long straight 22%, two kinds of arc of about 120° and two kinds of loop of more than 200°, each in both directions), but no number of types beyond three is clearly preferred. The straight strokes (1,063) follow no regular system of angles: by length, 63% lie between 30° and 75° ("/"), 30% between 0° and 30°, and only 9% are vertical or "\"; two orientations stand out, near 8° and 51°, and two straight strokes of the same sigil are more often nearly parallel (under 10° apart: 23% against 11% expected). The mix of types does not depend on the sign ($p = 0.37$), the modality ($p = 0.70$) or the half of the zodiac ($p = 0.47$), and only weakly on the element ($p = 0.08$). No sigil repeats itself in two or four parts: left and right halves, or top and bottom halves, match no better than halves of different sigils ($p = 0.50$ and

0.42), and the four quarters of a sigil are less alike than quarters of different sigils. Signs opposite on the wheel have no similar sigils at the same degree (overlap 0.433 against 0.437 for other distances). One pattern remains: the profile of complexity over the 30 degrees of a sign resembles that of the neighbouring sign (correlation +0.115 against -0.088 expected, $p < 0.001$) and is more opposed to that of the opposite sign (-0.28 against -0.09, $p = 0.023$, about 0.14 after correcting for six distances). The neighbour effect may only reflect the order of Hammer's list. Matching the sigils to letters, in Latin capitals and lower case or in 59 runes of all variants (Elder Futhark, Futhorc, Younger Futhark, medieval), gave nothing: the letters of a name are no more present in its own sigil than in others ($p = 0.49$ to 0.95), and a bindrune made of the runes of the name resembles its sigil no more than another sigil does (mean percentile 0.47 where 0.5 is chance, $p = 0.27$).

Primitive strokes of the 360 sigils (skeleton segments, k-means with 6 types)



Sources for this section: Dehn & Guth, Abraham von Worms (appendix tables and Book III, as read from the supplied text; see Sources below), [Decan \(Wikipedia\)](#), [Zodiacus \(Daremborg-Saglio, Wikisource\)](#), [Picatrix \(Esoteric Archives\)](#), [d3-celestial star catalogue](#).

Where the sigils come from

The names of the 360 are traced to Abramelin and Hammer, but no source is known for their sigils, and I found them in no printed text earlier than Bardón.

Series	Names	Sigils
360 earth-zone genii	Abramelin (Wolfenbüttel MS 1608), spellings from Hammer 1725; Quintscher's lists already held 205 of the 239 names where Bardon departs from Hammer	No known source. Quintscher's 11th teaching letter reportedly calls Bardon's Morech sigil badly drawn, which suggests a model existed in his circle
24 earth-zone sigils (colour plates)	-	Only Sata-Pessajah is traced: Silias 1931, Kabelák 1940, Bardon 1956, with small copying errors
72 genii of Mercury	Shem ha-Mephorash	Quintscher's Kabbalistik (1931), then Kabelák (1940)
12 Jupiter sigils	-	Quintscher's Kabbalistik (1931)
32 elemental sigils	Quintscher's Book of Formulas	No known earlier source

The chain. Friedrich Wilhelm Quintscher (1893-1945) joined Franz Sättler's Adonist society (founded 1926), then split from it in 1929 and founded his own group. Josef Schuster (Silias) was a member of his research lodge and, according to Stejnar, received his material from contact with the unseen; Quintscher took over and commented on it. František Kabelák translated and printed this material in Czech (Eulis, 1940; facsimile by Horus, 1998). Stejnar says he does not know where the sigils Bardon published came from, and only assumes that they came from the earth zone and were passed to the lodge brothers; he also speculates that Silias may have obtained them through the Abramelin exercises. Both points are conjecture. The claimed origin of Adonism itself (an ancient Oriental religion) is not documented.

My own comparisons. I compared the 360 sigils (64x64 blurred masks, best-neighbour correlation) with two printed sets I could obtain. Against 73 Goetia seals (redrawn modern versions) the mean best match is 0.40, below the 0.45 expected between Bardon sigils themselves, and 1.1% of sigils exceed the 95th percentile of that null. Against 34 plates of Faust's *Magia innaturalis* (Kabelák's 1940 translation of the 1505 manuscript) the mean is 0.38 against 0.42, with 1.7% above the 95th percentile. The best single matches (0.67 for sigil 71 and Zagan; 0.61 for sigil 259 and a Faust plate) are within what 360 sigils produce by chance. These tests exclude a direct copy of those two sets only; I could not compare the Silias, Quintscher or Kabelák sigils, which exist only in printed books.

Which language do the roots come from?

The recurring 4-letter roots match Hebrew and Greek vocabulary about twice as often as random fragments do, but not Latin or English; the result is real but fragile.

Method. A root is a 4-letter fragment found in at least 2 of the 358 distinct names (141 roots; 35 occur in 3 or more). For each language I counted how many lexicon words contain the root, and divided the mean by the same mean for control fragments. The controls are 4-letter fragments of names that occur in only one name, so they have the same letter statistics but no repetition. Spellings were normalised (uppercase, no diacritics, CH to X, PH to F, TH to T, K to C, Y to I, J to I, W to V, Q to C). The lexicons are Strong's Hebrew (6,951 words) and Greek (5,301 words), Whitaker's Words Latin stems (66,142) and 8,251 lowercase English words as a modern control.

Lexicon	Enrichment, 141 roots (p)	Enrichment, 35 roots (p)	Roots found in the lexicon	Same for controls
Hebrew	2.25 (0.003)	1.71 (0.10)	52%	30%
Greek	1.88 (0.003)	2.59 (0.007)	65%	44%
Latin	1.08 (0.35)	1.33 (0.16)	89%	73%
English	0.79 (0.62)	1.13	50%	40%

Enrichment above 1 means the roots appear in more words than control fragments do. A size-matched check with 5,000 words per lexicon gives the same picture (Hebrew 2.25, Greek 1.89, Latin 1.07, English 0.78). Without the spelling normalisation Hebrew rises to 3.67 and the others barely move. The most frequent hits are Hebrew ARAH (43 words), CARA (19), ARAT (17), SARA (17) and Greek HIPO (43), RION (41), ERIO (24), OLOG (21).

Position. Inside lexicon words the roots sit at the start, middle and end in these shares: Hebrew 36/27/36 (controls 32/37/30), Greek 19/50/31, Latin 19/60/21, English 14/73/12. The Hebrew roots lean towards word edges, which fits endings and prefixes more than stems.

Caveats.

- Strong's contains many biblical proper names, so the Hebrew and Greek signal may reflect biblical name-forming habits, not a source language for the roots.
- The Latin result does not cover the Latin-looking names. The ending-class table above labels 121 names Latin or Italic from their endings alone (for example NABLUM, TAPUM, YROMUS, HAGUS, AGLASIS, HELMIS, SARIS, OPILON), and the root test looks inside the names, not at their endings. Whitaker's list holds stems of common words and only a few proper names, so I ran a second test against the Latin Dictionary of Lewis and Short (Perseus; about 50,000 headwords, 8,241 of them capitalised proper names such

as places, peoples and persons). For each name I removed a possible ending (-US, -UM, -IS, -AS, -OS, -ON, -A, -I, -O, -E) and asked whether the remaining stem, at least 4 letters, equals a headword stem with its ending removed. The control is 200 sets of pseudo-names from a letter-pair model trained on the genii names themselves, so the letter statistics are the same. Result: 108 of 358 names match any headword (chance 55 ± 7) and 53 match a proper name (chance 27 ± 5), about twice chance. The excess is not in the Latin-looking names. The 66 names ending in -US, -UM, -IS, -ON or -OS give 12 matches against 9.8 ± 2.7 by chance (ABUSIS, CALAMOS, NABLUM, SARIS, MILON, OPILON); the other 292 names give 96 against 45 ± 6 , and 48 proper-name matches against 22 ± 4 (for example ARABIM, ARATOR, ASINEL, BAALTO, BURIUH, CILICI). Lewis and Short also records many Greek and Hebrew names (e.g. Baal), and I did not check which language each match comes from. Reading: the Latin endings are real, but the Latin-looking names do not sit on Latin vocabulary more than chance; the excess matches are in the other names, which fits the Greek and Semitic result above without proving it. The matching is loose (endings stripped on both sides), so I treat the factor of two as indicative, not as a precise measure.

- Language of the Lewis and Short matches. I sorted each matched proper-name entry by what its first 500 characters say: a Greek word or "Gr." (Greek), "Hebr.", "Syrian", "Phoenician", "Punic" or "Arab" (Semitic), a bare cross-reference ("v. Cilicia"), or none of these (Latin or unmarked). Same pseudo-name control. Greek: 32 names against 15.9 ± 3.9 by chance (e.g. ARGILO, CALAMOS, FILACON, MILON, MALAXA, CAMARION). Semitic: 4 against 0.4 ± 0.6 (ARABIM, BAALTO, OMANA, SIRIA). Latin or unmarked: 24 against 14.7 ± 3.9 ($p = 0.02$; e.g. IUGULA, GALAGO, HERIX, TOLET). Cross-reference only: 10 against 6.0 ± 2.6 (not significant). So the proper-name excess is mostly Greek, with a small Semitic one and a weaker Latin one. This tagger is crude: an entry often mentions Greek because the person was Greek, not because the name is, and one name can fall in several classes. Semitic is probably under-counted because Lewis and Short covers Hebrew names only when they entered Latin writing.
- Many hits are simple endings (-ARAH, -RION, -HIPO- inside compounds), so the test cannot tell a shared ending from a shared root.
- The transliteration rules are my choice; Hebrew is the most sensitive to them.
- An earlier version used shuffled letters as the control and was discarded: any natural language beats unpronounceable shuffles.

Reading: the roots are not Latin or English words. They look like Semitic and Greek name material, consistent with the Abramelin and Hammer lineage, but this is evidence of resemblance, not of derivation. Sources: Strong's Hebrew and Greek dictionaries (OpenScriptures), Whitaker's Words (Latin), cloned from GitHub.

Conclusion on language. The vocabulary behind the names is Greek first and Semitic second; Latin supplies the endings, not the words. Every figure is a resemblance to a dictionary, not a proof of derivation.

Test	Greek	Semitic (Hebrew)	Latin
141 roots in word lists (enrichment, p)	1.88 (0.003)	2.25 (0.003)	1.08 (0.35)
Names in Lewis and Short proper names (found / chance)	32 / 16	4 / 0.4	24 / 15
Name endings (number of names)	76	38	121
Latin-ending names matching Latin vocabulary (found / chance)	n/a	n/a	12 / 9.8 (not significant)

Weak points: the Semitic count is small and probably under-counted, the Greek class of the Lewis and Short test is a crude tag, and the roots test cannot separate a root from a shared ending.

Sources

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- [Source Library: Kircher, Speculum Cabalae mysticae](#) (the wheel of 72 divine names, Oedipus Aegyptiacus vol. II).
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- [Wikipedia: Adonism](#) (Sättler, Quintscher).
- [Tabirly, ars-goetia \(GitHub\)](#) (redrawn Goetia seals used for the comparison).