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The Hidden Judaism of the Sator Square in Pompeii

A recent discovery in the Pythagorean mathematical field leads to the deciphering of the SATOR square, the earliest examples of which are in Pompeii. It hides another Latin inscription, in full, which shows that it's a Jewish cryptogram, based on the bronze altar in Ex 27 and the bronze serpent in Nb 21, as an identification mark and a symbol of salvation for the Diaspora. Furthermore, the word "SAUTRAN" below the SATOR in Pompeii doesn't mean the greeting from someone called Sautran(us): before the letter N, symbol of the serpent according to the Judeo-Christian epigraphy, SAUTRA transcribes an imperative of the hebrew root str "to hide", the infinitive absolute of which is SATOR.

R O T A S
O P E R A
T E N E T
A R E P O
S A T O R

Since the end of the nineteenth century, the Sator Square has given rise to a number of hypotheses, some of which have admittedly been rather improbable. Nevertheless, their sheer number and their very excesses demonstrate the epigraphic success of this palindrome, dating to the dawn of the Christian era: the third century

in England and Doura-Europos in Syria; the beginning of second century in Hungary; finally, and most importantly, the first century in Pompeii. Firstly, a few facts. In the history of the interpretation of the Sator, two key “discoveries” were made at a ten-year interval of each other. In 1926, when the oldest known Sator dated to the third century, Felix Grosser observed that the palindrome was composed of the same letters as the two words *Pater noster*, thus showing that it was possible to form the following cross with its twenty-five letters:¹

```

      A
      P
      A
      T
      E
      R
A   P A T E R N O S T E R   O
      O
      S
      T
      E
      R
      O
  
```

Numerous exegetes took this anagram as a complete certainty: it could not be coincidental, but instead constituted the proof of the Christian origin of the square. However, in 1936 a Sator was discovered in Pompeii on a column in the palestra, accompanied by other inscriptions: the same hand wrote *SAUTRAN* below and then *VALE* in smaller characters; a second hand added Δ above and *ANO* below. This well-preserved Sator allowed Matteo Della Corte to identify the fragment of another Sator on a ruined inscription discovered inside a house in 1925.² Predating the eruption of Vesuvius on August 24, AD 79, these are the oldest known examples of the

1. Felix Grosser, “Ein neuer Vorschlag zur Deutung der Satorformel,” *Archiv für Religionswissenschaft* 29 (1926): 165–169.

2. Matteo Della Corte, “Il crittogramma del ‘Pater noster’ rinvenuto a Pompei,” *Atti della Pontificia Accademia Romana di Archeologia* 12 (1936): 397–400 (photograph: 398).

palindrome to date. Consequently, Grosser's anagram was suspected to be a pure coincidence, and the Christian hypothesis was disputed by those who considered it improbable that Christians had created such a cryptogram at the time and even that a Christian community had ever existed in Pompeii. The Jewish hypothesis was then considered, because there were already several important indications of a Jewish presence in the city³ (even if recent research implies that the population was probably not large⁴), but no decisive arguments were set forth.⁵ Many thus kept their faith in Grosser's Christian interpretation, whose anagram remained widespread,⁶ even though a spiritual and scholarly article by Paul Veyne challenged this very charming error.⁷

In these circumstances, the following pages would never have seen the light without a recent discovery in the field of ancient mathematics on the subject of squares, today referred to as "magic." These were known before the Christian era in China and several centuries later in India, but they had been believed to have been absent from the Greco-Roman tradition until the fourteenth century, when a Byzantine opusculum explicitly treated the subject⁸ (interpreters of the Sator thus logically took little interest in it, because of its late character⁹). Now, as may be read in the journal *Archive for History of Exact Sciences*, a passage from the treaty of Iamblichus (third–fourth centuries) examining Pythagorean arithmetic on natural and unnatural three-by-three squares implies not only a minimal knowledge of the squares known as "magic," but also allows us to explain

3. Jean-Baptiste Frey, "Les Juifs à Pompéi," *Revue Biblique* 42 (1933): 365–384.

4. See Giancarlo Lacerenza, "Per un riesame della presenza ebraica a Pompei," *Materia Giudaica* 6, no. 1 (2001): 99–103.

5. *Status quaestionis* by Duncan Fishwick, "On the Origin of the *Rotas-Sator* Square," *Harvard Theological Review* 57 (1964): 39–53.

6. Jean Carmignac, *Recherches sur le Notre Père* (Paris: Letouzey, 1969), 448–468; Rino Cammilleri, *Il quadrato magico. Un mistero che dura da duemila anni* (Milan: BUR, 2004).

7. Paul Veyne, "Le carré Sator ou beaucoup de bruit pour rien," *Bulletin de l'Association Guillaume Budé. Lettres d'Humanité* 27, no. 4 (December 1968): 427–456.

8. Paul Tannery, "Le traité de Manuel Moschopoulos sur les carrés magiques. Texte grec et traduction," in *Mémoires scientifiques*, (Paris: Gabay, 1996), 4:26–60.

9. See especially Guillaume de Jerphanion, "La formule magique SATOR AREPO ou ROTAS OPERA. Vieilles théories et faits nouveaux," *Recherches de Science Religieuse* 25 (1935): 188–225.

their discovery.¹⁰ Knowing that the cradle of Pythagoreanism lies in the south of Italy,¹¹ this locus immediately opens up a new prospect for studying the Sator of Pompeii: might it have been calculated using a Pythagorean square of five?

This prospect is compatible with the Jewish hypothesis, since in the first century, Judaism's assimilation of Greek arithmetic and Pythagoreanism is attested not only in the Alexandrine Diaspora, when Philo went so far as to associate the Tetragrammaton with the Tetractys,¹² but also in Palestinian Judaism, as "Greek letters were used to designate numbers, even in the Temple (*Shek* 3:2),"¹³ and as Flavius Josephus stated in no uncertain terms that the Essenes adopted the way of life taught by Pythagoras¹⁴ (according to the words of Martin Hengel, "the essential thing is not the supposed 'Pythagorean' influences, but the fact that Hellenistic observers like Josephus . . . could present them as Jewish 'Pythagoreans'"¹⁵). To this, we may add the contrasting theme on the "larceny of the Greeks" and the Hebraic origin of Pythagoreanism, which is also a revealing literary topos of its assimilation by Hellenic Judaism.¹⁶

These are the reasons why the hypothesis of a Jewish cryptogram using Pythagorean arithmetic is legitimate. Its validity will be established by deciphering the Sator, which proves to be both a Jewish identification mark comparable to the bronze altar in Exod 27 and a soteriological symbol in the guise of the image of the bronze serpent in Num 21; this symbol is emphasized by *SAUTRAN*, a transcription of a Hebrew imperative preceding the letter *N*, which is a symbol of the serpent in Judeo-Christian epigraphy.

10. Nicolas Vinel, "Un carré magique pythagoricien?" *Archive for History of Exact Sciences* 59:6 (2005): 545–562.

11. See Porphyry, *Vita Pythagorae*, ed. Nauck (Leipzig: Teubner, 1886): 18–20 ["Life of Pythagoras" in *The Pythagorean Sourcebook and Library* ed. and trans. Kenneth Sylvan Guthrie (Grand Rapids, MI: Phanes, 1920), 123–135].

12. Philo, *De vita Mosis*, II, 115, ed. Arnaldez (Paris: Cerf, 1967), 242 ["On the Life of Moses," in *Philo. VI. On the Life of Moses*, ed. G.P. Goold, trans. F.H. Colson (Cambridge, MA: Harvard University Press, 1994)].

13. Gershom Scholem, *La Kabbale* (Paris: Gallimard, 2003), 511.

14. Flavius Josephus, *Antiquitates Judaicae*, XV, 371. For the most up-to-date research, see Justin Taylor, *Pythagoreans and Essenes. Structural parallels* (Paris-Louvain: Peeters, 2004).

15. Martin Hengel, *Judaism and Hellenism: Studies in their Encounter in Palestine during Early Hellenistic Period* (Philadelphia: Fortress, 1974), 1:247.

16. See Peter Gorman, "Pythagoras Palaestinus," *Philologus* 127 (1983): 30–42.

I. *ARA AEREA*: A WITNESS OF THE DIASPORA

The biblical tradition regarding the altar of burnt-offerings affirms that it possesses an important symbolic value in addition to its liturgical function. In the Book of Joshua in particular, the Transjordanian Diaspora is confronted with the problems of exile: Can one serve YHWH on foreign land? Having built a reproduction of the altar of YHWH, the Transjordanian tribes respond in these terms to the accusation of infidelity in the cult (Josh 22:28–29):

Behold the replica of the altar of YHWH which our fathers made, not for burnt-offerings, nor for sacrifices, but it is a witness between us and you. Far be it from us that we should rebel against YHWH, and turn away this day from following YHWH, to build an altar for burnt-offerings, for meal-offerings, or for sacrifices, besides the altar of YHWH our God that is before His tabernacle.¹⁷

The “form” of the altar thus holds its symbolic function. In the Book of Exodus, the bronze altar built by Bezalel has a very distinctive “form” following the divine instructions received by Moses in Exod 27:1–2:

And you shall make the altar of acacia wood, five cubits long and five cubits wide; the altar shall be square, and its height [shall be] three cubits. And you shall make its horns on its four corners; its horns shall be from it, and you shall overlay it with bronze.

The symbolic value of its dimensions is attested in the Book of Chronicles (AD 4–3), which describes Solomon’s construction of the Temple of Jerusalem in chapters 2 Chr 1–9. He first went to Gibeon’s place of worship, where the tent of meeting was found: “And the bronze altar that Bezalel the son of Uri the son of Hur had made he placed before the Tabernacle of YHWH, and Solomon and the assembly sought it” (2 Chr 1:5). After returning to Jerusalem, Solomon ordered the construction of a temple, but chose more imposing dimensions for the altar of burnt offering: “And he made the bronze altar twenty cubits long, twenty cubits wide, and ten cubits high”¹⁸ (2 Chr 4:1); as to the dimensions described in Exod 27, these served as a model for a foundation placed on the square of the temple (2 Chr 6:13):

17. French translation from the Bible of Jerusalem (English translation from “The Complete Jewish Bible,” http://www.chabad.org/library/bible_cdo/aid/15806, accessed May 2013) except, in both cases, the Tetragrammaton transcribed as YHWH and *nehochet* always translated as “bronze.”

18. Cf. 1 Kgs 8:64: “The bronze altar that was before YHWH was too small.”

For Solomon had made a bronze laver, which he had placed within the forecourt, five cubits long, five cubits wide, and three cubits high, and he stood on it and knelted on his knees opposite all the congregation of Israel, and he spread forth his hands toward heaven.

Given the correspondence between these dimensions and those of the Sator, one may well ask whether they carried the same symbolic value in the first century as they did for the Chronicler three centuries earlier. In other words, for the Mediterranean Diaspora, did the “form” of the altar in Exod 27 represent what the “form” of the altar had represented for the Transjordanian Diaspora in Josh 22: a mark of identification between the worshippers of YHWH?

Indeed, the Sator of Pompeii corresponded to a period in which the Jews had to leave Rome on two occasions: under Tiberius in the year AD 19 and Claudius in the year AD 49, as testify the Acts of the Apostles.¹⁹ It is thus probable that some used such an identification mark unbeknown to the pagans: the dimensions of the bronze altar constituted a particularly relevant base for a cryptogram, visible even once the square was enumerated. But using which number? The *locus pythagoricus* of Iamblichus allows us to suppose that it involves an unnatural square of five respecting two properties: the sum of its rows and columns equals 65; 13, in the center of the square, is the arithmetic mean of the pairs of numbers taken symmetrically around it and equal to 26 ($13 + 26 + 26 = 65$). This is the square expressed in the Byzantine opuscle:²⁰

65 65 65 65 65 65					
11	24	7	20	3	65
4	12	25	8	16	65
17	5	13	21	9	65
10	18	1	14	22	65
23	6	19	2	15	65

19. Acts 18:2: “Claudius had commanded all Jews to depart from Rome.” See Leonard Victor Rutgers, “Roman Policy towards the Jews: Expulsions from the City of Rome during the First Century C.E.,” *Classical Antiquity* 13 (1994): 56–74, repeated in *The Hidden Heritage of Diaspora Judaism* (Louvain: Peeters, 1998), 171–191.

20. Tannery, “Le traité de Manuel Moschopoulos,” 54.

Based on the hypothesis that the Sator was of Jewish origin, such a square is not without interest, since the numbers 13, 26, and 65 are known to signify the divine name in Hebraic gematria: 26 is the numerical value of the Tetragrammaton, 65 that of its written form “Adonai,” and 13 that of *ehad* “One” (Deut 6:4). Now, the practice of gematria, or isopsephy, is attested in Pompeii in several Greek inscriptions:²¹

- n° 12*: “I love that which has the number (*arithmos*) (...) 1.”
- n° 4839: “that which has 1,035 is the number with a beautiful name (*arithmos tou kalou onomatos*).”
- n° 4861: “I love that which has the number (*arithmos*) 545.”

Very early on, the parallel was noted between these Pompeian inscriptions and the contemporaneous text of the *Apocalypse* on the number of the Beast:²²

- Apoc 13.17: “the name of the Beast or the number of his name (*ton arithmon tou onomatos*).”
- Apoc 13.18: “His number (*arithmos*) is 666.”

Given these contemporaneous parallels to the Sator and the use of numbers such as 1,035 or 666, an isopsephy of 65 for “Adonai” in the Pompeian square is not at all implausible. Admittedly, speculations of this kind may dishearten us today and often justifiably so, but it should be noted that even in the Chinese tradition, where the magic square of three was certainly known before the Christian era, the square itself was only attested explicitly in the tenth century, “after some 1,300 years of hidden, private or cult use.”²³ It is thus possible that religious or esoteric motives may explain such a lengthy silence between the Sator and the Byzantine treaty.

Gershom Scholem draws attention to a similar esoteric tradition linked to Pythagoreanism in the *Sefer Yetzirah*, the oldest known text of Jewish mysticism (3–6 AD), on account of its conception of Creation from letters and numbers, which “probably traces its origin to Neo-Pythagorean sources.”²⁴ The correspondence between letters and numbers is found

21. *Corpus Inscriptionum Latinarum*, vol. IV, Suppl. (Berlin: 1901), 460, 557 sq.

22. Antonio Sogliano, “Isopsepha Pompeiana,” *Rendiconti della Reale Accademia dei Lincei*, 10 (1901): 256–259.

23. Steve Cammann, “The Magic Square of Three in Old Chinese Philosophy and Religion,” *History of Religions* 1 (1960): 37–80; for the quotation, 45.

24. Gershom Scholem, *Les origines de la Kabbale* (Paris: Aubier, 1966), 37 [quotation back-translated from the French].

precisely within the cryptogram of Pompeii, particularly because its center *N*, the thirteenth letter of the Latin and Greek alphabets (and which, for example, denoted 13 on Greek coins from the second century BC onwards²⁵), coincides with the center of the natural square of five, but more importantly, because this natural square needs only be transformed into the “Adonai” square to decipher the Sator square.

1) The central cross is rotated 45° to the right:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

11	24	7	20	3
4	12	25	8	16
17	5	13	21	9
10	18	1	14	22
23	6	19	2	15

R	O	T	A	S
O	P	E	R	A
T	E	N	E	T
A	R	E	P	O
S	A	T	O	R

T				T
	E		E	
		N		
	E		E	
T				T

2) The cross connecting the angles does same rotation, but the pairs of numbers placed symmetrically around the 13—their arithmetic mean (1–25, 5–21, 7–19, 9–17)—pass from the outside to the inside, and vice versa:

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

11	24	7	20	3
4	12	25	8	16
17	5	13	21	9
10	18	1	14	22
23	6	19	2	15

R	O	T	A	S
O	P	E	R	A
T	E	N	E	T
A	R	E	P	O
S	A	T	O	R

		P		
		R		
R	S	N	S	R
		R		
		P		

25. Otto Neugebauer, *The Exact Sciences in Antiquity* (New York: 1957), 9: “The months of issue are denoted by the letters A to M representing the numbers 1 to 12 for an ordinary year, adding N= 13 for a leap year.”

3) The eight remaining even numbers correspond to A and O; they simply permute between them:

R	O	T	A	S
O	P	E	R	A
T	E	N	E	T
A	R	E	P	O
S	A	T	O	R

	O		O	
A				A
A				A
	O		O	

Thus deciphered by the “Adonai” square, the cryptogram contains, in addition to the two words *TENET*, the Latin words *ARA AEREA* “bronze altar”:²⁶

T				T
	E		E	
		N		
	E		E	
T				T

T	O	P	O	T
A	E	R	E	A
R	S	N	S	R
A	E	R	E	A
T	O	P	O	T

A	E	R	E	A
R				R
A	E	R	E	A

It is crucial to note the correspondence between this *ARA AEREA* square and the divine instructions on the bronze altar in Exod 27:1–2: “five cubits long and five cubits wide; the altar shall be square. . . . And you shall make its horns on its four corners; its horns shall be from it, and you shall overlay it with bronze.” Each “horn” corresponds to a *T*, which Tertullian (second century) attested to be the Latin transcription of *taw*,²⁷ the “sign” that God commanded to be inscribed on the forehead of the righteous in Ezek 9:4; however, this scene is held “beside the bronze altar” (Ezek 9:2). The horns were considered the holiest part of the altar, so much so that one could not lay their hands on he who had seized them: *TENET* probably

26. The noun *ara* and adjective *aereus* were common in first century Latin; the Vulgate opted for the less common translation *altare aeneum* (Exod 38:30; 39:39; 2 Kgs 16:14, and so forth).

27. Tertullian, *Adversus Marcionem*, III, 22 (*Migne Patrologia Latina*, vol. II, col. 353): ‘*Da signum TAU in frontibus virorum.*’ *Ipsa est enim littera Græcorum Tau, nostra autem T.* “Place the sign TAU on the forehead of men;’ it is the Tau of the Greeks, and our T.”

expresses this idea in the square *ARA AEREA*, like the later Vulgate of 1 Kgs 1:50, *tenuit cornu altaris* “he seizes a horn of the altar.”

The Sator thus shows that at the dawn of the Christian era, the “form” of the altar of burnt-offerings retained the symbolic value attributed to it by the Chronicler in the fourth century. Furthermore, it remained for the Mediterranean Diaspora what it had been for the Transjordanian Diaspora in Josh 22: “a *witness* among us that YHWH is God” (v. 34). However, this is not its only worth.

II. *SERPENS AEREA*: A SOTERIOLOGICAL SYMBOL

In addition to this function of *witness*, did not the Sator also have a soteriological value, in the sense of salvation, “in order to escape from whatever physical harm, from danger, from the hands of an enemy”?²⁸ In fact, according to Isaiah, the *witness* altar announced the forthcoming delivery of the Diaspora (Isa 19:19–20):

On that day there shall be an altar to YHWH in the midst of the land of Egypt. . . . And it shall be for a sign and for a *witness* to YHWH of Hosts in the land of Egypt. For they shall cry out to YHWH because of oppressors, and He shall send them a savior and a prince, and he shall save them.

Bronze is the material used for another, even more renowned symbol of salvation, namely, the serpent fashioned by Moses in Num 21:6–9:

YHWH sent against the people the venomous snakes, and they bit the people, and many people of Israel died. The people came to Moses and said, “We have sinned, for we have spoken against YHWH and against you. Pray to YHWH that He remove the snakes from us.” So Moses prayed on behalf of the people. YHWH said to Moses, “Make yourself a serpent and put it on a pole (*nes, semeion* LXX), and let whoever is bitten look at it and live.” Moses made a bronze snake and put it on a pole (*nes*), and whenever a snake bit a man, he would gaze upon the bronze snake and live.

The extreme importance of this incident for the Alexandrian Diaspora, which was contemporary to the Sator, is attested in the

28. Marcel Simon, “Conceptions et symboles sotériologiques chez les juifs de la Diaspora,” in *La soteriologia dei culti orientali nell'impero romano*, ed. U. Bianchi and M. J. Vermaseren (Leiden: Brill, 1982), 781–802; for the quotation, 781 [quotation back-translated from the French].

Wisdom of Solomon (first century BC), in which the serpent from Num 21 is rendered the *symbolon* of God himself (Wis 16:5–7):

Even when the terrible fury of wild beasts descended upon them and they perished from the bites of tortuous snakes, your anger did not last throughout; but it is by way of warning and for the short while that they were worried, and they had a sign (*symbolon*) of salvation to remind them of the commandment of your Law, as he who turned towards it was saved, not by what it had before his eyes, but by you, the Savior of all.

Similarly, in his work on Jewish symbols from the Greco-Roman period, Goodenough²⁹ listed a Greek amulet with the inscription MOYCH “Moses” on one side and the drawing of a snake between the words ΙΑΩ³⁰ “YHWH” and CΑΒΑΩ “SABAOTH” on the other (*cf.* Isa 19:20).

Once again, deciphered using the “Adonai” square, the Sator falls within this tradition, as *ARA* and *AEREA* are accompanied by the name *SERPENS*³¹—the ensemble sealed by the last missing part of the square:

		P		
A	E	R	E	A
R	S	N	S	R
A	E	R	E	A
		P		

		P		
	E	R	E	
	S	N	S	
A	E	R	E	A

A	E	R	E	A
	S	N	S	
	E	R	E	
		P		

The synthesis of the bronze altar and the serpent from Num 21 is corroborated by *Genesis Rabbah*, which stresses the relationship between the Hebrew names for bronze—or iron—and the snake:

The Saint, Blessed is He, ordered Moses: “Make yourself a serpent (*saraf*)” without specifying any more. And Moses said: “If I make it out of gold (*zahav*), the two words will not correspond, out of silver (*keseph*), the two words will not correspond either. I will therefore make it out of iron, and the two words will correspond.” Moses made the serpent (*nahach*) with iron (*nehochet*).³²

29. Erwin R. Goodenough, *Jewish Symbols in the Greco-Roman Period*, vol. 3 (New York: 1953), ill. n° 1135.

30. Diodorus Siculus (first century BC) associates the “God called Iao” with Moses: *Bibliotheca historica*, I, 94, 2, ed. (Leipzig, Germany: Vogel, Teubner, 1888).

31. On the feminine *SERPENS AEREA*, see Ernout-Meillet, *Dictionnaire étymologique de la langue latine* (Paris: Klincksieck, 1994), 619: “*serpens* f. (scil. *bestia*).”

32. *Midrash Rabbah*, vol. I, 31, 8, trans. Maruani and Cohen-Arazi (Verdier, 1987), 322 [quotation back-translated from the French].

This Midrash is probably as old as the name *Nehushtan*, which was given to Moses's bronze serpent when, according to the Book of Kings, it was honored in the Temple.³³ According to Michèle Morgen, even in Num 21, if the writer presents the episode as an event desired by God, it is precisely "to explain the presence of this belief in the prophylactic powers of the iron serpent, which had a certain importance in Israel (2 Kgs 18:4) and not to be confused with idol worship."³⁴ The deciphered Sator falls within this tradition, since it proves to be both *ARA AEREA* (*nehochet*) through its dimensions and *ARA SERPENS* (*nahach*) through its internal structure.

Once again, the correspondence between the foundation and form of the cryptogram is crucial: just as the mention *ARA AEREA* corresponds to the dimensions of the square, *SERPENS* shows that the palindrome imitates the form of the serpent (like the "amphisbaena," the serpent to which the Greeks attributed two heads and the ability to move both forwards and backwards). *SERPENS* also corresponds to the ability to be read in *boustrophedon* (alternatively from left to right and from right to left), which finds a remarkable parallel in Pompeii with *serpentis lusus*: these two Latin words, signifying the "play of the serpent," are the lead-in to a long inscription that provides a fine example of a calligram; indeed, its vertically written text forms the shape of a serpent with four loops, similar to the Sator below:³⁵

R	O	T	A	S
O	P	E	R	A
T	E	N	E	T
A	R	E	P	O
S	A	T	O	R

33. 2 Kgs 18:4: "[He] crushed the bronze serpent that Moses had made, for until then the children of Israel had been burning incense to it; and he called it Nehushtan."

34. Michèle Morgen, "Le Fils de l'Homme élevé en vue de la vie éternelle," *Revue des Sciences Religieuses* 68, no. 1 (1994), 5–17; for the quotation, 9 [quotation back-translated from the French].

35. *C.I.L.*, vol. IV (Berlin: 1871), no. 1595.

Nevertheless, contrary to the *serpentis lusus*, the Sator has neither beginning nor end, and continually returns to its starting point—the exact opposite of the ungodly in the Wisdom of Solomon: “After our end there is no returning: for it is fast sealed, so that no man cometh again” (Wis 2:5). This is why it is *SERPENS AEREA*, as in the first century, the serpent of Num 21 was a symbol of eternity and resurrection, attested not only in Wis 16 (*supra*), but also in the Gospel of John: “And as Moses lifted up the serpent in the wilderness, even so must the Son of man be lifted up: that whosoever believes in him should not perish, but have eternal life” (John 3:14–15).

Let us now comment on the inscriptions made by a second hand above and below the Sator of the palestra: Δ and *ANO*. According to Emanuele Testa, the Judeo-Christian ossuaries associated the letter *N* with drawings of snakes, and a snake even appears in the inscriptions of *Dominus Flevit* “sulla forma sinuosa di una *N*;³⁶ this symbolism dates back to the very origin of the Greek and Hebrew alphabets, because the pictographic sign from which the letters derive, *nu* and *nun*, was a snake, and as such the letter *N* was also a symbol of eternity (the *C.I.L.* recovered an inscription from Naples, close to Pompeii, where an *N* is isolated under the words *aeterno flore*³⁷). The ossuaries studied by Testa also attest the letter Δ . Thus, it is not surprising that a second hand inscribed a Δ above the Sator and *ANO* below it, the symbol of the serpent being completed with the two letters symbolizing eternity (the same type of symbolism appears on an amulet indexed by Goodenough, on which an impressive snake is surrounded by the Λ and Ω of the divine name $\text{IA}\Omega$ ³⁸). Note that the Latin symbolism *AO* is well attested in Judeo-Christian epigraphy, next to the Hebrew *aleph-taw* and Greek *alpha-omega*,³⁹ the latter already used by the Septuagint in the third century.⁴⁰

In all, the synthesis of the bronze altar and the serpent from Num 21 proves to be particularly coherent, especially from the perspective

36. Emanuele Testa, *Il simbolismo dei Giudeo-Cristiani* (Jerusalem: 1962), 142 (oss. 15, 46, 123) and 161.

37. *C.I.L.*, vol. X, no. 362 (cited by Testa, *Il simbolismo dei Giudeo-Cristiani*).

38. Goodenough, *Jewish Symbols*, ill. n° 1167. Cf. n° 1135 (*supra*), where the serpent is surrounded by $\text{IA}\Omega$ and *CABAW* (a clearly intentional corruption of *SABAOTH*).

39. Testa, *Il simbolismo dei Giudeo-Cristiani*, 347 and 364.

40. See Nicolas Vinel, “L’Alpha-Omega des Septante,” *Revue Biblique* 113 (2006): 201–210.

of the biblical sources. The Num 21 episode is preceded in Num 17 by an etiology of the bronze altar of burnt offering, given to Israel as a “sign.” This is the missing part of the cryptogram.

III. *ARA, AEREA, SERPENS*: THREE “SIGNS” FOR THE DIASPORA

Josh 22 shows that the altar of burnt offering is not only valuable for its liturgical function, but also for its symbolic value, as a *witness* for the Diaspora. From this perspective, as an image of the bronze altar, the Sator is compatible with the design of the Tent of the Meeting as a “visible sign” of God’s presence outside of the Holy Land.⁴¹

The concept of the “sign” (Hebrew *’ôt*, Greek *semeion*) applies to three words inscribed in Latin on the cryptogram, beginning with the *altar* of YHWH, as seen above in the passage from Isaiah referring to the oppressed Diaspora: “And it shall be for a sign (*’ôt*, *semeion* LXX) and for a witness to YHWH of Hosts in the land of Egypt” (Isa 19:20). In Num 17:1–4, God attributes this function to the *bronze* of the altar after the quarrel of the censers:

YHWH spoke to Moses saying: “. . . the censers of these who sinned at the cost of their lives, and have [therefore] become sanctified, and they shall be as a reminder (*’ôt*, *semeion* LXX) for the children of Israel.” So Eleazar the kohen took the bronze censers which the fire victims had brought, and they hammered them out as an overlay for the altar.

This bronze etiology was to have much importance in Alexandrine Judaism, because the Septuagint inserts it into the account of Bezalel’s construction of the altar in Exod 38:22: “He made the bronze altar with bronze censers belonging to men who had revolted with the community of Korah.”

Thirdly, *’ôt* characterizes Moses’s staff that was changed into a *snake*, being the “first sign” so that Israel would have confidence in its guide (Exod 4:2–8). In Num 21, the word *nes* “sign” is translated by the Septuagint as *’ôt* with the word *semeion*, which becomes even *symbolon* in Wis 16 (*supra*): according to Morgen, the event of Num 21 “takes it as a sign.”⁴² In fact, this is not specific to the

41. See Bernard Renaud, “La formation de Ex 19–40. Quelques points de repère,” in *Le Pentateuque. Débats et recherches* (Paris: Cerf, 1992), 103–133.

42. Morgen, “Le Fils de l’Homme élevé en vue de la vie éternelle,” 9.

Alexandrine tradition, as the Targum Onkelos of Num 21 translates *nes* as 'at,⁴³ the Aramean equivalent of the Hebrew 'ôt;⁴⁴ this thus proves that in the Jewish version of Num 21, the abstract concept of 'ôt replaces the concrete concept of *nes*.

For this reason it is perfectly coherent that in the cryptogram numbered by the “Adonai” square, the letters not used for *ARA*, *AEREA*, and *SERPENS* form the word *OT* precisely:

T	O		O	T
A				A
R				R
A				A
T	O		O	T

T	O		O	T
A	E	R	E	A
A	E	R	E	A
T	O		O	T

T	O	P	O	T
	E	R	E	
	S	N	S	
	E	R	E	
T	O	P	O	T

The Sator, which reproduces the “form of the altar of YHWH” (Josh 22) and, as it happens, that of the bronze altar, is conceived as a “*sign* and . . . *witness* to YHWH” (Isa 19:20). Let us specify that the Latin-Hebrew bilingualism of *ARA* (*SERPENS*) *OT* is attested in the most important Jewish inscription from Sicily, “a bilingual that has an opening formula in Hebrew and then continues in Latin,”⁴⁵ and even in Pompeii in a prophylactic inscription discovered in 1960:⁴⁶

CHEREM
POINIVM

Moreover, this bilingualism and the Latin transcription of the Hebrew appear even closer to the Sator, under the square itself.

43. *Targum du Pentateuque*, vol. III, ed. Roger le Déaut (Paris: Cerf, 1979), 194, no. 4.

44. Marcus Jastrow, *Dictionary of the Targumim, Talmud Babli, Yerushalmi and Midrashic Literature*, vol. 1 (New York: Judaica Press, 1996), 132.

45. Leonard Victor Rutgers, “Interaction and its Limits: Some Notes on the Jews of Sicily in Late Antiquity,” *Zeitschrift für Papyrologie und Epigraphik* 115 (1997): 245–256, repeated in *The Hidden Heritage of Diaspora Judaism*, 139–156; for the quotation, 140.

46. See Isidoro Kahn, “Un graffito recentemente scoperto a Pompei,” *Annuario di Studi Ebraici* (1963): 35–40; David Noy, *Jewish Inscriptions of Western Europe*, vol. 1 (Cambridge: Cambridge University Press, 1993), no. 39; Lacerenza, “Per un riesame della presenza ebraica a Pompei.”

IV. SAUTRAN: THE HEBREW SIGNATURE OF THE SATOR

The words *SAUTRAN* and *VALE* are traditionally considered to represent the greeting of a certain *Sautran(us)*, which is hardly plausible from the point of view of Latin onomastics, as Della Corte suggests the reading *Saturan(us)*.⁴⁷ However, this traditional interpretation raises three objections: 1) *SAUTRAN* is not closer to *VALE* than to *SATOR*, the final word in the square; 2) its first letter is aligned with that of *SATOR*, whereas *VALE* is clearly shifted; 3) its letters are the same size as those of *SATOR*, while those of *VALE*, as seen above, are much smaller. Consequently, if *SAUTRAN* is to be brought closer to a word, it should be *SATOR*.

It thus begs the question: may *SAUTRAN* and *SATOR* not be formed from the same root? Latin provides us with no solution, but Biblical Hebrew frequently attests to the root *str* “to hide:” when Moses *hides* his face in front of the burning bush in Exod 3:6; in relation to the fate of the Diaspora, which belongs to *hidden things* according to Deut 29:27–28; expressing the patient resistance of Israel in Isa 49:2: “He made me into a polished arrow, *He hid me* in His quiver;” finally, characterizing YHWH himself in the famous passage from Isa 45:15: “You are *a God Who conceals Himself*, the God of Israel, the Savior!” The topicality of this issue at the beginning of the Christian era is attested in *Genesis Rabbah*, in which Dan 2:22 (“He reveals the profound and *secret things*”) is commented upon from a soteriological perspective, while bringing it closer to Ps 31:21: “You *hide* in the *secrecy* of your face.”⁴⁸

In fact, knowing that the letter *N* represents the serpent, the *symbolon* of God, and should be considered separately (as emphasized by the fact that *ANO* has been inscribed by a second hand), the words *SATOR* and *SAUTRA* respectively correspond to the paradigms of the infinitive absolute (*qatôl*) and the “emphatic” singular masculine imperative (*qotlah*).⁴⁹ Regarding the latter, the Pompeian

47. *C.I.L.*, vol. IV, Supplement (3) (Berlin: 1952), 902.

48. *Midrash Rabbah*, I, 6, 39.

49. Paul Joüon, *Grammaire de l'hébreu biblique* (1923; reprint, Rome: 1996), 27 and 108 sq. The *qal* of *str*, which does not have any biblical occurrence, is nevertheless attested in the Qumran manuscripts; see the *Theological Dictionary of the Old Testament*, vol. 10 (Michigan: 1999), 371: “Interestingly, the *niphal* and *hiphil* here are joined by occurrences of the *qal*.”

spelling of *SAUTRA* is particularly interesting: it illustrates the fact that in first century Latin, the diphthong *AU* was frequently contracted as *O*: for example, the noun *aurum* “gold” was pronounced *orum*;⁵⁰ this is also seen in the work of Cicero and Horace and on the very walls of Pompeii;⁵¹ finally, a revealing anecdote is reported by Suetonius (second century) regarding Emperor Vespasian, who died on June 23, 79, two months before the eruption of Vesuvius: “When, one day, the former consul Mestrius *Florus* pointed out to Vespasian that, to pronounce it correctly, it was necessary to say *plaustra* (chariots) rather than *plostra*, Vespasian greeted him the following day by calling him *Flaurus*.”⁵² These contemporary parallels to our inscription show that *SAUTRA* can be read as *sotrah* without any difficulty—particularly as this Latin spelling is consistent with the definitive establishment of Masoretic pronunciation (ninth century): unlike *O* (*holem*), *AU* is related to *A* as *qames hatouph* is to *qames*.

Thus, it is probable that a Jew of the Diaspora, when seeing in the word *SATOR* the root *str* and the infinitive absolute form, would have deliberately inscribed another form of this root below.

The choice of the “emphatic” imperative has two possible explanations: 1) from a syntactical point of view, *SAUTRA* constitutes with *SATOR* a frequent paronomastic sequence in Biblical Hebrew, in which the infinitive absolute carries an emphatic nuance by reinforcing the idea expressed in the combined verb form⁵³—the only objection is that, when this verb form is an imperative, Biblical Hebrew postpones the infinitive absolute of the same root,⁵⁴ but the author of the inscription obviously did not have this freedom; 2) *SAUTRA* is followed by the letter *N*, the image of the serpent from Num 21, which is the *symbolon* of God in the Wisdom of Solomon and on the amulet listed by Goodenough.

50. Max Niedermann, *Phonétique historique du latin* (Paris: Klincksieck, 1953), 65.

51. Niedermann, *Phonétique historique du latin* (C.I.L., vol. IV, no. 2353).

52. Niedermann, *Phonétique historique du latin*, 66 [quotation back-translated from the French].

53. Joüon, *Grammaire de l’hébreu biblique*, 348 sq.; Takamitsu Muraoka, *Emphatic Words and Structures in Biblical Hebrew* (Jerusalem-Leiden: Brill, 1985), 91 sq. (on the root *str*, cf. Deut 31:18 and the sequence inf. abs. + incomplete Hiphil).

54. Joüon, *Grammaire de l’hébreu biblique*; Muraoka, *Emphatic Words and Structures*, 89.

This analysis of SAUTRA *N* is corroborated by Semitic archaeology, as Bordreuil's *Catalogue des sceaux ouest-sémitiques* lists the name *ywstr*, "which derives from the root *satar* 'to protect,' 'to hide'" and "means that 'YW sheltered,' cf. Ps 91:1 'You who live under the shelter (*beseter*) of the Almighty,'"⁵⁵ better still, the *Onomastica aramaica* of W. Kornfeld mentions the forms *stryh* and *str'l*, that is to say, two sequences of the type *str+divine name* (*yh* and *'l*).⁵⁶ The imperative form SAUTRA is perfectly compatible with such a sequence, as shown by the use of the roots *shmr* "to keep" and *zkr* "to remember;" indeed, their infinitive absolute form is used as an imperative or future injunctive in the divine commands of the Ten Commandments: Deut 5:12 "Keep (*shamôr*) the Sabbath day" and Exod 13:3 "Remember (*zakôr*);" on the other hand, their emphatic imperative form is used to formulate prayers: Ps 25:20 "Guard (*shomrah*) my soul" and 2 Chr 6:42 "remember (*zokrah*) the kind deeds of David." This is why SAUTRA *N*, below the infinitive absolute form SATOR, is probably a prayer in the form *str+divine name*: "Hide me, YHWH." This is what the second Jewish hand probably wanted to emphasize by repeating the letter *N* in ANO.

CONCLUSIONS

Numerous publications on the Sator have dealt with the origin and meaning of the word AREPO, which proves to be a pure accident due to formal constraints that the authors of the cryptogram could not overcome. This false lead, among others, kept the exegetes far from the solution to the Sator, which combines two research fields whose contact points are rare: the history of religions and that of science. Indeed, a treaty on Pythagorean arithmetic allows us to establish the link between this first century Jewish cryptogram and the fourth century Byzantine opuscle, which held the key, probably without even knowing it—thirteen centuries of lost or secret tradition, as in the case of the Chinese magic square (*supra*).

55. Pierre Bordreuil, *Catalogue des sceaux ouest-sémitiques inscrits de la Bibliothèque Nationale du Musée du Louvre* (Paris: BNF, 1986), 54 [quotations back-translated from the French].

56. Walter Kornfeld, *Onomastica aramaica aus Ägypten* (Vienna: Bohlaus Nachf, 1978), 65; cf. *stry'l* in Martin Noth, *Die israelitischen Personen-namen im Rahmen der gemeinsemitischen Namengebung* (Stuttgart: Kohlhammer, 1928), 158.

The creators of the Sator, who probably lived just before the Christian era, were part of the tradition of the Transjordanian Diaspora in Josh 22: their square reproduces the “form of the altar of YHWH,” and as it so happens, the bronze altar of Exod 27, “not for burnt-offerings, nor for sacrifices, but [as] a *witness*.” This identification mark conforms moreover to the soteriological perspective of Isa 19:19–20: “On that day there shall be an altar to YHWH in the midst of the land of Egypt. . . . And it shall be for a *sign* and a *witness* to YHWH of Hosts.” In fact, numbered according to the “Adonai” square, the Sator is *ARA AEREA* in its dimensions, *SERPENS* as both a palindrome and according to its *boustrophedon* reading (like the Pompeian *serpentis lusus*), and *SERPENS AEREA* because it has neither beginning nor end. This is why it is also *OT* in accordance with Num 17, in which God makes an ’ôt for Israel out of the bronze altar, and with Targum Onkelos of Num 21, which associates ’ôt with the bronze serpent. The correspondence between the foundation and form of the inscription is fundamental: just as the lead-in *serpentis lusus* proves that the calligram *deliberately* outlines a snake, *ARA AEREA* proves that the dimensions of the Sator *deliberately* reproduce those of the bronze altar.

A hand-drawn diagram of the Sator square. The words are arranged in a square grid:

R	O	T	A	S
O	P	E	R	A
T	E	N	E	T
A	R	E	P	O
S	A	T	O	R

Below the square, the words "ANO" and "SANTRAM" are written, with arrows indicating a path that starts at the top of the square, moves right, then down, then left, then up, and continues in a boustrophedon pattern around the square.

VALE

The Sator of the palestra of Pompeii, from the photograph published in 1936 by Della Corte, “Il crittogramma del ‘Pater noster’,” *Atti della Pontificia Accademia Romana di Archeologia* 12: 397–400 (photograph: 398)

On the other hand, even though the play on the Hebraic root *str* corresponds perfectly with the cryptographic character of the palindrome, it is difficult to say whether it dates back to its initial creation: it is perhaps a personal reading of whoever engraved it on the palestra—and who most likely did not also create the cryptogram. In any case, the Sator is a Jewish creation as is that of the palestra of Pompeii; as to those inscribed in Budapest (second century), Circencester, or Dura-Europos (third century), nothing allows us to decide whether their authors were Jewish or Christian. However, it is conceivable that Judaism would have forsaken this cryptogram in Latin very early on, for the same reasons that it eventually abandoned the Greek version of the Septuagint, which became the Bible of Christians.

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