## Magic Squares


#### Abstract

"Magic squares" come in two forms: numbers and letters. Here, we'll talk primarily about tables of numbers. These magic squares are square grids of numbers (3x3, $4 \times 4$, etc.) arranged such that the sum of every row and column (their "magic constant") is identical. In a true "magic" square, the diagonals also have that same sum; in a "semi-magic" square, they do not. There are also "pan-magic" squares in which the broken diagonals also have that sum. However, in Western ceremonial magic we tend to use only a certain class of magic squares, those described by Henry Cornelius Agrippa in his Three Books of Occult Philosophy; so again, those are the ones we'll talk about.


Magic squares have been known to Chinese mathematicians since at least 650 $B C E .{ }^{1}$ The "Lo Shu" square appears in Chinese literature of about that time:

| 4 | 9 | 2 |
| :--- | :--- | :--- |
| 3 | 5 | 7 |
| 8 | 1 | 6 |

This is also Agrippa's Square of Saturn, one of 8 possible $3 \times 3$ squares using the numbers 1 through 9. It is also, as it turns out, the smallest possible true magic square: a $2 \times 2$ magic square cannot exist, and a $1 \times 1$ "square" can't honestly be said to have diagonals.

Arabs and Egyptians also knew of magic squares, as have many cultures throughout history. Magic squares have been known for more than 4,000 years that we know of. You'll also hear them called "kameas", from the Hebrew word קמיע, which means "amulet".

You can make a magic square out of any regularly-repeating pattern of numbers you like. Here, for example, is the same square using even numbers 2 through 18:

| 8 | 18 | 4 |
| :---: | :---: | :---: |
| 6 | 10 | 14 |
| 16 | 2 | 12 |

However, a magic square such as this can't be used for making sigils - that only works with "normal" squares, those using the number sequence $1-n$. Those are the ones we'll concentrate on. We'll see why when we talk about sigils on the squares.

[^0]Also note that every magic square you can construct yields a total of 8 magic squares. Addition is "commutative", meaning that no matter which order you sum numbers in, you get the same result. Thus, you can rotate the square to create 4 squares, and you can reverse each of those squares to get 4 other squares, for a total of 8 . Moreover, there is more than one pattern that works for making most squares. However, we'll concentrate on the squares most often used by Western magicians, those described by Agrippa.
For the purpose of making amulets, sigils, and the like, we use magic squares whose "order" (the number of its rows or columns) is the number assigned to the planet with which that number associates, as follows:

| Planet | Order | Sum | Constant | Sephirah |
| :---: | :---: | ---: | ---: | :--- |
| Saturn | 3 | 45 | 15 | Binah |
| Jupiter | 4 | 136 | 34 | Chesed |
| Mars | 5 | 325 | 65 | Geburah |
| Sun | 6 | 666 | 111 | Tiphareth |
| Venus | 7 | 1225 | 175 | Netzach |
| Mercury | 8 | 2080 | 260 | Hod |
| Moon | 9 | 3321 | 369 | Yesod |

We remarked already that the smallest true magic square is $3 \times 3$. This makes it very convenient ${ }^{2}$ that Saturn is the first of the planets represented on the Tree of Life. It also means that there are no magic squares for constructing sigils for Kether or Chokmah ... so sorry.

These magic squares fall into three categories: those of odd order, those of even order, and those of doubly even order. A square is of "odd" order if its order is an odd number. It's of "even" order if its order is an even number. (So far, duh. But.) A square is of "doubly even" order if it is an even number that is divisible by $4: 4,8$, 12 , etc. Of these categories, the odd order and doubly even order squares are easy

[^1]to construct. The even order square is very complicated, so we'll talk about the easy ones first.

First, constructing an odd order square. Agrippa's method works like this:

1. Find the center of the square. Move down one row. Write " 1 ".
2. Move down and to the right. If moving down takes you off the bottom of the square, go to the top row. If moving to the right takes you off the right edge, go to the left column. Write the next number, " 2 ".
3. Use the same method as step 2 to write all the other numbers. But if the square you would move to is already occupied, then instead of moving down and right, move down 2 rows.

Next, constructing a squares of doubly even order. Agrippa's method is:

1. Mark an " $X$ " through the square. In the square of order 8 , divide the square into 4 smaller squares and mark an " $X$ " through each small square. ${ }^{3}$
2. Starting from the top right, count the boxes 1, 2, 3, etc., right to left, top to bottom. In each box your marks touch, write the number of that box.
3. Starting from the bottom left, count the boxes 1, 2, 3, etc., left to right, bottom to top. Going this direction, fill in the numbers in the empty squares.

Leaving the worst for last, the method of making a square of order 6 is complicated and hard to remember. ${ }^{4}$ It begins with the "make a big X" method of the even-order squares, but breaks down immediately after that first step. This is because if you divide that square into 4 smaller squares, each small square has an odd number of boxes, so you can't mark exactly half of them. Instead, this square uses a method of broken diagonals that works as follows.

1. Mark an " $X$ " through the entire square. Starting at the top right, fill in the marked squares using the same method as you used for the squares of doubly even order:

| 6 |  |  |  | $\leftarrow$ | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 11 |  |  | 8 |  |
|  |  | 16 | 15 |  |  |
|  |  | 22 | 21 |  |  |
|  | 29 |  |  | 26 |  |
| 36 |  |  |  |  | 31 |

[^2]2. Then start from the bottom right. Going right to left up through middle left, fill in the bottom half of the square as follows:

|  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 18 |  |  |  |  | 13 |
|  |  | 10 | 9 |  |  |
|  | 5 |  |  | 2 | $\leftarrow$ |

3. Then start from the bottom left. Going left to right up through top right, fill in the top half of the square in a pattern reflecting the bottom half:

|  | 32 |  |  | 35 |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | 27 | 28 |  |  |
| 19 |  |  |  |  | 24 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| $\rightarrow$ |  |  |  |  |  |

4. Then start again from the bottom left. Going from left to right, bottom to top, fill in the numbers for the remaining empty boxes in the right half of the square:

|  |  |  | 34 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  | 30 |
|  |  |  |  | 23 |  |
|  |  |  |  | 17 |  |
|  |  |  |  |  | 12 |
| $\rightarrow$ |  |  | 4 |  |  |

5. Finally, start at the top left. Going from left to right, top to bottom, fill in the numbers for the remaining empty boxes in the left half of the square:

| $\rightarrow$ |  | 3 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 |  |  |  |  |  |
|  | 14 |  |  |  |  |
|  | 20 |  |  |  |  |
| 25 |  |  |  |  |  |
|  |  | 33 |  |  |  |

Notice how each of those steps fills in a diagonal in $1 / 4$ of the square. The diagonals use the same rule that the odd-order squares do: when you move off the edge of the (smaller) square, continue on the opposite edge of that (smaller) square. The four quadrants of the larger square form a reflective pattern, top to bottom, left to right.

Okay, we've seen how to construct all the magic squares we're interested in. So what? What are they good for? How do you use them? How do you know which one to use?

First, what they're good for: we use them to make amulets, talismans, and sigils.
An amulet (from Latin amuletum) is "an object that protects a person from trouble". ${ }^{5}$ Often an amulet consists of a piece of parchment with specific protective words written on it, rolled up and carried in a small metal tube or other container. A talisman (from Arabic tillman, ultimately from Greek telesma or from the Greek word telein, which means "to initiate into the mysteries") is an amulet or other object considered to possess supernatural or magical powers. In Magick Without Tears, Crowley says of talismans:

A talisman is a storehouse of some particular kind of energy, the kind that is needed to accomplish the task for which you have constructed it.
A sigil (from Latin sigillum "seal", perhaps influenced by Hebrew סגולה, segulah, "word, action, or item of spiritual effect") is a symbol created for a specific magical purpose. Of the various kinds of sigil, the one we'll be working with is a specific shape created on a magic square using the letters of a name, which is then charged to make it effective.
"Charging" a sigil means infusing it with your energy. You must get yourself to a point where you are full of energy but not really thinking about anything. Then pour that energy into the sigil. There are several ways to do this; choose one that works

[^3]for you. These include such things as meditation, masturbation, dancing, or (really!) playing video games. Search the Web for "how to charge a sigil" ... happy reading!
But you need to make your sigil before you can charge it. To do that:

1. Know the name of the being you want to make a sigil for. For practice, start with your own name - let's make a sigil as a protective talisman.
2. Choose the magic square you will use. This will normally be the square of the planet (that is, the Sephirah) associated with the name of the being you will invoke. For example, to invoke the Archangel Tzadkiel, work with the square of Jupiter, since Tzadkiel is the Archangel of Chesed, the fourth Sephirah. For practice using your own name, work with the square of the Sun - that's the Sephirah of Will, so it is a good choice for the aspiration of the Magician. It also makes a good choice for working with the English alphabet, since we can find all 26 letters within its 36 available squares.
3. On your chosen square, find the number corresponding to the first letter of the name. Mark a small circle in that box. Often, you'll work in Hebrew letters; but for this practice, use the English alphabet. As a reminder:

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 | A | B | C | D | E | F | G | H | I | J |
| +10 | K | L | M | N | O | P | Q | R | S | T |
| +20 | U | V | W | X | Y | Z |  |  |  |  |

4. Find the number corresponding to the second letter of the name. Draw a line from the circle to the next letter. From that number, find the third, and draw a line to it; and so on for all letters of the name.

Whenever you find that your line passes straight through the number of one of your letters instead of bending there, put a small loop in that box.
Whenever you need to use the same square twice, make a small " $U$ " shape within the box.
5. When you reach the last letter of the name, put a cross-bar "T" across the end of the line.
There's your sigil. As an example, "Elton" looks like this:


Here's an example square of the Sun so you can try it yourself:

| 6 | 32 | 3 | 34 | 35 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | 11 | 27 | 28 | 8 | 30 |
| 19 | 14 | 16 | 15 | 23 | 24 |
| 18 | 20 | 22 | 21 | 17 | 13 |
| 25 | 29 | 10 | 9 | 26 | 12 |
| 36 | 5 | 33 | 4 | 2 | 31 |

Now that you have your sigil, what do you do with it?
If you plan to use it eventually as part of a ritual, destroy this copy. Erase it, burn it, eat it, whatever. You don't need this copy any more, and you don't want its energy hanging around you before you do intend to use it. What you do want is the shape of the sigil you just made: that, you can draw on a sheet of paper or trace in the air while you are charging it for the ritual.

On the other hand, if you plan to carry it around with you as an amulet for personal protection, a talisman for self-improvement, etc., then charge it. Cut this copy out and keep it close to you. Forget about it for a while. (But don't launder the pocket you put it in.) The next time after today ${ }^{6}$ that you find yourself thinking about your sigil, imagine it becoming really large, turning bright red, and exploding. That's it: sigil charged and ready to use. Find a small container to put it in, such as a locket or a tiny tin. Roll it up, put it into that container, and carry it around with you. Later, after you feel it has done its work, either set it on your altar or destroy it as described above.

All of that is fine for practice. What about later, when it comes time to work with other entities?

The bad news: that's beyond the scope of this class. Study Qabalah, learn what magicians before you have said on the subject. The good news: many magicians before you have said a lot on the subject. Agrippa devotes chapters of his Three Books of Occult Philosophy to the planetary correspondences. (I have provided a few pages of those notes as a separate handout.) The Book of the Sacred Magic of Abramelin the Mage also has quite a lot to say about magic squares and their use, although that book concentrates on letter squares. Liber 777 lists correspondences you can use, and now you know most of how to construct sigils on the squares.

Lastly, I should say a few words about word squares. A word square is a series of words, all the same length, written out in a square such that the same words can

[^4]be read horizontally and vertically. They have been used in and of themselves as amulets or talismans, though that's where their connection with number squares ends.

One famous word square, the "Sator square", has been known since at least 79 BCE. A copy was found in Pompeii, buried in the ash from Mt. Vesuvius. It reads:

| S | A | T | O | R |
| :---: | :---: | :---: | :---: | :---: |
| A | R | E | P | O |
| T | E | N | E | T |
| O | P | E | R | A |
| R | O | T | A | S |

You'll notice about that square that it's a palindrome: it reads the same from top left to bottom right as it does from bottom right to top left. Wikipedia says about it that:

The square has reportedly been used in folk magic for various purposes, including putting out fires, removing jinxes and fevers, to protect cattle from witchcraft and against fatigue when traveling. It is sometimes claimed it must be written upon a certain material, or else with a certain type of ink to achieve its magical effect.

And what does it mean? Well, if you squint your eyes just right, and pretend that all its words really are Latin, then you get this:

## Sator

Sower, planter; founder, progenitor (usually divine); originator

## Arepo

(arrepo) (I) creep/move stealthily towards, also trust, or likely an invented proper name; its similarity with arrepo, from ad repo, 'I creep towards', may be coincidental

## Tenet

Hold, keep; comprehend; possess; master; preserve
Opera
(A) work, care; aid, service, (an) effort/trouble

## Rotas

(rota) Wheel, rotate; (roto) (I) whirl around, revolve, rotate
...Which can probably mean whatever you want it to mean. Which is probably the same thing we can say about nearly everything else in magic, but we use it anyway.


[^0]:    ${ }^{1}$ This is about the same period when Ankh-f-n-Khonsu lived in Egypt.

[^1]:    2 Or does it? Coincidence? You decide.

[^2]:    3 A similar method works for larger-order squares, dividing them into smaller squares and marking " $X$ " through each smaller square. The important thing is that exactly $1 / 2$ of each small square is marked, and the marks form a diagonal pattern that can reflect through the 4 quadrants of the full figure.
    4 We might think that this is only proper, since the square's sum is 666 . But we find the same sorts of problems when dealing with all the other even-order squares that are not doubly even.

[^3]:    5 The word 'amulet' is derived from a Latin word meaning 'a method of defense'. Pliny describes three kinds of amulets, so they were obviously used widely by the Romans. Some 'amulets' were actually used as medicines, while others symbolized medical protection of some kind. There were also amulets to protect the wearers against other problems in their lives.

[^4]:    6 NOT today. Seriously. It's important that you forget about it for a while. You want to begin from a calm, still place that has nothing to do with that sigil or the circumstances surrounding its creation.

