The mathematics of the Devil

At the end of his essay on the Mathematics of God, the Kabbalist Leon had promised his disciples that he would deal next with the Devil's mathematics, to complete his mission on this Earth.

Leon was convinced that he had come to the world to complete the heresies of other heretics.

Now, one of the most beautiful heresies that had stimulated the imagination of Leon, was the one of the Manichean.

The only big difference (in the thinking of the Manichees) with the monotheistic religions is the duality of Manichaeism. The Manichaean vision of two realities, the good and evil is contrary to the fundamental unity of God, that even for the Pantheists is all in all.

There have been bloody persecutions in all ages against the Manichaean by the Roman Emperors and even in the Middle Ages by the Catholic Church. One wonders why. What did they try to hide, those who persecuted them? What did they want that people should not know? Why were they afraid of them? After all, their vision of the world was very reasonable and simple, although their cosmogony was terribly
complex. Despite the persecutions, the value that this religion has assumed in human thought is great, and even today we often hear about the "Manichean". Manichaeism in fact gives its own special interpretation to the question of the origin of evil, admitting the existence of another principle co-eternal to the divine one, but evil, which also marked our culture, not only in medieval thought, but also in the modern one.

The Manichaean firmly believed in the Devil, which they called the King of Darkness, or the principle of evil in opposition to the Father of Grandeur, or the principle of good. Still we all believe in the Devil, even if we do not want to admit it. Manichaeism was certainly influenced by the ancient Chinese concept of Yin and Yang, the two opposing principles that are the basis of existence. Anything to the Orientals has its opposite, not absolute, but in comparative terms. Nothing can be completely yang; it contains the seed for its opposite. For example, the day cannot exist without the night. Perhaps Manichaeism at its base, has assimilated the ancient concepts of Eastern thought, that were the oldest, without understanding them. In fact, for the Orientals the Manichean dualism does not exist, because yin and yang are an inseparable unit.

Why Manichaeans had always been persecuted by all religions? Probably because for them the evil was part of God's duality.

Even the Kabbalah in a sense admitted the need of the existence of the Devil.

Leon knew very well the paragraph of the Kabbalah, called the Midrash Konen, ie the Study of Creation attributed Rabbi Isaaq ha-Zaqen, that is Isaac the Elder.

"The Holy of Holies has created men and, against them, he created the demons ... has created beasts and animals and, against them has created bears, lions and leopards ... and created the pure birds and, against them, he has created the eagle and the vulture."

In addition to the Bible, which had mentioned the Devil several times and in different contexts, there was no doubt that the Kabbalah admit the reality of the existence of the Devil as irrefutable. So the Devil existed, but one had to describe it mathematically, and that was the commitment that had taken Leon.

He had to describe the mathematics of the Devil, preserving the unity of God.

The problem was not easy to solve. Let's see why.
In the picture above you see the straight line of the real numbers, on which integers were scored: highlighted in red are negative numbers.

In his essay: the Mathematics of God Leon, using the theorem of Bolzano-Weierstrass and the concept that zero was the accumulation point of the series $1/n$ as $n$ goes to infinity, had added all the logons (atoms of space time of size zero) of the substance of God to reach the Infinity of God, who was also His Unity:

$$0 + 0 + 0 + \ldots \infty = 1$$

Starting from the equation $1/\infty = 0$, which Leon had proved to be true for all numbers except for $\infty$ (because $\infty / \infty = 1$), he had come to this equation:

$$\infty \times 0 = 1$$

And with the theorem of Bolzano-Weierstrass of the sum of the accumulation points to zero of the set of real numbers, divided by infinity:

$$1/n + 2/n + 3/n + \ldots \infty/n = 1$$

for $n$ tending to $\infty$, which means

$$0 + 0 + 0 + \ldots \infty/\infty = 1$$

Well the problem of counting the substance of the Devil would not exist if one was content simply to add all real numbers with the minus sign to the Infinite, because the result would be:

$$-1/n - 2/n - 3/n - \ldots \infty/n = -1$$

And - 1 would be the sum of the negative substance of the Devil and thus far all would be well.

The problem was rather the formula: $\infty \times 0 = 1$ that showed the Unity of God. With negative values of zero and infinity that formula would become positive, that is:

$$- \infty \times -0 = 1$$

because two negative numbers multiplied together give a positive result. The Devil would have a positive reality equal to God. Impossible!

Leon thought he had to change math to avoid that disaster.
Then he attacked the problem from the physical point of view, ignoring for the moment the math. If the substance of God was made of *logons*, atoms of space-time of zero size and zero mass, the negative substance of the Devil had to be formed by *tachyons*, atoms of space-time of negative mass which in order to fill the entire space-time they too should also have zero size. Tachyons had then a special physics based on imaginary numbers. That is, a tachyon is a hypothetical particle, as yet not found even if foreseen by Einstein, whose mass squared is negative, that is, $m^2$ is equal to -1 then $m = \sqrt{-1}$

For simplicity we call $i$ the square root of minus one. Then $i = \sqrt{-1}$

And then $i^2 = -1$.

Leon thought to multiply the set of rational numbers by $i^2$ (which was equal to -1 and try to see what happened).

Here is the result:

$i^2 / \infty + i^2 2 / \infty + i^2 3 / \infty + i^2 4 / \infty + \ldots \ldots i^2 \infty / \infty = 1 i^2$

substituting -1 to $i^2$ was obtained: $-\infty / \infty = -1$

Eureka, the sum of all the tachyons of the Devil substance became -1.

Problem solved? Not entirely, because there remained to solve the problem of the fundamental equation that was determined to give as result : 1.

In fact: $\infty \times 0 = 1$ became: $i^2 \infty \times i^2 0 = 1$ and because replacing its value -1 to $i^2$

still obtained: $-\infty \times -0 = 1$ that was always a positive number for the substance of the Devil.

Leon then used another trick. He decided to replace $i^2$ with $i$ in the set of real numbers since $i \times i = i^2$

And Leon thought to multiply the set of rational numbers by $i$ and try to see what happened.

$i 1 / \infty + i 2 / \infty + i 3 / \infty + i 4 / \infty + \ldots \ldots i \infty / \infty = i$

and the result was: $i \infty / \infty = i$
the result was that the sum of the whole substance of the Devil was \( i = \sqrt{-1} \)

This time the fundamental equation worked perfectly because:

\[ i \cdot i \cdot 0 = i^2 1 = -1 \]

What was the truth between the two satanic numbers? - 1 or \( i = \sqrt{-1} \)

And Leon thought that with the Devil mathematics and physics were not working well.

One had to find another solution.

He remembered that in *the Talmud of Scicli* he gave the following definition of the substance of God: *God's Substance was the infinite place where the events occurred and its total probability was 1, that is certainty.*

For years Leon, the Kabbalist, had raised the issue of the negative probabilities. According to his logic, which for many was considered absurd, in the space-time that characterized the world of normal energy-matter, where reigned the positive probability, could also exist a negative space-time where reigned the negative probability. His concept was simple, in its absurd clarity, but it had a sound scientific basis. Being composed of intangible dimensionless atoms, for the math of Cantor the positive and negative space-time could add up and live together without problems. The theory of Leon was based on the concept that in a simple equation such as:

\[ 1 = 1 \]

the two 1, while being equal, in fact they were one the opposite of the other, because they were one to the left and one to the right of the "=" sign, which was the *fulcrum* of the equation. If you brought the 1 of the right to the left, you had to change its sign so: \( 1 - 1 = 0 \) so that the equation would remain valid and would give the exact result, that is: \( 0 = 0 \), otherwise if the two 1 were of equal sign the equation would become absurd: \( 1 + 1 = 0 \), which became the absurd: \( 2 = 0 \)

Based on this idea Leon had come to the conclusion that the two positive and negative probabilities of God and the Devil were one to the left and one to the right
of the equality "=" that was the zero point of reality and he could then write this equation:

\[ \text{probability (positive)} = \text{probability (negative)} \]

If one was carrying the probability from the right to the left, one had to change its sign as well:

\[ \text{probability (positive)} - \text{probability (negative)} = 0 \]

It was therefore clear that a probability was the opposite of the other and if the concept was to be applied to life, this strange result would be obtained:

The probability rules in our Universe the future and the mutations of the events, and it is always a positive probability. You start with a probability zero = failure and you end up with probability 1 = complete success. If the equation given above is also valid there must be a probability opposite to that which exists in the Universe. It will start from zero probability = the event does not occur and you will end up at probability -1, ie complete failure of the event. The sum of the two probabilities will therefore be the zero point, which is God, where all the odds are included and all are possible.

The world of positive space-time is obeying the equation of Einstein:

\[ E = mc^2 \]

The world of negative space-time is obeying to the equation Leon:

\[ E = imt^2 \]

The Einstein equation establishes the equivalence and the conversion factor between the energy \( E \) and the mass \( m \) of a physical system in a positive space-time.

The equation that Leon had developed from scientific readings he had done was the one that described antigravity, which represented the equivalence and the conversion factor between the energy and the mass of a physical system in a negative space-time. "\( E \)" indicates the energy contained or emitted from a dark mass, "\( i \)" is the imaginary number \( i = \sqrt{-1} \), "\( m \)" its mass (that traveling faster than light, instead of creating gravity creates expansion) and "\( t \)" is the speed of tachyon, which must travel faster than light to exist. Since the negative substance of the Devil was supposed to occupy all the space-time without leaving any gaps, the
tachyons from which it was formed, had to have zero mass and zero size, like the logons.

To travel at infinite speed the Tachyon had to have zero mass, and when the term at the denominator of the Gamma correction of Einstein became infinite, because the particle was traveling at infinite speed, the equation became: \( E = \frac{mt^2}{\infty} \).

The diabolical term \( i \) in the numerator cancelled out with that in the denominator (thanks God!).

Since on the numerator the mass of the tachyon was 0 and was multiplied by \( \infty \) (being the infinite speed of tachyon \( t \) always equal to \( \infty \) although when squared, for the mathematics of Cantor) in the numerator the result would be 1. That 1, as had demonstrated in his essay Leon: *The mathematics of God* resulted from the product \( 0 \times \infty = 1 \) that divided by \( \infty \), gave zero, because any number divided by infinity is zero, and therefore the energy of tachyon became zero.

Then, as planned, if the tachyon was traveling at an infinite speed, his energy had to be: \( E = \frac{1}{\infty} \), ie 0.

So the equation could be written: \( 0 = \frac{1}{\infty} \) or its reciprocal became the famous fundamental equation: \( \infty \times 0 = 1 \).

There was no way to change that outcome that represented the unity of God. There was only one substance: God.

The Devil existed for sure and moved at infinite speed in the substance of God, but what meant that outcome? That disasters happened at infinite speed?

Leon decided to ask for help on Face Book to his friend Tim Farrington, an expert of Catholic Theology and asked: "Tim, until the mathematics of God is fully understood, I’m not able to proceed with the next step, the math of the Devil. I need your help."

And Tim had replied: "By using a rosary as an abacus I started counting the infinite using the numbers in the numerator in the equation:

\[
\frac{1}{n} + \frac{2}{n} + \frac{3}{n} + \ldots + \frac{\infty}{n} = 1 \text{ for } n \text{ that increases to infinity. This is to determine empirically if so, I will be able to count all the logons of the substance of God. Until now I got to 3.}"

And Leon had in turn responded by writing on Face Book: "If God is One (+1) the Devil must be the opposite, that is -1. The first obstacle that I have encountered is that the negative unity based math (-1) sometimes gives positive results (when multiplying together two negative numbers) and I will have to look for a mathematical solution to eliminate the problem. Rest assured that I will solve the problem, you man of faith...

But then had come the lighting from Tim: "I am experiencing the inertial pressure of the severity of your deep thinking on these issues, my friend. We can be coupled in a single particle on this subject, and then the pressure of your mind is causing a corresponding loss of mass in my mind creating a vacuum, with the only solution is that will come more bullshit to me from you! You have destabilized me if not canceled my cone of certainty. (I consider the problem of Satan in good hands)."

That sentence was enough to blow the spark that led Leon to find the solution therefore he replied: "Thank you for your comments, I can guarantee you Tim Farrington that the project is progressing on track. The solution is entanglement. I will prove that the Devil to exist must be entangled with God (horribile dictu)! And this will solve all ambiguities."

In fact, the solution had already been found by Leon with his equation:

\[
\text{Probability (positive)} = \text{probability (negative)}
\]

showing that the two probabilities were entangled together in God.

The conclusion was that there was only one substance, for God was One, but the Manichaeans were right too:

not only “good” but also “evil” were part of the double probability of God.