



The dream of the Kabbalist

Perhaps because the night before he had eaten a poisoned mushroom pizza with radioactive *mozzarella Napoletana*, perhaps because the *porcini* mushrooms were "boletus satanoides", perhaps because the *buffalo* cows that had produced the milk for the mozzarella came from the infamous *land of the fires* and therefore their milk was radioactive, the fact is that the Kabbalist Leon that night dreamed of the Devil. Not that the Devil was immediately recognizable at first glance as the real one of the stories. That character who accompanied him in the dream indeed seemed rather an ordinary person whatsoever, a pedantic bank bureaucrat wearing a tie, or the gray and insignificant director of a post office in a small Sicilian town like Pozzallo . The character, in other words, did not have any charisma, and above all he had no horns and no tail. Leon had discovered the true identity of the Devil only the next morning with his cabalistic methods, while preparing breakfast.

Here is the story that Leon told me, when a beautiful Spring morning I went to visit him at his farm of Scicli:

"I did not realize right away that I was in Hell. At first sight I thought I was in London and decided to take the road to Piccadilly Circus going for a walk. It was a beautiful day and the long walk would do me good. My goal was to take the Tube from Piccadilly Circus, and then go to Wimbledon to see my friend Aharon. I came to a tall, gray building that I seemed to recognize, maybe it was a hotel or a bank and walked up the ramp of stairs leading to his entry and there, following the sidewalk I rounded its corner to the West. Around the corner I found myself in front of an immense grassy green glade dotted with low bushes that was obviously uncultivated and stretched visibly to the horizon. The clearing was not wooded, and was crossed by a muddy track, on which one could see the wheel ruts of different trucks. I started to follow that path heading North. The clearing bordered on the East side with a few low houses, of English style, ie those that are commonly called semi

detached houses, which seemed to continue indefinitely. At that point I realized that I was lost.

Fortunately there were several trucks loaded with sand and bricks traveling at regular intervals along that path, heading North and honking their horns to tell me to move to the side to avoid to get run over. I rejoiced myself, thinking that I was not alone. Later, talking to a Brazilian boy who traveled the same road on foot, I realized that perhaps those trucks perhaps were carrying construction material to build a row of endless houses, all semi-detached, to continue indefinitely the houses that were on the East side of the clearing. I was not the only one to walk, but there was occasionally some rare traveler who, being younger than me, walked faster and passed me. One of these was the Brazilian guy who greeted me and informed me that the road led to Sloane Square, then from there was forking towards Piccadilly Circus. But he was headed to Oxford Street to buy a new pair of boots, most useful to walk, because his journey was very, very long ... his was an endless journey!

I had a moment of bewilderment at that news, and I entered the garden of one of the houses on the East side of the path. And out of the door came the gray character wearing a tie, that much later I found out that he was the Devil. When I asked him where I was, the gray character, the bureaucrat wearing a tie, smiled and said: "My son, you're in Hell, even if you think you are in London. You all think you are in London, but in reality you are in Hell. "There and then, I was amazed that he had called me *my son* because that gray character was much younger than me, but then I thought that he was a person informed about the facts, perhaps a guardian of that strange place.

"I must go to Wimbledon and I have to take the subway at Piccadilly Circus ..." I explained, and in response he patiently replied: "You can try to go there, but you will not get there unless you solve the *riddle*, that will free you from the bondage of the 4 dimensions space..." and he handed me a sheet of paper on which he had penciled some mathematical formulas. I had no time to protest and tell him that I was alive and had nothing to do with Hell, and he was gone, vanished. I knocked on the door to get him to come out, but he never came back out. I walked away a few hundred meters holding that sheet of paper.

I sat disconsolately on the steps of another house and read what was written on the paper, thinking that maybe it was better to try to solve the riddle.

Here is what was written on the sheet. See what I wrote in this paper, by copying the paper the Devil had given me. "

Leon gave me a sheet of paper and I knew immediately what it was.

Not that I was strong in mathematics but having just finished reading the book by Michio Kaku: Hyperspace, I immediately recognized the Einstein equation and the metric tensor of Riemann that serves to describe a curved space of n dimensions.

$$E = m c^2$$

$$\begin{pmatrix} g_{11} & g_{12} & g_{13} & g_{14} \\ g_{21} & g_{22} & g_{23} & g_{24} \\ g_{31} & g_{32} & g_{33} & g_{34} \\ g_{41} & g_{42} & g_{43} & g_{44} \end{pmatrix}$$

Is this enough to explain reality ?

Leon, after checking that I had understood the story continued.

"So I said:" Yes, I think so ... "

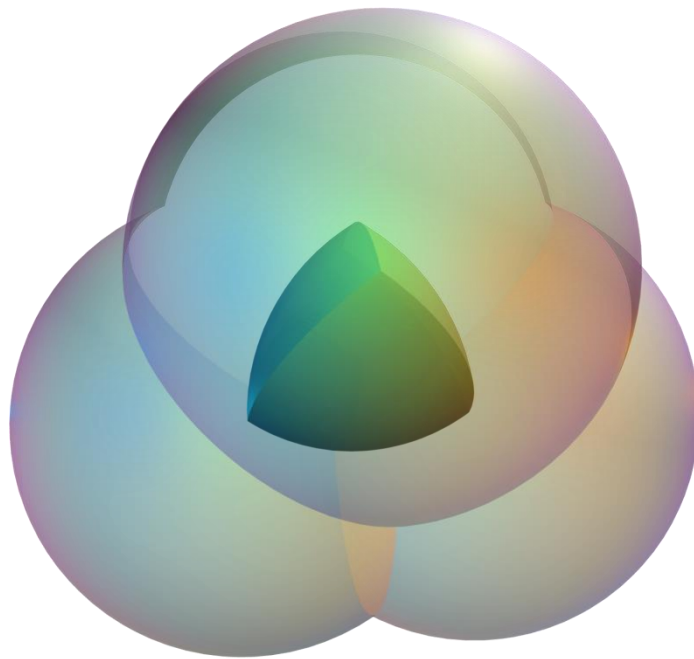
"Yes, I think that these elements are sufficient to explain the reality ..." I said, talking out loud to myself, as if I were talking to the bureaucrat with the tie.

"The answer is incomplete, sorry ..." said the gray bureaucrat, jumping out miraculously from the door of that house, which was located some hundred meters

from the first. Now at that point there was nothing that could surprise me and I limited myself to suggest:

"Actually the elements of the Riemann metric tensor are only 10 instead of 16, if we admit that the permutations are equal to themselves as: $g_{12} = g_{21}$, and $g_{23} = g_{32}$... etc ... and then a space of 10 dimensions is enough to describe the reality of space-time! " I specified, but the bureaucrat said, " The problem is not that. The solution is another ... "

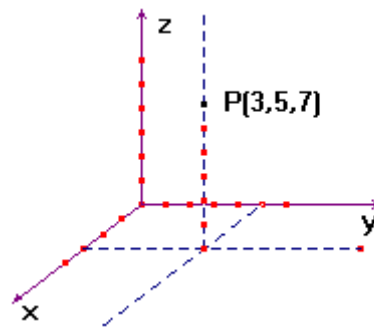
I then asked him if I could borrow a pencil and on that sheet of paper I scribbled a tetrahedron of Reuleaux saying: "Geometrically 10 dimensions can be illustrated with a tetrahedron of Reuleaux: 4 vertices and 6 distances curved due to gravity and equal to Planck's constant are sufficient to describe space-time "



"Ingenious solution! "Said the bureaucrat:" Unfortunately, it's not enough ... Your theory is incomplete! Continue to think about the solution, see you later! "He said these words, and disappeared evaporating into thin air.

I continued to walk with my head down, trying hard to find the solution, then after a few hundred meters I had an idea: "Of course, the theory is incomplete because we

have to add the four spatial dimensions of Einstein, 3 Cartesian dimensions and a dimension that represents the time! "I sat on the steps of a new house, exactly like the others, and knocked at the door. The bureaucrat came out and asked, "Well? You have the solution? "" Give me your pencil so that I will make you a drawing, because I am weak in math but when I was young I scored 28 / 30th on the exam of topography, and I understand something of geometry ... "As soon as I obtained the pencil I drew the following diagram at the bottom of the sheet of paper...



"The position of a point P in space-time is described with Cartesian coordinates to answer the question: where is it? But then one adds time, which fills all space, to answer the question: when was it there? Then, since the position of a point in space-time is always uncertain, because of the Heisenberg principle, we must add the dimension of the tetrahedron of Reuleaux to unify the quantum physics of a quantized space with the theory of relativity to which the gravity of Einstein responds... the sphere of the tetrahedron describe the probability that the point is located somewhere within the sphere. The dimensions required are therefore 14, you are right! " I pointed out.

And the bureaucrat smirked and said, "Good, but not enough ..."

I was desperate.

I continued walking for another two or three kilometers along the monotonous row of semi detached houses wondering why the British call them semi detached when in fact they are attached to each other. And I also wondered: why the bureaucrat comes out from any house, as if they were all linked together by a long corridor ...? Too many questions and problems difficult to solve, even for a Kabbalist.

I sat disconsolately on the steps of one of those monotonous houses and began to think.

Then, as often happens, an idea suddenly came to me: "In order to explain the reality we also want negative numbers ... we also have to multiply the 14 dimensions by - 1, and thus creating a negative space-time complementary to the positive, but of opposite sign. After all it was me who wrote the geometric essay: *the mathematics of the Devil!* "

Full of enthusiasm, I knocked on the door and the bureaucrat materialized saying: "Well?"

"I think I have the solution!" I said triumphantly: "You have to add to the 14 positive dimensions, as many negative dimensions, multiplying all dimensions by - 1."

"Bravo, you have solved the puzzle! You're the only one who understood that to the world of the *Being* has to be added the world of *Not Being* to make sure that **exist what is.** "

That poor bureaucrat seemed sad as he said these words, and then added: "And then you also understand that Hell can only be described with imaginary numbers as: $i = \sqrt{-1}$

Because actually it does not exist. None of us exists, we are just a figment of men's imagination and that's why our reality is described with negative imaginary numbers, - 1 and $\sqrt{-1}$ which are the satanic numbers. "

With these words he vanished into thin air and I got up. Only later, while eating breakfast, I realized that the bureaucrat was the Devil! "

As usual I was astonished and found nothing to add to that wise solution of Leon.

I therefore limited myself to applaud enthusiastically.