

PHYSICS OF REALITY OR GHOST PHYSICS - 1

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Let us start by a citation of a recent paper (1):

“Here we outline a classical theory in which only relative motions are meaningful (no absolute space, no absolute rotation) which agrees precisely with newtonian mechanics when the latter is applied in a world in which the whole Universe has no net angular momentum. Our mechanics is independent of frame rotation. The Universe breaks that symmetry.”

Here is another:

“In physical cosmology, cosmic inflation, cosmological inflation, or just inflation, is the extremely rapid exponential expansion of the early universe by a factor of at least 10^{78} in volume, driven by a negative-pressure vacuum energy density. The inflationary epoch comprises the first part of the electroweak epoch following the grand unification epoch. It lasted from 10^{-36} seconds after the Big Bang to sometime between 10^{-33} and 10^{-32} seconds. Following the inflationary period, the universe continued to expand, but at a slower rate” .

Wonderful !

One wonders what an education have the authors of the first quotation received. In the curriculum of that education logic is surely lacking !

First of all, they seemingly distinguish between “world” and “Universe” . Some people can say that logic is no longer needed in the processes of thinking. That could be accepted, but then, what sort of thinking would arise? If we can accept that at 12:00 midday it is dark without clouds of solar eclipses, we could also accept that $1 + 1 \neq 2$ and any other affirmation. We could also accept that we can ascend in the air simply by standing naked in a public square, and any other affirmation. Life would be impossible if going is the same as coming, if living is the same as dying.

Which can be the difference between “world” and “Universe” ?

Next, the affirmation “the Universe breaks that symmetry” . Here the authors assign a dynamical role to the existing reality, the Universe. Such an entity cannot break anything. The Universe -is- and that is all.

The big problem is that these two authors, and a plethora of others, assume physics as an exercise in mathematics. “Let us see what mathematical systems of equations we can write down” and then, if we add some “properties” and label them “Universe” let us see if these additions change some mathematical symmetries in the system of equations.

When I was 14, I had to decide if would pursue physics or mathematics. Mathematics allows for anything, subjected only to some laws of logic (but today some of the mathematics uses “fuzzy logics”). In mathematics you can deal with centauri, sirens, pegasi, and anything you like.

I chose physics. In physics you have horses and humans, but you don't have juxtapositions of horses AND humans. You could have them, but you don't. Physics is the study of reality, mathematics is the study of "maybe's". Perhaps reality is boring for mathematicians, but for me, mathematics is one of the most boring subjects of the intellectual pursuits because it lacks any real meaning in the actual universe. You study possibilities, but possibilities are immense in number. Which one is real?

From the many imagined possibilities, I think the actual are the interesting ones, because they are what you live with. A metaphor or analogy is at hand: In your life, you could have had the fortune of Carlos Slim. Interesting? I think not. I think it much more interesting to know that you have what you have already earned and that you can try getting that fortune, but I think boring to live supposing you already have that fortune without actually having it. Nature could be have really 37 dimensions, or 37000. Which one do you choose? Why?

Re the question of "reality". Some people, some very serious philosophers, postmodern or post-postmodern, discuss the notion of reality. Some of them indicate that what we experience through the senses are not more (and not less !) than electrical fields. But I challenge any person to live on virtual food, being satiated via electrical stimuli directly into the her neurons, or to resurrect, here on Earth, after dying. The test of reality is life, and there is no better test devised until now.