

A look at the September 2015 issue of Scientific American Part II

By Prof. Omar Shabsigh, PhD

Walter Isaacson on page 38 writes an article of “How Einstein Reinvented Reality”. My first comment is: What a title!!!” .The non-scientific devotion of Mr. Isaacson to Einstein begins with the second sentence of his article when he talks about the miracle year. He should have proved the miracle before describing it as such. Against Mr. Isaacson goes emotional when he says: “the most beautiful theory in the history of physics”.

In the first paragraph of page 40, Isaacson says: “.. no distinction between the effects of gravity and the effects of being accelerated”. Is this a surprise discovery by Einstein? Everybody knows that applying a force to a mass causes the mass to accelerate. Gravity is also a force and the result is the same, it causes acceleration.

Under the subtitle “Bending light” Isaacson wants to convince us that in the chamber thought-experiment, light bent when the chamber went up and he or Einstein thinks that the light beam is hitting the opposite side at a point lower than the point of light origin. And he wants us to say that that happened because the light was bent because of acceleration, when he states that the point of incidence was lower because of movement of the chamber alone. So what does acceleration has to do with the incident?

On the subject of light bending that was supposedly proved by the Eddington expedition. I would like to explain the following. That phenomenon was not light bending but a simple diffraction. This is a very well known effect and it is used extensively in radio communications, when a line -of- site is not available between two points at microwave frequencies and higher. I personally have practiced it. It is called knife edge propagation but the edge is not sharp as a knife.

Under the subtitle “A Rivalry” the article says that Einstein thought that he “was able to convince Hilbert of the general theory of relativity.” How could that be? How can he convince a scientist of mathematics of the truth of his fantasies without at least a mathematical proof?

As Isaacson notes: “using the condensed notation of tensors, in which sprawling mathematical complexities can be compressed into little subscripts.....” this explanation gives us an idea that actually, there was no clear and open mathematical proof. It was just an image.

Finally under “The Boldest Dreams”, Isaacson comes up with a very daring false result: “His general theory of relativity was not merely the interpretation of some experimental data or the discovery of a more accurate set of laws. It was a whole new way of regarding

reality”. Dear Mr. Isaacson: how dare you say that general relativity was based on experiments and laws when it was all based on illusion, imagination and fantasy, i.e. thought experiment.

On page 47, the article “Head Trip” was interesting. Sabine Hassenfelder is very excited about the imaginings of Einstein. She thinks that science can be invented by illusions and imagination without any mathematical or experimental proof: “He traced his realization of light’s finite speed to his teenage dreams.....”, “Einstein crafted new theories (meaning imaginations) about the nature of the world using his mind’s eye to push beyond the limitations of laboratory experiments.”

Bravo to Hassenfelder and to the Scientific American editors. With that, we can sit and imagine all kinds of things and tell the world this is science. Is this what you want us to do? In the age when we have reached Pluto and going beyond? Yes actually that’s what you want: “establishing the gedankenexperiment as the cornerstone of modern theoretical physics” as you state. You people are pushing the world to the time of pharaonic priests and want to stop the scientific progress.

The only article that gives respect to the common logic and to our minds is Tim Folger’s article on page 70. Here he states “ The equations of general relativity have many solutions. Different solutions assign different qualities to the universe,whether any of those solutions describes our own universe is an open question”.

This agrees with what I learned early on that general relativity in short has no mathematical proof or basis.

Based on all that I mentioned in part 1 of this article and on this part II, I can surely say that general relativity is not science, but can be considered as science fiction, unfortunately negatively affecting the progress of science.