Conundrums Overlooked in Physics for Evermore ...

Elemér Elad Rosinger

GWLBRI - Gottfried Wilhelm Leibniz Basic Research Institute
Central Europe
Budapest, Munich, Portoroz

Department of Mathematics
and Applied Mathematics
University of Pretoria
Pretoria
0002 South Africa

eerosinger@hotmail.com

Abstract

Another ... friendly and creative ... author-editor interaction is presented in which several basic conundrums in physics are mentioned, conundrums no physicist seems to care about ...

A ... friendly and creative ... author-editor interaction ...

Here below is a short account of some rather foundational issues - including in quanta - which popped up recently when one of my papers :

"Five Departures in Logic, Mathematics, and thus - either we like it, or not - in Physics as well ..."

http://hal.archives-ouvertes.fr/hal-00802273

was being subjected to refereeing in one of the physics journals whose editor is a well known Nobel physicist.

In this regard, the sequel may be of a more general interest among physicists, and it is not merely yet another example of the ... ever on-going tug of war ... between authors, and on the other hand, referees and editors ...

1) One of the main issues in my paper is the recent emergence of "Self-Referential Logic", originated by theoretical computer scientists and not mathematicians, and significantly used in software design and production.
In my paper, it was recalled in this regard that in Western tradition, the crucial role of self-reference goes at least as far back as Exodus 3:14 in the Old Testament.
The referee found that citation out of place, and thus, unacceptable.

And then the following supporting argument was presented by me to the mentioned celebrity, leading and Nobel physicist editor :

As for the objection of citing Exodus 3:14, well, it is - even if nowadays not known, or at best known somewhat but derided - one of glories of Western Civilization. And it is so precisely to the extent that - unlike the unfortunate major mistake of ancient Greek civilization - it is not only not afraid of self-reference, but in fact it raises it to the level of the name of God ...
Yes indeed, this is most definitely not a mere issue of being religious Christian, let alone, of being Jewish : no, it is simply a most fundamental issue : human awareness, as essentially different from the animal one, can be self-referential ...
Yes, it can be, even if all too often fails to be so ...

After all, modern digital computers - in their so called "von Neumann architecture" - are what they are so revolutionary modern, due but to a rather primitive form of self-reference, namely, the program being able to act upon itself, depending on the data ...

And an even more primitive form of self-reference is "feed-back" which is the essence of modern automation and control ...

Amusingly, both these forms of rudimentary self-reference emerged in science and technology only during the last about seven or eight decades, yet they created much of the modern world ...

Well, no comment regarding the above came from the editor ...

Now, the lack of sufficient awareness of the truly foundational role of self-reference is seemingly more widespread.
Another recent example is given by the Freeman Dyson, a Princeton celebrity and leading, even if not exactly Nobel physicist, in his paper :

"Separating Mathematicians". Notices of the American Mathematical Society, Vol. 56, No. 6, June/July 2009, pp. 688-689

The main theme of that paper is to ... separate ... mathematicians, and in general scientists, into two categories : "frogs" and "birds".

Now of course, Dyson obliges by considering himself a mere "frog", that is, not ever dealing with truly great issues, like "birds" are supposed to do ...

On the other hand, he seems to feel like settling who knows what sort of some old old scores, when he places John von Neumann also among the "frogs" ...

Of course, there may possibly be another - and indeed, honest - reason for that : Dyson, too, does not understand in the least the truly foundational role of self-reference in general, and in science in particular ...

As for von Neumann, well, in addition to his mentioned truly revolutionary use of self-reference in our digital computers, he also used it in order to construct his self-reproducing automata which may sometime be unleashed for cosmic space exploration ...

And the relevant point here is that the way self-reference is used in the construction of self-reproducing automata is considerably more deep and sophisticated, than that used in "feed-back" of our digital computers ...

So much, for being, or for that matter, not a mere ... "frog" ...

2) Recently, in one of my papers :

"The Irrelevance of Bell Inequalities in Physics: Comments on the DRHM Paper". Quantum Matter, Volume 3, Number 6, December 2014, pp. 499-504(6)

it was shown that the Bell Inequalities are ... irrelevant ... in physics since they are satisfied both by classical and quantum systems.
The original paper in this regard is due to Prof. Hans de Raedt and collaborators.
However, upon discussions with him, we agreed that it would be convenient to write as simple and clear a paper as possible, following his one which is rather involved. And then, I tried to do so in my paper, and I am afraid, it simply could not be done easier, that is, more "user friendly" for the physics readers ...

Now amusingly, it is practically impossible to make physicists stop even for a moment, and see whether, indeed, and God forbid !, there may be some point in that paper.
No, none of the very many physicists whom I happen to know do bother in the least to ... risk ... placing even under the most slight and temporary question mark their idea that there is nothing wrong with the Bell Inequalities ...

Well, no comment regarding the above came from the editor, either ...

3) Asher Peres used to be a well known quantum physicist, as one of the originators of Quantum Information Theory. Well, in his 1995 book

"Quantum Theory, Concepts and Methods". Kluwer. ISBN 0-7923-

he presents the whole story of quanta using not even one single time the Heisenberg Uncertainty Principle. Furthermore, on the back cover of his book, he states that the respective principle is an ... ill-conceived idea ...

Well, I still have to find the ... living, talking and/or writing ... physicist who could explain what is going on in this regard ...

And please, trust me, I did ask several dozen even among the so called leading and celebrity ones ...

Well, once again, no comment regarding the above came from the editor ...

4) My own inquiries, or rather, research regarding 3) above have led to the conclusion that there is an insufficiently proper understanding among physicists of the role, possibilities and limitations of the axiomatic method. The respective research can be found in my papers :

4.1) "Two Theories of Special Relativity ?"

http://hal.archives-ouvertes.fr/hal-00678949

http://vixra.org/abs/1203.0048

4.2) "Heisenberg's Uncertainty : an Ill-Defined Notion ?"

http://hal.archives-ouvertes.fr/hal-00684501

http://vixra.org/abs/1203.0095

4.3) "A Disconnect : Limitations of the Axiomatic Method in Physics"

http://hal.archives-ouvertes.fr/hal-00678113

http://vixra.org/abs/1203.0087

4.4) “Physical Intuition : What Is Wrong with It ?”

http://hal.archives-ouvertes.fr/hal-00688722

http://vixra.org/abs/1203.0089

All in all, paper 4.2) above argues that, amusingly, there is NOTHING wrong with Heisenberg, and explains WHY Peres could DO quanta without Heisenberg, and yet, WHY Peres did overstate the situation, since Uncertainty is NOT an ill-conceived idea ...

Paper 4.1) above shows that there has been, ever since 1910, a literature showing that Special Relativity ONLY depends on ONE SINGLE AXIOM, namely, the Galilean Relativity. The rest, and specifically the axiom on the limitation on the speed of light, is but a SIMPLE CONSEQUENCE of Galilean Relativity PLUS some purely mathematical type assumptions. Regarding those assumptions, there is, therefore, the possibility to have a SECOND Special Relativity ...

As for papers 4.3) and 4.4) above, well, it is explained in them that physicists MUST be more careful when ... playing ... the axiomatic game in physics ...

For instance, the recent trend in quanta to axiomatise exclusively in terms of axioms which have a ”physical meaning” is SIMPLY NOT always possible due to the mathematical structure of axiomatic theories ...
In particular, that MAY HAPPEN to be even more so with those axiomatisations of quanta which ONLY want to use the concept of ”information” ...

Having presented the above to the mentioned leading, celebrity and Nobel physicist editor, no reply of any sort came from him ...

And now, for the ... GOOD NEWS ...

By training, I am supposed to be a pure and applied mathematician,

applied in the sense that I also studied a good amount of physics.
The fact, however, is that for a few decades by now, I do no longer go to mathematics conferences, and instead I go and give talks at conferences on the foundations of quanta : such conferences are so much more alive and vibrant : there is such an immense confusion in basic ideas regarding quanta, and once in a while, one may even hear a really good idea ...

By the way, I met Prof. Hans de Raedt precisely at such a conference ...