Review of: "[Commentary] Biology as a postmodern science: Universals, historicity, and context"

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Looking at the title of this contribution to Qeios I immediately found that this was a “must review” contribution. Meanwhile, as I read – the text was clearly confronted with my expectations of something else. Most of all, because the justification of the contribution vanished as more and more issues was getting increasingly obscure to me, - whereas they should have become clearer.

To start with the abstract, which should be some resumé of what should be expected. As such I cannot explain everything, but the questions raised when I read this was really never answered.

The concept of biology used seems quite diffuse – is it really the whole biological domains that this paper applies to? – my feeling that the core argumentation has been derived from the genetic area, but I am not sure.

What are the other natural sciences then?

What exactly are the post-moderne ideas that are infusing biology?

And what is the harsh criticism more exactly about, and more important who are raising this criticism.

As I am belonging to groups that are probably under this type of criticism, I should like to know what I am accused of 😊

Next, none of the postmodern scientists I have met and worked with are advocating relativism and subjectivity. What is the exact definition of postmodernity in this context? Rather, they have pointed out, the sometimes limited validity of so called laws and observed uncertainties acknowledged by quantum theories, complementarity principles, Heisenberg uncertainty relations, etc.

All of this, now belongs to a physical world – without making the science relative or subjective.

As a consequence, there has over almost a century now been an acknowledgement that our world is really non-determinist, not exactly Newtonian. One fundamental reason to this in all biological systems, at all hierarchical levels can be found in Elsasser’s concept of ontic openness. Again, this is universal, without any relativistic or subjective arguments.

3rd period in the abstract remains a puzzle to me and although the mentioning of the subject matter emerging is mentioned in the text several times it never becomes clear what it is about.

Also, the historicity is a tough term representing most often some sort of lock-in. But there are also other representations

like the propensities of Popper, where history is acknowledged but not considered at the only constraint on the system.

I very early wondered also where Bertalanffy's role in this? His proposal of a systems theory – not as GUT – but as a common methodology, fits nicely with postmodernism. Again he is not presuming any relativistic or subjectivist ideas in this theory – rather the opposite is the goal.

The "rules of life" was treated by the Santa Fe Institute some 20-30 years ago – so a really great idea, yes – but nothing new.

Throughout, universality is mentioned. Again this is not clearly defined what is meant by this. If it is the classical laws that are referred to, many papers discussing this – in particular when applied to the realm of biology – may be found in current literature, e.g. Wilczek: 10 principles. In this part of the literature the role of universality is also discussed.

Later deviations are explained. Elsasser explains why deviation in such systems should be expected, - and thus deviations are not merely caused by models or measurements. Deviations are the rules that biology live from – and one important universal rule/or principle.

How can something be the outcome of something that have not occurred. I really do not get this unless the author is referring to Deacons absence principle??

Later 3rd paragraph – historicity as primal notion in postmodern thinking?? Postmodern is so much more than this.

Same paragraph: always chance events needs to be matched with constrains – so luck is pretty normative in this sense – (lack of equally efficient alternatives is unclear).

Most of my point should be clear now – so I go to the critique

#1 The above explains why! We cannot and should never expect to be able to produce accurate prediction. Much of this leads me to think that at least part of the text was written with GMO/CRIPSR activities in mind – or that the author is really presenting an attack on reductionist science, - not clear what the other sciences are.

#2 Teleology is an important issue – and has always been considered heretical. Here an extensive literature has been produced since Boltzmann (being one of the first I've read to advocate postmodern science) and Lotka in particular on goal oriented behavior of biological systems. Only little of this may be considered relativist/subjective. Far the most papers are arguing from thermodynamical views although from various sources in physics and therefore differs in results concerning extremum principles in biology, e.g. min vs max entropy principles. Many principles of causality such as autocatalysis, centripetality have been proposed relating to fundamental Aristotelian causalities other that final causes (teleology), all being rooted in hardcore physical laws or universalities.

At the end – what is the difference between modernity and postmodern – last paragraph. And what is compromised , and what exactly needs to be solved?