Review of: "On the subject part I: what is the subject?"

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As a physical scientist interested in how the physical world was able to evolve in a way that led to the emergence of sentient beings, I am supportive of its central theme, that subjectivity, defined as the awareness and agency associated with animated organisms, has emerged from an objective world, and therefore has an objective basis. That approach is seemingly contrary to the Kantian view in which the subjective experience, the “phenomenon”, is separated from the “noumenon”, the objective reality. The author justifies what appears to be a conceptual merging of the phenomenal and real worlds through an evolutionary argument in which it is claimed that the evolutionary drive toward complexity, such as that expressed in multicellular organisms, leads to more complex information processing systems, and through that greater complexity, toward increased awareness of the real world. As the author claims: “subjectivity extends gradually further into the spatiotemporal realm to encompass more of the object in the subject”.

It is interesting that the largely philosophical arguments presented here appear to complement a more physically based view of life and more recent scientific thinking regarding the evolutionary process. As Steve Grand argued in his 2000 monograph “Creation”, the most important law of the universe can be stated as follows: “Things that persist, persist, and things that don’t, don’t”. This seemingly tautological statement is actually quite profound as it underpins both evolutionary change (toward enhanced fitness) as well as the direction of change in the physical world, as expressed by the second law of thermodynamics. In other words, the direction of change in both the living *and* non-living world is governed by the same underlying principle: nature’s drive toward persistent forms. Indeed, it is in that context that life’s network character can be understood. Network formation and network extension can be seen to enhance persistence at every hierarchical level - chemical, biological, social. A cell is a complex chemical network, an organism is a complex cellular network, a society is a complex organismal network. Accordingly, it could be argued that the drive toward increasing awareness and agency (Fig. 2), one that is invariably accompanied by increasing complexity, can be associated with that universal drive toward increasing persistence/stability. Thus, the statement: “Urge… is the purest and most immediate form of awareness and subjectivity” can be expressed in more physical terms if the term “urge” is expressed as “drive”. The urge/drive toward collectivity and greater complexity takes place because it leads to improved functionality (compare the Wright Brothers 1903 airplane and a Boeing 747), which in turn induces greater persistence.

Scientific advance rests on the interplay between empirical, theoretical, and philosophical elements. It is reassuring when the philosophical approach, as described in this article, reinforces existing physical/theoretical ones. The conceptual gap that continues to separate the living and non-living worlds, one that has plagued the sciences since Darwin, is narrowing. That central scientific goal - the unification of the physical and biological sciences, one that will offer deeper insight into

our place in the universe – continues to advance.