Review of: "Measuring Complexity using Information"

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In principle, I am very cautious in giving judgments on papers dealing with complexity. I think that everything can be viewed from several perspectives: some are very simple (it is easy to weigh a small object), some are impossible (e.g., to count the neurons of a brain or to describe the roots and mycorrhiza of plants, etc.). Generally, we pretend too much through our science. As far as we pretend to describe a phenomenon (or any object) in its completeness, we are moving along one axis that we can call the axis of complexity. In this paper, the author makes a short review of the ways used to measure complexity. I do not find in the paper any novelty with respect to his previous papers; however, the paper could be useful as a synthesis of his way of thinking. In principle, I disagree that complexity is “culminating in a higher order of emergence greater than the sum of the parts”; for me, it may be that it could “culminate also in a system with a higher disorder of emergence greater than the sum of the parts.” Chaos may be a consequence of complexity or one aspect of complexity. The paper does not consider formulas of information such as mutual information; the author just mentions the Shannon formula. This could be OK, since the paper deals with useful information as the information that is behind useful energy, without specifying the way we can measure it. There are statements that look vague, e.g., “however, his method becomes algorithmically incomputable in systems with high dimensions. These methods have large limitations for studying phenomena which emerge from a collection of interacting objects” [14], especially if high-dimensional systems are being studied” (pag. 2). In conclusion, I can say that the paper could be useful, but it would require a more focused on the formulas that could be used to measure complexity.