Review of: "Objectivity and Honesty in Science: The case of Light Interference Phenomena"

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Potential competing interests: No potential competing interests to declare.

Thank you so much for offering the opportunity to read such a beautiful article.

It is well partitioned and very clear.

Its intention was to show, through a page of history of science, some micro-social causes of the diffusion and prestige of scientific discoveries in the scientific communities. These micro-social causes are the particular stage of scientific recognition of a researcher, the friendship or animosity between researchers, the scientific hierarchy in the scientific community, and the priority interests of a researcher (roughly said, of endorsing his scientific career or of aiming at the truth – coherence, provability, consistence with experiments and extra experimental /mathematical analysis – of a theory.

By giving the historical information about these causes, the paper only suggests some directions of philosophy of science problems as they appear in the course of the text. But just this is its merit, to challenge the reader to think about theoretical / epistemological problems raised by the description of some concrete relations between researchers. (For example, the (historical) relation between a scientific hypothesis and the technical – here, only mathematical – means to prove it; the criterion of proved scientific laws and the possibility to advance hypotheses which may challenge these laws; the scientific and “worldly” force of scientific theories; what scientific debate and dogma do mean in their ideal models and in fact; scientific technical causes of scientific errors and errors caused by non-scientific causes; the discipline of scientific rigor and debates; the historical necessity of concepts / hypotheses which are not (yet) demonstrated but without which already sound theories related to different aspects than those beard by the mentioned concepts cannot be proven; the relative independence of scientific means – here, different mathematical calculus and criteria of analysis – from the scope of scientific hypotheses and theories; scientific prudence and scientific daring; the *either or* historical solution of debated hypotheses/ theories and the *both* historical solution; the scientific explicit and scientific implicit support of theories).

Therefore, it’s not the case to “improve” the paper with these or other philosophical ideas regarding the strict scientific aspects of the scientific discovery and influence, because the purpose of the paper was only to suggest them, while focusing on the extra scientific aspects of micro-social relations within science.

I finish this short review by warmly advocating it and by mentioning only two minor*lapses calami*: 1) *a fortiori*, with *t*, is the correct form (see p. 12), and *experimentum crucis* (crucial experiment) is the correct form (see p. 4).

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