Comment to Review of Book ISBN 978-981-4678-61-2 by D. B. Hibbert (Accred Qual Assur (2015) 20:533–534)

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Dear Editor,

While thanking Dr. Hibbert for the fine review of the book, I am feeling invited to indicate more explicitly the reasons why the opening chapter (“Fostering diversity of thinking in measurement science”) was written.

It is true; its intention was that of a “manifesto, of sorts, with a plea to maintain diversity of thinking in science’s approach to expressing knowledge.” In it why we were prompted to write it is indicated, which might look confined to an abstract—or even generic—plea based only on “philosophical” reasons. However, both authors had in mind specific arguments and fields of (measurement) science prompting their position. Here are some examples from my hidden list: the Committee writing the Guide for the Expression of Uncertainty in Measurement (GUM), choosing for the future edition a single statistical approach, the “Bayesian” replacing the “frequentist” one; the BIPM proposing to change the International System of Measurement Units (SI), by exclusively using “constants” in the definitions of the SI; the singled set of “recommended values” admitted by Committees in several fields for the “official” numerical values of quantities; pretending permanent validity in time of numerical values once stipulated; the interest and vision of too many scientists strictly limited to their discipline. I will add now one more item, prompted by the reviewer: the international campaign about human influence on climate change.

I will submit to the Discussion Forum my reasons separately, since a Letter does not allow room for illustration.

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I understand reviewer’s statement that “decisions must be taken,” meaning that choices have to be eventually made. However, I consider two warnings necessary:

- Not necessarily pairs of positions are in opposition with each other; they may be compounded with benefit for both. Competition is good if the effort is toward increasing scientists’ capability to use properly the proposed methods; but is bad, in my opinion, when any single frame would pretend to have exclusive solutions good for all seasons and valid once for ever. First of all, diversity remains a richness.
- Science stops where decisions are taken: it is harmful to confuse the two frames. Scientific knowledge aims at being predictive to the maximum degree contingently possible, but it is not a source of, nor it determines, certainty. A decision is a convention, in my opinion at best *inter*-subjective and the valid one for a specific purpose and community, at a certain historical moment—not even necessarily requiring scientific consensus. The introduction of “risk” does not alleviate that status. In all instances, it cannot be the reason for marginalisation, or even derision of the succumbing part, or, as a Colleague recently told me humorously, consensus cannot be reached only because the contrasting people eventually died! On the other hand, science must not stop—nor be stopped—simply because a decision has to be taken (so that public contrasting proposals are too often claimed to only create “confusion” and reject from publication), after which the decided issue becomes valid “for ever.” A 7-year-old grandson of mine, very curious of science, told me: When science states something, it should always add “perhaps.” How many scientists understand today the importance of this attitude?