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Editorial

Science, publication and scientific writing

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Every finding released by a scientific publication is expected to provide an area of study with new solutions and insights. In this task, the role of the scientist is of the utmost importance, as science is a vehicle through which humans interpret the world, and the scientific knowledge is a construct based on convincing empirical evidence.

Scientists focus observations on empirical data (accessible to our sensory modalities), and they construct explanations so as to better understand aspects of the natural world. Such explanations, while based on empirical findings, are simply theoretical proposals that ultimately need the acceptance of a significant percentage of experts in the respective field. Without this acknowledgement, the proposed explanation remains obscure. This reality signifies that science only provides us with abstract discourses (interpretations) even that based on empirical evidences.

Considering this context, scientists must communicate their conclusions (their explanations based on empirical findings) to their academic peers, a task that is achieved by publication in a scientific journal. The text submitted for publication, however, must undergo an editorial review by anonymous members of academia. If the text is ultimately accepted for publication, the challenge to construct scientific knowledge has only started.

In the scientific academia, the primary objective of a scientist is to convince his or her peers of the validity of their conclusions. The utilization of strong empirical evidences and the esteemed academic authority of the journal in which the study is published facilitate this discourse. Once these requisites are met, the paper still must be downloaded and read, and its conclusion must be accepted by experts in its specific field. Such acceptance by experts is the most challenging task for a scientist. If the empirical findings presented in a paper are not convincing to its reader, the paper could be quickly disregarded. The academic status of the journal, the paper's title, its abstract, its figures and tables, and its quality of writing also can result in the rejection of the author's published conclusions by the reader. These are the most significant challenges that a scientist must overcome.

Scientific writing is a mode of communication that enables scientists to present conclusions effectively. However, this issue has only been treated with linguistic technicality worldwide. Practical rules have been imposed to ensure that scientists write concisely and with clarity, objectivity and logic. The understanding of these rules, however, is the least important aspect of the problem.

Scientific discourse is straightforward: the reasoning behind an objective is established, from which methodological steps are dictated to ultimately yield results to describe variables or to test hypotheses; these results and conclusions are supported by published knowledge and new general conclusions are expected to be constructed. Although seemingly simple, this process is complex and supported by philosophical bases.

Errors in writing are errors in reasoning. In the specific context of Brazil, many cultural attitudes and linguistic tendencies hinder us in achieving the simplicity required for effective scientific writing. Brazilian people appreciates long texts, complex communication, excessive results, verbose expressions and ideas that confirm previously acquired knowledge, among other communicative tendencies.

Brazilian scientists urgently need a revolution in thinking. Our graduate courses have not been successful to overcome these barriers of thought. We must be enterprising in envisioning the evolution of knowledge and we must venture to innovative thinking without fear. With a change in mindset, scientific development will become a reality in our country, and our progress may ultimately be acknowledged with a Nobel Prize. With these changes, we will possess the necessary means to move in the direction of an improved society.

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