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Editorial

# How to write the introduction of a scientific article

Under his pen name, Lewis Carol, Charles Dodgson once wrote: "*The White Rabbit put on his spectacles. 'Where shall I begin, please your Majesty?' he asked. 'Begin at the beginning,' the King said, gravely, 'and go on till you come to the end: then stop.'*" These words simply and elegantly describe how to start telling a story, and scientific authors can be thought of as storytellers. The Introduction, the first section of an article, is frequently underestimated in terms of both relevance and difficulty.

The rigidity and conciseness of scientific language should not be allowed to undermine the elegance of a text. However, they pose very specific challenges to authors. Over the years I have seen some mistakes be made time and again in the introductory section. I would like to address them here.

Possibly the most common mistake is to write a long introduction. This may stem from different factors, but apparently the most common is that sometimes articles are derived from theses, where relatively lengthy literature reviews are not uncommon. After a bitter struggle to craft a beautiful literature review, authors tend to become infatuated with the quality of their text, and feel the urge to share it with others. The downside is that most of us are not interested in long drawn-out, non-objective texts. The rule of thumb to determine section length is that it should not exceed 10% of the total article word count.

The second most common mistake is a lack of coherence. Oftentimes the focus is shifted towards so many different subjects at the same time that the pivotal theme underlying the research is all but lost. The introduction usually begins with a paragraph that contextualizes the research topic, and then goes on to set forth the state of the art of a particular subject. Authors should gradually direct readers' thoughts towards the research objectives, which are stated in the last paragraph of the introduction. Furthermore, ideas should be organized in such manner as to enable readers to learn about the aims of the research and understand the relevance of the theme before the objective is presented. Readers could thus easily grasp the nature of the scientific contribution intended by the authors.

Yet another recommendation is to provide a reasonable number of references. Most groundbreaking studies tend to use few citations, whereas an excessive number of these often leaves a negative impression on seasoned readers. Additionally, one should avoid having authors' names as subjects of sentences, or even mentioning the author's name in the text.

For example, instead of saying:

*In researching the prevalence of anterior crossbites in 1984 children with complete primary dentition, Hearts[10] (1984) detected that, of the factors influencing the incidence of this malocclusion in the primary dentition period, 45.4% were genetic and 54.6% postnatal.*

Say:

*The factors influencing the incidence of anterior crossbites in children during the period of complete primary dentition were found to be either genetic (45.4%) or postnatal (54.6%).[10]*

Different writing styles highlight different issues. While in the first paragraph Hearts plays a key role, in the second paragraph it is information that takes center stage. The older articles used to cite a great many authors, and this is still the case in the humanities. This stylistic change is partly due to the *argument from authority*, gradually replaced by evidence based practice. Today, it doesn't matter who the author of a given statement, thought or conclusion is. What really matters is the reliability of the evidence provided by the source. This is not to say that one cannot cite an author's name. One should, however, do so only exceptionally, such as to underscore the importance – for the article - of a seminal publication.

These are the most common mistakes authors make when writing an introduction. However, should any doubts arise as to how or when to address the issue, remember the old KISS acronym: Keep it simple, scientist.

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