

Letter to the editor:

Clothes Do Not Make the Man: Well-favored Figures are Game-changers in the Biomedical Publication

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It can be argued that visualization is as important in science as it is in art (1). In scientific manuscripts, visualization can be achieved by using video materials, graphs, and pictures. Schematic figures and graphical abstracts play an increasingly important role in the understanding complex concepts.

Modern technologies, such as high-tech microscopes applied in molecular and cellular biology, provide impressive images. Although the images and other visual materials are informative and helpful for better understanding scientific articles, at times they may solely entice the readership and distract from serious points. Visual materials may also be redundant, without any additional value, and useless in terms of comprehending the article content and concept. And the question arises as to whether the authors always need to add scientific cartoons, figures, images, photos, and video files to their scientific manuscripts.

The presence of the appealing high-tech images, which can be occasionally manipulated, may conceal drawbacks of research methodology and make publications and subsequent citations biased. Reviewers, editors, and readers may be even fooled by the graphical appearance of the made-up articles. Good examples of potential bias added by graphics are numerous articles retracted by top scientific journals (2-6), where editors, reviewers and medical illustrators favor submission of sophisticated and often incomprehensible for nonexperts illustrations. The same editors and reviewers are paying much attention to the fantastic figures and overlook major errors or fatal faults, which undermine the validity of the papers (7).

Forcing authors to add 'absorbing' pictures may simply be aimed at exploiting the psychological effects on the readership. Surprisingly, manufacturers of some laboratory materials advertise their products for researchers, claiming that the reviewers will like print-outs and other visual materials offered by their laboratory machines: "Beauty is in the eye of the reviewer".

Another trick exploited by a number of scholarly journals is

aimed at attracting their authors to choose a figure from their research papers for the journal cover image. The authors are asked to pay extra fees for their (color) figure to be displayed on the journal issue's front cover. The presence of the eye-catching figure on the cover not necessarily reflects its scientific importance.

The scientific value of a research paper should be appraised apart from its stunning figures and other illustrative materials. Scholarly journals are not art galleries. In their judgments reviewers and editors should not substitute value of scientific contents by beauty of well-favored figures. And they should always ask themselves what is the difference between a comic book and a scientific journal.

Authors, reviewers, and editors have to prioritize scientific methodology, concept, and contents rather than attractive appearance of their papers. Science communication and art exhibition differ.

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