

Intellectual theft: pitfalls and consequences of plagiarism

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Published online: 2 September 2016
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“...you work hard for what you want in life... your word is your bond and you do what you say.”

Michelle Obama, 2008

“...you work hard for what you want in life... your word is your bond and you do what you say.”

Melania Trump, 2016

Publishing fraudulent data and presenting ideas attributed to other researchers without appropriate recognition violates scientific ethics (Gross 2016). Falsifying data is a serious transgression because it is always intentional and thoroughly undermines the scientific enterprise. Is plagiarism equally offensive misconduct? As Editors-in-Chief of *Behavioral Ecology and Sociobiology*, we address concerns of plagiarism raised by Associate Editors and/or ad hoc referees. This is a highly significant issue because publications are the “ultimate product of research and their citation is often used to assess success and impact in a discipline; Researchers rely on their predecessors, while the extent of use of one scientist’s work, as a source for the work of other authors, is the verification of its contributions to the growth of human knowledge” (Masic 2012). Clearly, “Science depends on trust, credit, and attribution” (Anonymous 2009a). Yet a recent analysis reports that 30 % of polled scientists are aware of instances of

plagiarism committed by colleagues (Pupovac and Fanelli 2015). What influences authors to manipulate sources of information and break such an important law of our global research community?

Although plagiarism might be defined in terms of the minimal number of words used consecutively in a sentence, it is not restricted to verbatim copying. The precise nature of professional misconduct comprising plagiarism has been debated in respect to authorship and credit (Anonymous 2009b). For *Behavioral Ecology and Sociobiology*, plagiarism is well-defined in the instructions for manuscript preparation under the category of “Ethical responsibilities of authors”:

No data, text, or theories by others are presented as if they were the author’s own (“plagiarism”). Proper acknowledgements to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased. Quotation marks are used for verbatim copying of material, and permissions are secured for material that is copyrighted.

The ethical responsibilities of authors considering submitting a manuscript are also unambiguous:

“Authors should refrain from misrepresenting research results which could damage the trust in the journal, the professionalism of scientific authorship, and ultimately the entire scientific endeavor.”

Nevertheless, we receive submissions to *Behavioral Ecology and Sociobiology* in which sentences have been copied and redundancy in language can be seen in multiple publications from the same research group (“self-plagiarism,” see below). After authors have been notified of such plagiarism, we may find that revised manuscripts fail to address the very

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problem for which authors had been admonished and instructed to correct. This is distressing and disturbing. Plagiarism has serious consequences. Editors may refuse to evaluate future submission from authors that have violated ethical standards. If an article has been published online, an erratum may be placed with the article, or in severe cases, the article may be retracted. The author's institution may be informed. Integrity can be compromised and reputation negatively impacted.

Ideas, words, and images are protected by patents, copyrights, and trademarks to secure the financial advantages of innovative thinking and invention. Although scientific patents may be highly lucrative and infringements may hence be driven by the incentive of wealth, unethical conduct in behavioral ecology is unlikely to carry a similar benefit, although integrity and reputation should be ranked higher than monetary return. "Wrongful copying in literature or academia is called plagiarism by writers and scholars and copyright infringement by lawyers and judges" (Stearns 1992). For research leading to marketable products or other clinical applications, the legal consequences of violations are readily understood. Intellectual property in any form, however, must be recognized and its ownership respected, even if damages related to its theft are less tangible and difficult to litigate.

Plagiarism is not a victimless academic crime. Individuals may benefit either financially or socially (or both) by misrepresenting the work of another as one's own if it leads to more articles appearing in the literature, reduces time to publication, or has other career enhancements. The costs of such behavior are borne by the original authors. Attitudes toward plagiarism by researchers who also serve as teachers and mentors can impact education, potentially giving the impression of approval. Inappropriate standards might be modeled by undergraduate and graduate students, postdoctoral associates, and junior colleagues. The roots of plagiarism and the belief that copying is a minor offense may indeed be rooted in undergraduate training (Newton 2016). Plagiarism denigrates scholarship at multiple levels.

Plagiarism is not causally monolithic. *Unconscious plagiarism* may occur when individuals make mistakes distinguishing their response from the response of others due to psychological errors involved in source recall (Hollins et al. 2016). Authors may also be susceptible to *unintentional plagiarism* if work schedule demands and disorganized records coincide to confuse sources of information (Nicholls, 2014). Preparing a paper in English, if it is a second language, can contribute to copying (Ewing et al. 2016). *Self-plagiarism* or text recycling (Moskovitz 2016) may result from dividing the results of a broad study into marginally publishable components to increase the appearance of productivity, under the motivation that the quantity of papers will be assessed in faculty or staff evaluations. Some journal editors report that author recycling of portions of their own prior publications is acceptable (Kravitz and Feldman 2011). Although this has led to

debate, every effort should be made to avoid self-plagiarism. None of these explanations justifies plagiarism; all result from lowering standards of scholarship.

The path leading to compliance with ethical standards for manuscript preparation may be obscured by computer word processing software that facilitates rapid and potentially uncritical "cutting and pasting" of text from multiple sources (Naughton 2012). Enabled by this technology, the desire and professional need to be productive and the anxiety it can generate may blur career aspirations and adherence to ethical standards if authors are not continually cognizant of sources of information and similarities in text.

Some may argue that there are limitations to the written expression of concepts and methods. Although presenting the essence of sexual selection, kin selection, or foraging theory may seem rote, authors should not become intellectually complacent, but rather continually strive toward producing a creative narrative that best reflects their work in the context of existing literature. And while describing techniques that involve the use of reagents, microscopy, sequence analysis, and other techniques may appear invariant, routine methods described in prior publications do not need to be presented with the same word-for-word account for the sake of clarity and accuracy. Appropriate parent papers can be cited.

Our position is that plagiarism constitutes significant scientific misconduct, and we take it seriously. As an ethical breach, plagiarism is not innocent or naïve and explainable by cultural variation in attitudes toward it. Copying text and/or ideas does not represent poor paraphrasing or a lapse of attentiveness caused by user friendly word processing tools. Any willingness to lower ethical standards because plagiarism may be unintentional or a by-product of the ease of access to web-based information does not alter its pervasive negative impact. Plagiarism degrades creativity.

Just as the language of science has been globally normalized to English, there are international ethical standards for professional conduct in science. Cultural or disciplinary differences in how plagiarism is viewed (Ehrich et al. 2016; Moskovitz 2016) or its acceptance in any form cannot be justified. Ignorance cannot explain plagiarism, because information on misconduct is readily available on line from the Committee on Publication Ethics (<http://publicationethics.org/>). Authors must acknowledge the significance of publishing their work as well as their obligations to ethical standards in the community and make every effort to submit high-quality manuscripts that reflect this effort. Moreover, authors must realize that reviewers have an authoritative understanding of relevant literature and will detect plagiarism, whether or not software is used to do so. The same attention and concern paid to ensuring that a study is optimal in design, conceptual framing, statistic modeling, and interpretation, and that inferences are supported by data, must be applied to manuscript preparation to eliminate plagiarism.

Given the skepticism and denialism that science often receives from larger social and political audiences outside of our discipline, published work must uniformly be presented with rigor and care. Researchers should not arm opponents with any arguments to deny or marginalize science as a process or way of communicating. Authors have a responsibility to be honest and transparent to ensure their publications are of the highest quality, recognizing that avoiding the pitfalls of plagiarism is integral to excellence in science. All contributors to a multi-author article are responsible for its content—including plagiarism.

When you prepare a manuscript, ask yourself introspectively *are these ideas and words my own?* before you submit your work for critical review. We encourage prospective authors to become aware of the ethical principles of plagiarism and know its consequences. Plagiarism cannot be excused or editorially sanctioned.

Acknowledgments We thank I. Traniello, Dr. S. Arganda Carreras, Dr. V. Penning, and A. Hoadley for comments.

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