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When plagiarism is the most serious form of research misconduct

Prakash and his colleagues should be commended for addressing important aspects of publication ethics in a relatively short article.[1] Regrettably, in sacrificing depth for breadth when covering complex issues, key elements are inevitably left out. What follows are comments on the section on plagiarism that I thought might fill some of the gaps. Other sections of the paper could similarly benefit from additional clarification and elaboration.

For their first example of plagiarism, the authors write "Complete word to word copying of someone's work without permission from and acknowledgement to the original authors". It is important to clarify that, while it may be a polite gesture for us to seek permission from authors when we use small segments of their previously published work, such permission is generally not necessary as long as the borrowed material lies within the legal boundaries of the publisher's copyright statement (see, for example, the types of materials and the amounts that can be used that require permission from Elsevier[2]). Of course, regardless of the amount that is borrowed, such use always assumes that standard scholarly conventions of proper attribution are being followed (eg text is enclosed in quotation marks and a citation is provided). For amounts of content that exceed a publisher's limit, permission to reproduce such work is, indeed, required of the holders of the copyright, which often, but not always, are the publishers and not the authors. In such cases, permission should also be requested from the authors, even if they have relinquished the copyright to their intellectual property. Doing so in the latter case is a matter of professional courtesy, not a legal or ethical requirement.

In their second example of plagiarism, Prakash et al write "Substantial copying of the majority of text or data with minor changes in the text or style of writing". Considering this example, it is important to distinguish between data fabrication, falsification and two types of plagiarism — plagiarism as research misconduct and plagiarism as scholarly misconduct. Copying one or more sentences without attribution and with only minor modifications might not rise to the level of research misconduct, but it is plagiarism from a scholarly point of view.[3,4] More importantly, while copying data (ie passing others' data as one's own) — even if it is a single datum — is subsumed under the definition of plagiarism and might seem inconsequential to some, such action also constitutes data fabrication, a far more serious form of research misconduct.

With respect to the third example, "Paraphrasing by substituting words in someone's work without altering the idea or context of the text", it is worth emphasizing that, with some exceptions (see next paragraph), the type of 'light paraphrasing' described in the authors' example constitutes plagiarism even when a proper citation is provided. A correct paraphrase entails conveying others' ideas using our own words, unique expressions, and writing voice. In addition, when we paraphrase others' work, we must always include a citation to identify the origin of the ideas that we are writing about.

Finally, in the fourth example on self-plagiarism, the authors write: "Recycling own published text (self plagiarism or recycling fraud) which is 'the reuse of significant, identical, or nearly identical portions of one's own work without acknowledging that one is doing so or citing the original work' ". An important distinction needs to be made between recycling text and recycling data without proper acknowledgement. Regardless of amount, reusing both types of content are forms of self-plagiarism, but some very limited amount of recycling of highly technical text from Methods sections from our own work and even from others' work may be acceptable. Such recycling may occur at the level of phrases but not of full sentences and certainly not of full paragraphs.[5] What is essential for all of us to understand is that any time we reuse previously disseminated data and pass them off as new data we commit fraud. Plagiarism and covert self-plagiarism of any amount of data represent instances of data fabrication and, as such, they are the most serious forms of research misconduct.

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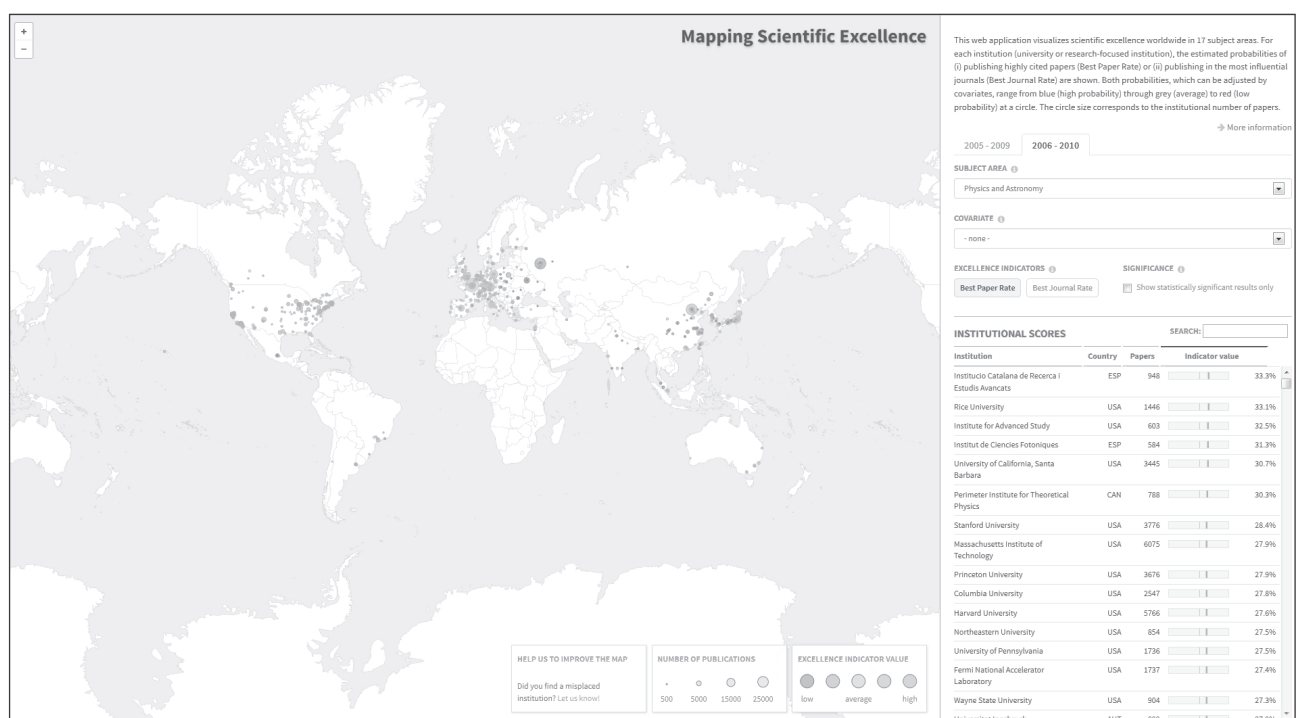*300 Howard Avenue, Staten Island, New York 10301, USA*
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The scientific excellence mapping tool

We recently developed a web application which is linked to both spatial visualization approaches and academic ranking lists published hitherto (www.excellencemapping. net).[1] The web application analyzes scientific performance of universities and research institutions across various subject areas and presents ranking lists and on custom tile-based maps.[2] The new, substantially enhanced version of the web application is now published.[3] In the enhanced version, the effect of covariates such as gross domestic product of a country where an institution is located and corruption perception index is examined using multi-level regression models. A covariate-adjusted ranking and mapping of the institutions is presented with the covariates being held constant. The analysis is based on Scopus data from the SCImago Institutions Rankings (http://www.scimagoir. com/). We process information for institutions with at least 500 articles, reviews and conference papers which are indexed in a Scopus subject category in 2006-2010. Citation impact of these publications covers the period to mid-2013. Performance of the institutions is recorded using the following two indicators. The first one, best paper rate, indicates a proportion of publications from an institution belonging to 10% of the most cited publications in a certain subject area and publication year. The second indicator, best journal rate, is the ratio of papers that an institution published in the world's most influential journals, which are ranked in a subject-based first quartile of the SCImago Journal Rank (SJR). A graphic example of the analysis is depicted in Figure 1 – a screen shot of the web application visualizing the results of the multi-level analyses for 17 subject areas.

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Figure 1. Screen shot of the web application