

## STOLEN SCIENCE: WHY PLAGIARISM AND SELF-PLAGIARISM ARE UNACCEPTABLE

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Plagiarism is appropriation of someone else's ideas, texts, images and other materials without acknowledging their author. It is a serious violation of publication ethics that once detected results in the retraction of the submitted article. It has a disastrous impact on the author's reputation, because the publication is not removed from online databases, but stored there with a retracted publication tag. Plagiarism comes in different forms many of which still cannot be detected even by a special software; Plagiarism comes in different forms; the originality of an article is still assessed by peer reviewers and readers in the first place. Plagiarism can be unintentional. Most often, poor citation and reference style is typical of young researchers. To avoid unpleasant situations, authors are advised to use paraphrasing instead of merely copying and pasting fragments of texts. A verbatim use of a source requires quotation marks, references are expected to come right after the fragment borrowed from the original source; with multiple references (from 5 to 10) pointing to a single idea are bad style. Authors are advised to always double check basic information about the publication they specify in a reference. The first author and a corresponding author are expected to monitor the quality of their co-authors' work. Full or partial copying of a previously published article by the same author is considered self-plagiarism and does not comply with the guidelines of the majority of academic journals.

**Keywords:** publication ethics, plagiarism, self-plagiarism, retraction of publication

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## КРАДЕНАЯ НАУКА: ПОЧЕМУ ПЛАГИАТ И САМОПЛАГИАТ НЕПРИЕМЛЕМЫ

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Плагиат, то есть заимствование чужих идей, текстов, рисунков и других материалов без указания того, кто является их автором, — это грубое нарушение публикационной этики, которое при обнаружении факта заимствований в публикации влечет за собой отказ (retraction) журнала от нее. Для авторов это непоправимый удар по профессиональной репутации, так как публикация не изымается из многочисленных электронных архивов, а присутствует там с пометкой retracted publication. Плагиат принимает различные формы, многие из которых не могут быть выявлены с помощью специализированного программного обеспечения, и по-прежнему важную роль в оценке оригинальности работ играют рецензенты и читатели. Плагиат может быть непредумышленным. Чаще всего неправильное цитирование и оформление ссылок свойственно работам молодых исследователей. Во избежание неприятных ситуаций следует отказаться от копирования фрагментов в пользу их перефразирования, дословные цитаты брать в кавычки, расставлять ссылки непосредственно после заимствованных фрагментов, избегая «кустовых» ссылок (5–10 ссылок на один тезис), тщательно проверять выходные данные всех ссылок. Первому автору или автору-корреспонденту следует также проверять качество работы соавторов. Полное или частичное копирование авторами собственных ранее опубликованных работ считается самоплагиатом и недопустимо по правилам большинства научных журналов.

**Ключевые слова:** этика публикаций, плагиат, самоплагиат, отказ от публикации

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Your work is both good and original. Unfortunately, the parts that are good are not original, and the parts that are original are not good.

Samuel Johnson

“Publish or perish” — these three words convey the tragedy of a modern researcher. To derive maximum pleasure from scientific research, one has no choice but to compete for resources, such as position and money, or, in simpler terms, to make a career. The number and quality of scientific papers are the criteria commonly used to motivate personnel and to assess their performance efficiency. As a result, hundreds

of manuscripts are published worldwide every day, and this creates a nourishing environment for unscrupulous researchers who steal ideas and texts or publish their own work multiple times to get to the top. Unfortunately, it is difficult to catch them red-handed. We would like to warn young researchers against silly mistakes and to remind experienced scientists of the responsibility they bear for their work. The following article

explains the essence of plagiarism and self-plagiarism and contains recommendations on how to avoid ethical issues that can bury your professional reputation.

Scientific misconduct is a serious social and economic issue, especially when it comes to medicine. According to some sources, about 90% of biomedical research cannot be reproduced; therefore the data obtained from it cannot be used for further studies. The reasons behind it are publication bias and sloppy statistical analysis [1]. Falsification and fabrication of data are plagiarism's companions that help to mask content matches. That is why, in compliance with the guidelines of the International Committee of Medical Journal Editors, retraction policies are currently applied to those articles that have been proved to be falsified, fabricated or stolen [2]. Once plagiarism has been detected, a notice of retraction is issued by the editorial board informing the audience that research findings cannot be considered trustworthy.

Both absolute and relative numbers of retracted publications are pretty low: according to the research by Amos [3], in 2008–2012 PubMed contained 835 articles tagged as retracted, which amounted to only 0.02 % of the total publications submitted to this database over the specified time period. However, Wager and Williams [4] demonstrate that the number of retractions has been increasing. According to some sources, 9.8 to 17.0 % of retractions are due to plagiarism [3]. Retractions are also tracked by Retraction Watch, a blog on the Internet [5].

#### Plagiarism: ctrl + c, 404 error and salami

But what exactly is plagiarism in science? In short, it is appropriation of someone else's ideas and texts without giving credit to their author. Some researchers [6] refer to the definition of plagiarism provided by the World Association of Medical Editors (we failed to find this definition on WAME website, though) and insist that the term *plagiarism* should be applied to a sequence of 6 or more words (no less than 30 letters in total) copied from an unnamed source. Some of Russian (AntiPlagiarism) and foreign (iThenticate, CrossCheck) software used to detect matches in the submitted texts relies on calculating the percentage of copied content. However, a quantitative approach is ineffective, as plagiarism can take different shapes [7, 8].

Appropriation of someone else's publication with almost no changes introduced to the text is the most blatant form of plagiarism. It is commonly found in the work of those researchers who write in a language that an English speaking community does not understand or who steal research works from non-English speaking authors. For example, an unauthorized English translation of an article by Olga Baydik that was first published in Russian in a non-indexed journal was later found in a Pakistani journal [7]. A study by Amos [3] shows that plagiarism is very common in the works by Chinese, Indian, Italian, Turkish or Tunisian researchers.

The most common type of plagiarism relies on plain copying and pasting pieces of information with no reference to the original source. There is a similar form of plagiarism based on the "find-replace" idea: the author replaces a few words in a borrowed fragment with his own expressions thus masking scientific misconduct. A combination of properly cited text fragments with those that have no reference to the original source represents a hybrid form of plagiarism. It creates and illusion that the author adheres to ethical guidelines.

404 Error and aggregator types of plagiarism are quite peculiar [8]. In the former case, authors copy someone else's

text and accompany it with a reference to a non-existent source or provide an inaccurate reference. In the latter case, citation is styled properly, but the source the fragment refers to does not contain the borrowed portion of the text. Usually, peer reviewers and editors make sure that original sources contain the fragments cited by the authors. Therefore, these types of plagiarism are easy to detect.

The most controversial form of plagiarism is self-plagiarism. Many researchers find it perplexing that one can steal his/her own work. On the one hand, you really cannot steal your own ideas from yourself (the only exception here is a situation when copyrights belong to the publisher, and by copying your own work you actually steal it from the latter). On the other hand, self-plagiarism is a form of scientific misconduct when seen from the ethical perspective. First, any publication aims to convey new knowledge; recycling of a previously published text or redundant publications are frustrating to your colleagues and fail their expectations. Second, the number and quality of scientific publications determine whether a researcher will be promoted or sponsored in the future; to multiply scientific articles beyond necessity means to lie to your employer and sponsors. Third, after the research has been published, it becomes part of the public domain and may be referred to by other researchers. If you have your article re-published by another journal, its citation index will drop, and the person who will benefit from it least is you.

Often, authors seek to publish one and the same work in many languages, for example, in their native language and in English. However, the guidelines of the International Committee of Medical Journal Editors clearly stipulate that duplicate publication is possible only for those manuscripts that contain extremely important information concerning public health that must be promoted as widely as possible. Such work must contain a clear reference to the original source, and the journal that decides to re-publish it must obtain permission from a previous publisher.

Another trick that unscrupulous researchers resort to is salami slicing, i.e., disclosing results of one study in a series of articles in small batches, with each article discussing one or several aspects of the same study. Though such approach can be justified if the obtained data are quite extensive, most often researchers are simply driven by a desire to increase the number of publications under their names forgetting that such form of results presentation deprives readers of a chance to thoroughly and comprehensively evaluate the published work.

It may be appropriate to build your manuscript around a report delivered at a conference or to include into it a portion of data borrowed from a dissertation. However, one should be very careful here too. Style requirements for a conference report may vary depending on a conference type, and sometimes propositions and concepts must be described in such great detail that a report starts to resemble a full-fledged publication. The editors of *Bulletin of RSMU* have agreed to reject such manuscripts as the information they contain cannot be considered new. Very often researchers want to publish parts of their dissertation after it has been defended. It usually happens when researchers do not publish preliminary results of the research a dissertation is built around prior to dissertation defense because they already have a sufficient number of publications (though unrelated) under their name, but they still believe that the results of their work must become part of the public domain. We accept such manuscripts only if a dissertation was defended no earlier than a year ago. Since the abstract is normally available to the public and the work itself can be accessed through different online libraries, indexed and

therefore referred to by other authors, we believe that it does not exhibit any scientific novelty.

### Crime and punishment

Plagiarism and self-plagiarism can be both intentional and unintentional, the latter resulting from the lack of experience in writing scientific papers. Ethical misconduct can be fueled by professional competition, personal ambitions, especially if a researcher is not well-educated, or the burden of responsibility to sponsors. Some non-English speaking researchers engage in plagiarism when they write in English simply because they want to improve the style of their work [9]. However, you cannot be sure that linguistic forms you have borrowed from other articles are always correct. Besides, any serious international journal will refuse to publish such work once the copied fragments are identified. Poorly formatted citations and references may not be critical, and sometimes the authors are given a chance to make corrections to their manuscript [10], but this is not a universal rule. The higher impact the journal has (meaning more serious competition between authors), the less time the editor has to analyze each individual situation: the manuscript may be rejected on formal grounds.

If plagiarism is detected after the article has been published, the journal must retract it. The editorial board issues a notice providing full information on the article, naming the initiator of the retraction procedure and specifying the reasons for retraction. After that, all online copies of the article must be tagged as retracted [2]. A retracted publication will not be removed from online databases or withdrawn from circulation, but it will be permanently tagged as retracted. Spotless reputation of the authors is not an argument to mitigate the punishment. Moreover, the editor has a right to report ethical misconduct to the institution the authors are affiliated with and suggest initiating an investigation of their previously published work. If a person accountable for plagiarism is one of the co-authors, every author who signed the author agreement required by the publisher will share full responsibility. It ensues from the internationally accepted definition of authorship [2].

How can plagiarism be detected? Once a manuscript is submitted, it is run through specialized software, which, unfortunately, is not perfect. First, it is impossible to compare texts written in different languages; second, access to a number of journals and books can be restricted or completely blocked, which hinders the analysis; third, even if data or ideas have been stolen but the text itself has been reworded, plagiarism will not be identified; fourth, such software cannot differentiate between blunders and unintentional mistakes. This last circumstance is most unfavorable for those authors who submit their manuscripts to journals that totally rely on a software-based analysis. Another way to detect appropriated work is peer review. If experts invited to evaluate the quality of manuscripts are qualified enough, they can easily recognize the pieces seen somewhere else previously. The third anti-plagiarism filter is audience who can always report their findings to the editor.

### How to avoid plagiarism

A good publication is a result of a good research work. If you are truly fascinated by the subject of your research, adhere to the international standards for research planning and implementation, are not afraid to face a frustrating outcome

and are brave enough to report your mistakes to colleagues, you will most likely feel no need to falsify, fabricate or plagiarize data. Unintentional breaches of ethical code are not rare though, so in order to reduce the risk of unpleasant situations, it might be a good idea to use the following hints.

*Hint 1.* Familiarize yourself with the ethical regulations the journal adheres to. They normally contain definitions of plagiarism and self-plagiarism and stipulate responsibilities ensuing from scientific misconduct.

*Hint 2.* Avoid copying bits of scientific publications by other researchers. Carefully read the articles written by your colleagues and search for your own words and expressions to articulate ideas or patterns you have discovered. One and the same idea can be worded differently even if a text is technical. Paraphrasing also helps to better understand the original text.

*Hint 3.* Always provide information about the original source when quoting or paraphrasing it in your draft; specify the original source in brackets as follows: (Lastname et al., 2016). Later on, you can format your work as required by the journal you plan to submit your work to [9]. When quoting someone else's publication, use quotation marks, even if a citation is only a few words long.

*Hint 4.* Provide information on the original source of the citation right after the borrowed fragment (thesis – reference) and avoid multiple (5 to 10) references when communicating a single idea. First, a multiple-reference style can indicate that you have not analyzed the publications you refer to. Second, readers will not know where exactly to search for the information they find interesting. Third, you complicate editor's work: remember that the editor has to make sure that the facts you list match the content of every original source you refer to. The more time the editor spends on your manuscript, the less patience he/she is left with to scrupulously revise the paper.

*Hint 5.* Double check the title of the publication you refer to, the year it was published and other relevant information.

*Hint 6.* If you plan to use an image or a graph borrowed from some other source, find out who owns a copyright to it and what are the procedures (if any) to use these materials. In some cases you will need to obtain permission from a copyright owner.

*Hint 7.* If you are the first author or a corresponding author, monitor the work done by your co-authors. Ensure your colleagues are familiar with publication ethics. After a draft is ready, see if it contains fragments different from the rest of the work in style and containing zero references: usually such pieces are indicative of plagiarism [9].

*Hint 8.* Avoid copying fragments of your own previous publications; paraphrase them instead. Remember that an honest researcher does not tread water: although a subject of your research may still be the same, every new article on this subject requires a refreshed introduction. If you need to use previously published data, clearly specify it in the manuscript body and also warn the editor.

*Hint 9.* If the editor has detected unintentional copyright infringement, be honest when explaining the situation. Honesty is your chance to be allowed to make corrections to your manuscript.

### CONCLUSION

Plagiarism is a serious breach of publication ethics which discredit science and scientists. In the age of digital technologies, it has become easier to present and share research data; at the same time protecting your research from unscrupulous colleagues

has become harder. Current algorithms of plagiarism detection are far from being perfect, and the role of peer review and vigilant audience is still important.

Plagiarism can be unintentional, especially in the works of young scientists who do not know yet the nuances of proper citation styling. Experienced researchers should be more attentive to their students and younger colleagues and not only share scientific knowledge with them, but also teach them to adhere to ethical standards. Unfortunately, copyright issues

receive little attention in Russian schools and universities, and many unscrupulous authors experience plagiarism for the first time when preparing their thesis.

To avoid ethical issues, we recommend authors should try paraphrasing instead of quoting, use quotation marks when citing works by other researchers, style references appropriately, and submit accurate information about the original publication. Remember that all co-authors of the work share full responsibility, and do not let your colleagues down.

## References

1. Vaux DL. Scientific misconduct: falsification, fabrication, and misappropriation of credit. In: Bretag T, editor. Handbook of Academic Integrity. Singapore: Springer; 2016. p. 895–911.
2. International Committee of Medical Journal Editors. Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals. 2014 Dec [cited 27.12.2016]. Available from: <http://www.icmje.org>.
3. Amos KA. The ethics of scholarly publishing: exploring differences of plagiarism and duplicate publications across nations. J Med Lib Assoc. 2014; 102 (2): 87–91. DOI: 10.3163/1536-5050.102.2.005.
4. Wager E, Williams P. Why and how do journals retract articles? an analysis of Medline retractions 1988–2008. J Med Ethics. 2011 Sep; 37 (9): 567–70. DOI: 10.1136/jme.2010.040964.
5. Retractionwatch.com [Internet]. [cited: 27.12.2016].
6. Masic I. Plagiarism in scientific publishing. Acta Inform Med. 2012 Dec; 20 (4): 208–13. DOI: 10.5455/aim.2012.20.208-213.
7. Baydik OD, Gasparyan AY. How to Act When Research Misconduct Is Not Detected by Software but Revealed by the Author of the Plagiarized Article? J Korean Med Sci. 2016; 31: 1508–10. DOI: 10.3346/jkms.2016.31.10.1508.
8. Masic I. Plagiarism in Scientific Research and Publications and How to Prevent It. Mater Sociomed. 2014 Apr; 26 (2): 141–6.
9. Shashok K. Authors, editors, and the signs, symptoms and causes of plagiarism. Saudi J Anaesth. 2011 Jul–Sep; 5 (3): 303–7. DOI: 10.4103/1658-354X.84107.
10. Committee on Publication Ethics. Flowcharts [Internet]. c2016 [updated 11.2015; cited 28.12.2016]. Available from: <http://publicationethics.org/resources/flowcharts>.

## Литература

1. Vaux DL. Scientific misconduct: falsification, fabrication, and misappropriation of credit. В кн.: Bretag T, редактор. Handbook of Academic Integrity. Singapore: Springer; 2016. с. 895–911.
2. International Committee of Medical Journal Editors. Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals. 2014 Dec [дата обращения: 27.12.2016]. Доступно по ссылке: <http://www.icmje.org>.
3. Amos KA. The ethics of scholarly publishing: exploring differences of plagiarism and duplicate publications across nations. J Med Lib Assoc. 2014; 102 (2): 87–91. DOI: 10.3163/1536-5050.102.2.005.
4. Wager E, Williams P. Why and how do journals retract articles? an analysis of Medline retractions 1988–2008. J Med Ethics. 2011 Sep; 37 (9): 567–70. DOI: 10.1136/jme.2010.040964.
5. Retractionwatch.com [Интернет]. [дата обращения: 27.12.2016].
6. Masic I. Plagiarism in scientific publishing. Acta Inform Med. 2012 Dec; 20 (4): 208–13. DOI: 10.5455/aim.2012.20.208-213.
7. Baydik OD, Gasparyan AY. How to Act When Research Misconduct Is Not Detected by Software but Revealed by the Author of the Plagiarized Article? J Korean Med Sci. 2016; 31: 1508–10. DOI: 10.3346/jkms.2016.31.10.1508.
8. Masic I. Plagiarism in Scientific Research and Publications and How to Prevent It. Mater Sociomed. 2014 Apr; 26 (2): 141–6.
9. Shashok K. Authors, editors, and the signs, symptoms and causes of plagiarism. Saudi J Anaesth. 2011 Jul–Sep; 5 (3): 303–7. DOI: 10.4103/1658-354X.84107.
10. Committee on Publication Ethics. Flowcharts [Интернет]. c2016 [дата обновления: 11.2015; дата обращения: 28.12.2016]. Доступно по ссылке: <http://publicationethics.org/resources/flowcharts>.