Romanian Review of Laboratory Medicine Statement on plagiarism

Publish or Perish *vs.* Publish and Perish

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Introduction

While reading a publication, sometimes you may have a feeling of *deja vu*, the text might look familiar. This could happen because texts or ideas are part of common-knowledge or because they are claimed to be original but in fact they have already been published by different or by the same authors, failing to credit previous work. The last situation represents an example of what can be considered plagiarism.

Plagiarism is nowadays an issue that concerns both the scientific and the political scene (and not only in Romania). To survive on the academic scene and / or professionally, scientists are under the pressure to publish as many papers as possible and sometimes they cross barriers to ethical gray areas (1). Recent evidences suggest that the incidence of scientific misconduct is increasing (2). Almost 750 research articles published in the last 10 years were retracted from the PubMed database for scientific mistakes or errors (3). This may reflect a real increase in the incidence of plagiarism, a greater effort of journals to detect this plague in the literature, or bad papers simply reaching a wider audience because journals are now online. Scientific articles are retracted for many reasons, the most serious being fraud (data falsification or fabrication) or error (scientific mistakes, ethical issues).

In dictionaries, plagiarism is defined as a "*wrongful appropriation*," or "*close imitation*" of another author's "*language, thoughts, ideas, or expressions*," and the representation of them as one's own authentic work (4, 5). According to **Nature** *„....plagiarism is when an author attempts to pass off someone else's work as his or her own*" (6). The World Association of Medical Editors (WAME) defines plagiarism as *„.... the use of others' published and unpublished ideas or words (or other intellectual property) without attribution or permission, and presenting them as new and original rather than derived from an existing source. The intent and effect of plagiarism is to mislead the reader as to the contributions of the plagiarizer*" (7). Lack of citation, aknowledgement, giving credit or attribution is considered to be plagiarism. In academics, committing plagiarism sometimes is restricted to not citing sources (8).

Legal aspects

The word ”plagiarism” means ”kidnapper” in Latin; in some contexts it is considered theft, but it does not exist in a legal sense, either criminal or civil (9). Plagiarism was considered to

be scientific misconduct, an unethical publication practice, an academic dishonesty and *not* a legal offense. Because of that it has mostly been ignored by legal commentators. Yet there is much that legal theory can contribute to its understanding with. Some cases may be considered violation of moral rights or unfair competition. Plagiarism is different from the concept of copyright infringement (when material restricted by copyright is used without copyright holder consent).

Types of plagiarism

Different types of plagiarism were described by the Committee On Publication Ethics (COPE) according of their extent, originality of the copied material, intention, context, referencing and language. Plagiarism takes many forms, falling between two limits defined by COPE (10):

*"**Major plagiarism** could be defined as verbatim copying of >100 words of original material in the absence of any citation to the source material, or unattributed use of original, published academic work, such as the structure, argument or hypothesis/idea of another person or group where this is a major part of the new publication and there is evidence that it was not developed independently*" (10).

*"**Minor plagiarism** could be defined as verbatim copying of <100 words without indicating that these are a direct quotation from an original work (whether or not the source is cited), unless the text is accepted as widely used or standardized (eg the description of a standard technique)"* (10).

Information may be put into a paper without being considered as plagiarism, only if it belongs to common knowledge or it may be found in several (text)books. Sometimes, there is only one way to define something, to express a concept and using very similar language is accepted, but verbatim repeating the same sentences or phrases is not.

The most severe form of plagiarism (extremely rare) involving also copyright law, is the reproduction of entire work (which could be re-published eventualy in translation and is more difficult to detect).

Least severe types of plagiarism occur when quotation marks are not used, when mentioning standard methods occurs without appropriate acknowledgement, when few sentences are reused, so long as the original work is correctly cited. Researchers may believe that little offence is done if similar language is used, that parts of another article can be reproduced in their own work so far as it is aknowledged, but this practice is inappropriate for an academic journal. Extent alone can not be considered the most important criterion It has to be considered in conjunction with text originality and intention to deceive (10). Sometimes technical language involves standard sentences which are longer than thresholds used by text-matching software. The section / position of non-original text is also important – the *Methods* section may be more likely to contain similar language with literature than *Discussion* or *Conclusion* sections. It may be better if the original description of an assay provided by a supplier is copied rather than described by each user, since the original expression may be the most accurate. The editors also have to take into consideration the consequences of the copying: if a few sentences from the *Discussion* section of another article are copied, it may be considered less deceitful than data fabrication (i.e. when the work was not performed by the copier). *Reference* sections contain large amounts of copied text, this aspect should not be forgotten when software which detect text similarities are used.

An important factor which will differentiate errors, negligence and careless work from misconduct is the intention to deceive; this is less useful in practice, since the intention is difficult to prove. Extreme forms of plagiarism can only be deliberate. Editors must use their own experience to determine whether authors' explanations for minor forms of copying, could have occurred through "honest error" or negligence.

Self-plagiarism (duplicate, redundant or multiple publication) is the reuse of nearly

identical or significant portions of their one's own published work without citing the original work correctly. According to **Nature:** *"...duplicate publication, sometimes called self-plagiarism, occurs when an author reuses substantial parts of his or her own published work without providing the appropriate references. This can range from getting an identical paper published in multiple journals, to 'salami-slicing', where authors add small amounts of new data to a previous paper"* (6).

Romanian Review of Laboratory Medicine (RRML) adopted the Ingelfinger rule: a manuscript would be not considered for publication if it was simultaneously submitted elsewhere or previously published in a similar form (11). This request does not mean that our journal will not consider a complete article following publication of an abstract, or guidelines produced by professional organizations or by governmental institutions (with the agreement of the first publisher), or a paper that has been rejected by another journal.

It is sometimes an unintentional practice for researchers to re-phrase their own results or comments (producing redundand publication), in order to disseminate their work to the widest possible interested public. Several factors which justify reusing of one's previously published work without the culpability of self-plagiarism, are: the need to repeat parts of previous work in order to compare with new evidence, the previous work needs to be restated in order to underline a new contribution in the next work, the audience for each work is different and it does not infringe on copyright. Non-commercial use of the authors' own article is not restricted in any way by our journal, except that authors need to cite the *RRML* when they reuse it.

Plagiarism detection: is there a threshold score / a "magic number"?

One of the most important priorities of Romanian Review of Laboratory Medicine editorial board is to ensure the quality of published papers, to handle ethical issues correctly and to eliminate scientific misconduct. Most severe forms of scientific misconduct include major plagiarism and violation of good research practice by data fabrication, omission or distortion.

Detection of misconducted research and publication and how our editorial board should respond to it, are topics on which we have worked on intensively lately. We have added the information to our instructions for authors in order to warn them from submitting a work that contains forms of plagiarism. For evaluation of similarities with scientific literature, at least two specialized text-matching software are used to scan all manuscripts accepted to be sent for external peer review; the strength of these services stands in the size of databases of published articles, against which other documents are compared. An overall similarity score results, which is analyzed by our editorial staff. If the index of similarity is significantly high, heavily duplicated articles can be quickly detected/disconsidered. Beyond that it is not simple decide a threshold index to indicate a problem, other editors are faced with the same problem (12). Even if the number/ percentage is the most impressive result, this is not the only criterion which gives us a definitive answer. Other factors:

- the number of sources which made up the total amount of matching (the majority of software reccomend less than 5% for one particular source comprised in the overall similarity score, but more than 2-3 sources with 5% individual score, could be problematic),
- the section of the paper – a match in the *Methods* may produce less concern in comparison with matches in the *Discussion* section (especially if no correct citation was done)
- type of article - for original works an index of 30% could be problematic, but not for reviews, especially if this is made up of a number of small matches (less than 1-2%).

RRML acknowledges the usefulness of specialized software as supporting tools in the editorial activity. However, due to a lack of internation-

al consensus regarding the analysis methodology and the translation of numerical results issued by these applications into practice, we find it appropriate to treat these values with caution and only as a starting point in the analysis of ethical issues that may arise. Further examination of the replicated text is required. Is it deliberately copying of large blocks of original text? Is it a piece of low originality word construction? Is it common knowledge or widespread information inserted by ignorance or by purpose? Is it a description of a standard technique? Is the source cited? Misconduct does not include unintentional error. All of these reasons determine us to look at the reports carefully, rather than to decide on the similarity index alone.

Responses to misconduct

Usually, editors do not have the legitimacy or resources to arrive at a formal conclusion regarding misconduct. That process is the role of regulatory bodies, universities or granting agency. However, editors do have a responsibility to help protect the integrity of the scientific record by sharing reasonable concerns with authorities who can conduct such an investigation (13).

Responses of RRML to possible misconduct and plagiarism follow COPE guidelines which recommend different attitudes to minor or major plagiarism: educating authors, issuing corrections and retractions, contacting authors' institutions (10). If detected **before publication**, major plagiarism is a reason for rejection of a manuscript under consideration. A letter of explanation and education on principles sent to the first or corresponding author, is the solution in cases of minor plagiarism.

In severe cases of major plagiarism discovered **in published papers**, the attitude is formal retraction from the scientific literature, of the article published in the journal. Such publication will not require approval of authors, it will be reported to their institution and will be visible in the journal – we will publish a notice of duplicate publication or plagiarism, if appropriate and unequivocally documented. For the next two years further papers submitted by the authors of plagiarised text will not be accepted by our editorial office.

We agree with COPE consideration that "*if only a small section of an article (e.g. a few sentences in the discussion) is plagiarised, editors should consider whether readers (and the plagiarised author) would be best served by a correction ....rather than retracting the entire article which may contain sound, original data in other parts*" (10). If our editorial board uncovers possible evidence of such problems, it will first contact the corresponding author in complete confidence, to allow adequate clarification of the situation. If the results of such interactions are not satisfactory, the Board will contact the appropriate official(s) in the institution(s) from which the manuscript originated. It is then left to the institution(s) in question to pursue the matter appropriately. Depending on the circumstances, the *Romanian Review of Laboratory Medicine* will publish errata, corrigenda, or retractions (14).

Instead of Conclusions

Prevalence of misconduct may be higher than scientists would like to admit, but they do not, in all cases, deserve to be characterised as plagiators for the rest of their lives. Identification of minor plagiarism has become possible only with the availability of specialised text-matching software and, until recently, international committe / associations had no consense on some aspects of proper aknowledgement of the sources. Applying sanctions to authors retrospectively for this kind of misconduct is uncomfortable. One solution (which we consider reasonable) would be an agreement that editorial board will not take action if minor plagiarism is found in previous issues but high text similarity in future submissions will not be tolerated. Identification and blaming of unethical researchers do not solve the problem. Institutions should focus on solutions, instead on blame.

Warnings, guidelines preventing unacceptable practice (misbehaviour) and a clear statement on the phenomenom, should be developed in order to correct the problem and educate the scientists not to repeat mistakes.

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