

## Plagiarism in Communicating Science: Issues for Brazilian Authors

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❖ The discussion of research integrity (RI), which includes plagiarism, in Latin American science has received scarce attention, though awareness of its importance is increasing. In Brazil, attention to plagiarism has begun to grow among journal editors and in some graduate programs. **For most of these programs, however, formal policies are not clearly established.** On the one hand, *lack of consensus about what constitutes plagiarism in science* appears to be widespread in the country's research community. **On the other, Brazilian researchers, educators and policy makers have not engaged in the recent RI conversations led by the US and European countries.**

(Part of this material was presented at the Fifth Biennial Research Conference on Research Integrity in Niagara Falls, US, 2009 and at the 39<sup>th</sup> Annual Meeting of The Brazilian Society for Biochemistry and Molecular Biology, SBqB, in Foz de Iguaçu, Brazil, 2010)

Sonia M.R. Vasconcelos 2

❖ This situation has resulted in **mixed views of, for example, textual borrowing -in an Anglophone setting-** even among senior scientists, an observation that is supported by recent focus-group research. **To what extent these views are shared among graduate students needs further attention and has now been investigated at UFRJ. This presentation will look at conceptions and misconceptions of plagiarism in Brazilian academia and include preliminary results of a research project on graduate students' conceptions of RI in science, including plagiarism practices.**

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❖ Overall, this talk should give insight into the relevance of including RI discussions in initiatives to **boost the productivity of young and senior researchers in the Brazilian scientific community.**

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The growing competition in Brazilian science: rites of passage, stress and burnout (de Meis et al, *Braz J Med Biol Res*, 2003)

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graph TD
    A["The growing competition in Brazilian science: rites of passage, stress and burnout (de Meis et al, Braz J Med Biol Res, 2003)"] --> B["Focus on mental health"]
    A --> C["Cited by others working on mental health"]
  
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Sonia M.R. Vasconcelos 5

The growing competition in Brazilian science: rites of passage, stress and burnout (de Meis et al, *Braz J Med Biol Res*, 2003)

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"Brazil's scientific community is under pressure. Each year there is an increase in its contribution to international science and in the number of students who are trained to do research and teach at an advanced level. Most of these activities are carried out in state and federal universities... Interviews with graduate students, post-doctoral fellows and professors in one university department with a strong research tradition illustrate the level of stress engendered by the conflict between increasing competition and diminishing resources, and **serve to underscore the negative effects on creativity and on the tendency to choose science as a career.**"

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### The mental health of graduate students at the Federal University of São Paulo: a preliminary report (Nogueira-Martins et al, *Braz J Med Biol Res*, 2004)

"If we consider the expressive growth in Brazilian scientific production resulting from the implementation of an extensive national system of graduate education, it is important to focus efforts on enhancing and upgrading the mental health care system."

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7

### Ethical aspects of doing and publishing research in Latin American science: Taken for granted???

What do 16 Brazilian senior researchers from leading public institutions say about plagiarism, for example?

Are these perceptions shared among graduate students and postdoctoral fellows?

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8

### Focus Group Interviews

Senior Scientists at Public Research Institutions (2008)

Graduate Students and Postdoctoral Fellows in Engineering at a Public Institution (2010)

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9

### Our Focus Group Interviews

Plagiarism and the "Publish or Perish" Culture

Perceptions of Plagiarism

Linguistic Competence to Publish in English

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10

### Our Focus Group Interviews

#### •Major Research Questions:

•Is there any association between the "publish or perish" culture and plagiarism practices in the respondents' views?

•Is the [Anglophone] concept of plagiarism clear cut among these respondents?

•Does lack of linguistic competence make researchers more tolerant of plagiarism?

•How familiar are these researchers with recent integrity (RI) policies established by the US and European countries?

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11

### The "Publish or Perish" Culture: Increasing Plagiarism Practices?

In a letter published in the *Bulletin of the Brazilian Physics Society*, a Brazilian scientist expressed his concern about the effects of the mechanics of "counting papers" on the Brazilian research environment (Oliveira, 2006)...may have detrimental effects on this environment and lead to unethical behavior in the Brazilian scientific community. (Vasconcelos et al, *Embo Reports*, 2009).

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12

## Plagiarism and the "Publish or Perish" Culture (Senior Researchers' Responses)

We noted the same feeling in the following comments from our focus groups:

"I think...publications, the demand for producing texts and patents...we're overwhelmed by the mechanics of being productive; it's something mechanical, and we end up...accepting things that used to be unethical but that have now become acceptable."

"...this pressure for numbers and demand for quantity that has increased in the research environment...people do not have time to consider what makes a real contribution [to science]... this mathematization looks at [productivity] from a numerical perspective."

Senior Researchers

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13

## Plagiarism among Graduate Students (Senior Researchers' Responses)

"A student asked me to review her thesis. Sure, I was very happy to do so...It came to a point where I thought 'I know this style...' And I went on reading...five, six pages from my own thesis! Had she copied that from someone else's writing?...I've never met a situation like that; the really strange thing is that I talked to her thesis advisor, who considered the whole issue trivial..."

"... I don't care...a paragraph from my thesis... [a student copying] not the whole thesis...but some paragraphs, I don't care...Materials and methods? [Students] always copy and paste from other students..."

"...generally, students do not write well; many are poor and could not attend an English course [before entering university]. What do we have to do? Write for them? ...When you tell them to do their own writing, many copy and paste."

Senior Researchers

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14

## Linguistic Competence

Among the 16 researchers interviewed, 12 expressed a positive assessment of their writing competence in English. Some of the comments were as follows:

"...I spent many years abroad during my PhD, which helped me a lot...my competence in writing was developed during my PhD...[Concerning manuscripts], I do everything... but I only derive intellectual pleasure out of writing the discussion...the other sessions are rather boring and take up a lot of time..."

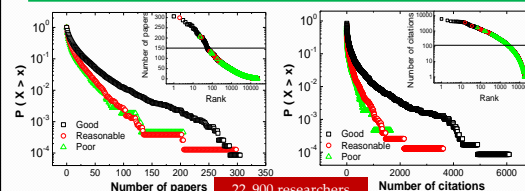
"...I don't have much trouble to communicate in English, to read or write...sometimes I feel the need for more skill than I have, and I send it [the manuscript] to a language editor, but not usually. I write it and each colleague in my group tries to correct the text a little bit..."

Senior Researchers

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15

## Linguistic Competence in English (Writing Ability) X Productivity and Visibility in the Web of Science



Complementary cumulative distribution function of researchers with different writing competences, good (black squares), reasonable (red circles) and poor (green triangles), according to number of papers.

(Vasconcelos SMR, Batista, PD, Sant'anna, MC, Sorenson MM, Leta J, Embo Rep, 2008)

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16

## What do Graduate Students and Postdoctoral Fellows Say? (ongoing study, unpublished material) available only during the oral presentation

Graduate Students

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17

## Perceptions of Plagiarism – (Senior Researchers' Responses)

The concept of plagiarism appeared to be rather ill-defined among our respondents. Among the 16 participants, only two expressed the full definition of plagiarism, that is, including not only the use of someone else's ideas and results without attribution but also inappropriate textual borrowing... Most respondents considered that textual plagiarism in science would be a less serious offense than copying data. In a recent article, Bouville claims that "copying a few sentences that contain no original idea (e.g. in the introduction) is of marginal importance compared to stealing the ideas of others."

"To me, plagiarism is results, copying results...this already happened several times. You talk to somebody about the results you obtained and the person ends up developing the same...This is plagiarism. The same idea you had the person develops, right? Ideas: this is plagiarism. Only ideas...I have my doubts about the text..."

"To me, plagiarism in science is copying results, for sure... [Plagiarism] in an article is... [When] you copy and paste an excerpt [sentence] larger than six, seven or eight words. I think you shouldn't do that."

Senior Researchers

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18

## Perceptions of Plagiarism - Graduate Students' Responses

(ongoing study, unpublished material, available only during the oral presentation)

Sônia M.R. Vasconcelos

19

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20

"Borrowing sentences in the part of a paper that simply helps to better introduce the problem should not be seen as plagiarism. Even if our introductions are not entirely original, our results are — and these are the most important part of any scientific paper. In the current climate of 'publish or perish', we are under pressure to publish our findings..."  
(Correspondence, *Nature* 449, 658, 2007)

"A recent analysis turned up numerous examples of plagiarism on the arXiv server (see *Nature* 444, 524–525; 2006). Ginsparg says that it's not uncommon for scientists with a poor command of English to plagiarize introductions or background paragraphs from earlier work, often adding an appropriate citation."  
(Turkish physicists face accusations of plagiarism, *Nature*, 449, 8, 2007)

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21

"... the misappropriation of language from other authors has been noted and the trend is quite significant... this almost exclusively occurs when the principal, usually first named, author... does not have English as their mother tongue, and struggle to represent the background to their work in good English in the Introduction, or to explore articulately the significance of the results in the Discussion and Conclusions." (Editorial, *Biomaterials*, 2007)

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22

In Brazil, it appears that some cases of textual borrowing have been interpreted as editorial problems rather than academic plagiarism.



This interpretation reinforces the idea that there is a cultural component behind notions of plagiarism among researchers, which cannot simply be ignored.

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23

"Steal my words, and you steal my authorship. Steal my idea and you still my identity as a scientist."

(Laflorette, M.C., *Proceedings of the Society for Experimental Biology and Medicine*, 2000)

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24

## Differences in National Approaches to Doctoral Education

### Implications for International Research Collaborations

Melissa S. Anderson, Felly Chiteng Kot, Yiyun Jie, Takehito Kamata, Aliya Kuzhabekova, Christine C. Lepkowski, Marta A. Shaw, Martha M. Sorenson and Sonia M. R. Vasconcelos<sup>1</sup>

2008). International collaborations between researchers who have different views and expectations about research and publication ethics can easily lead to awkward misunderstandings. Cross-cultural problems in international collaborations have been discussed at length elsewhere (Global Science Forum, n.d.; Nature, 2008), and they should not be assumed to be irrelevant in the Brazilian scientific community.

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25

## The New Geography of Scientific Collaborations: Heating Up an Ethics Melting Pot?

Sonia M.R. Vasconcelos<sup>1\*</sup>, Nicholas H. Steneck<sup>2</sup>, Melissa Anderson<sup>3</sup>, Hatisaburo Masuda<sup>1</sup>, Marisa Palacios<sup>4</sup>, Jose C.S. Pinto<sup>5</sup>, Martha M. Sorenson<sup>1</sup>

*Changing patterns in the geography of science pose ethical challenges that may be overlooked in collaborations between established and emerging scientific powers*

“...plagiarism practices may reflect contamination by notions of competitive advantage among scientists from Anglophone and non-Anglophone countries, as their relationship with the *lingua franca* of science is rather different (Vasconcelos *et al.*, 2008; Roig, 2010). In the current scenario of international collaborations, diverse views of authorship, credit and plagiarism may lead to misunderstandings that will not always be easy to resolve.”

(Vasconcelos, *et al.*, *Embo Reports*, accepted, 2011)

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26

## Entre o plágio e a autoria: qual o papel da universidade?

Obdália Santana Ferraz Silva

Universidade do Estado da Bahia, campus XIV, Departamento de Educação

Revista Brasileira de Educação v. 13 n. 38 maio/jun. 2008

➤ Makes the case that an author is not simply a text producer and should be able *to be*, not only to write. According to his argument, the university has a part in helping Brazilian students develop their own voice in academia, which is related to developing authorial autonomy and responsibility in academia.

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27

Some questions we may ask:

What makes a scientific author?

☐ Is having his/her own voice in the language of science a relevant issue?

☐ How much ownership of the writing of a scientific paper should an author have in this Anglophone research setting? (So far, it does constitute an intellectual capital not open - yet- to negotiation).

☐ Is our research environment likely to favor the process of writing papers for junior researchers who have to respond to a publication culture that has established severe sanctions for those involved in plagiarism (of data, ideas and/or text)?

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28

## Concluding Remarks

➤ So far, plagiarism, especially textual plagiarism in science, is not a clear cut issue neither among senior researchers nor among graduate students participating in the focus groups. Other issues such as scientific authorship, appropriate citation, and redundancy in science also showed that perceptions may vary and be sources of confusion.

➤ Larger groups will be surveyed for a broader picture of the problem (including a national survey on plagiarism, self-plagiarism and redundancy with PhDs registered in CNPq database). However, the insight given by these focus groups, the paucity of RI discussions in Brazil, and recent cases of retractions of papers by Brazilian authors may lead us to the following consideration:

**Is it not timely for our research community and policy makers to broaden the agenda for policies that aim to foster the productivity of junior researchers?**

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29



Muito obrigada!

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30