[Defendant]

Sent via e-Boks

The Danish Committee on Research Misconduct

24. July 2018

The Danish Committee on Research Misconduct can be reached via:
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D E C I S I O N

By email dated 18 October 2017, the institution (hereinafter the Institution) forwarded a complaint to the Danish Committee on Research Misconduct filed by the complainant (hereinafter the Complainant) concerning the defendant (hereinafter the Defendant), alleging that the Defendant had committed research misconduct.

The thesis (hereinafter the PhD thesis).

The Complainant asserts that the PhD thesis contains examples of plagiarism to an unacceptable degree from the following scientific works:

- Paper A (hereinafter Paper A)

- Paper B (hereinafter Paper B).

The Defendant contends that he has not committed research misconduct and claims that he has not plagiarised in his PhD thesis.

The Committee's findings

The Danish Committee on Research Misconduct has decided that the alleged plagiarism has been of little importance in the planning, implementation or reporting of research results, and that it therefore does not constitute research misconduct, cf. section 3(2)(i) of the act (hereinafter the Act).

The decision was made unanimously by High Court Judge, Professor Jens Hartig Danielsen, LLD (Chair); Director of Research Ole Kirk, PhD; Professor Helle Bødker Madsen, LLD; Professor Jørn Hounsgaard, MD; Professor Dorte Hammershøi, PhD; Professor Anne-Mette Hvas, PhD; Senior Adviser Anders Smith, PhD; and Professor Lotte Jensen, PhD in Political Science.

The Committee's grounds for the decision is given below.

The complaint of research misconduct and the Defendant's comments

In his complaint, the Complainant has referred to what was argued by the assessment committee for the Defendant's PhD thesis in connection with the committee's withdrawal of its acceptance of the thesis and what was subsequently argued by the assessment committee. It appears from this that the species descriptions in Paper I, particularly on pages 38-39 and 67-68 of the PhD thesis, contain text and numerical values copied from Paper A and Paper B, and that such plagiarism, despite its small extent, is not in accordance with good scientific practice (cf. *As plagiarism of data, even if in limited part, is unacceptable and not in accordance with good scientific practice*).

The assessment committee acknowledged that within plant taxonomy, which is the subject of Paper I, some reuse from previously published works is allowable, but the committee found that such reuse cannot be extended to include content and numerical data, which should be based on a PhD student's own observations (cf. *We acknowledge that, in taxonomy, there may be an element of recycling of previously published work and that taxonomy papers need a very strict structure in order to work … this "default" similarity should not be extended to contents or numeric data which should be based on the PhD student's own observations*). In this connection the assessment committee argues:

> *A taxonomic revision, which is the scope of Paper I of the thesis ([…]) is an entirely different proposition to floristic study and one would expect descriptions to be completely revised and rewritten. Taxonomy is the science of taxon (often species) hypotheses. The aim of a taxonomic study is to circumscribe and thereby define taxa and, in that process, test the limits of previously defined taxa. By copying significant parts of earlier descriptions and using those as templates for one's own observations, then one misses the whole point of the taxonomic endeavour. At best, one will add information to a previously recognized classification, but not test it.*

The Complainant has also referred to the assessment committee's argument that in every description in the Defendant's thesis, some parts are directly copied from Paper A. From Paper B, the assessment committee finds that 63% of the original description (based on word count) is repeated verbatim in the Defendant's description. It is argued that the Defendant's considerable use of *cut and paste* without any attempt to change or improve the wording should at least be considered questionable. Finally, it is argued that the absence of a materials and methodology section in Paper I prevents the committee from understanding the rational basis and process behind the data collection.

Against this the Defendant argues that all taxonomy work uses descriptions of species and other taxonomical groups built on previous descriptions, which are adapted when new information is uncovered. If no new information is uncovered, the Defendant argues that the previously confirmed information of previous descriptions must be repeated in order to make the descriptions readable. The Defendant further argues that the approach to designing descriptions rests on a tradition more than 150 years old, which is generally accepted in all journals, and that no references are made to previous descriptions, even if the information presented is unaltered in relation to terminology and measurements.

According to the Defendant, this practice is accepted because descriptions would become unreadable if they always had to include references to the first author who

was right about the description of a specific detail.

Concerning Paper A, the Defendant has argued that the main descriptions from Paper A were confirmed via observations of further samples, and that a lot of new information was uncovered from detailed observations of leaf nervation, indumentum, further measurements, etc. To this the Defendant argues that the description from Paper A of 114 words was extended to 331 words in the PhD thesis description, in which the basic measurements were confirmed. The Defendant has made a comparison of the descriptions in Paper A and the PhD thesis, and according to the Defendant, the descriptions are clearly different even if part of the terminology is identical, just as some measurements were identical down to the nearest millimetre or centimetre.
The Defendant argues:

> *It is true that many of the basic measurements of plant parts in [Paper A's] description are also found in the description of the same species in the thesis. This is the case with the height of the three, the length of the petioles, rachis, stipules (but not width of the stipules), length and width of the leaflets, overall length of inflorescence, variation in length of pedicels, length and width of bracts and bracteoles, length of flowers, length of calyx tube (but note that exceptionally long calyx tubes not mentioned in the original description are pointed out here and width of calyx added), length of calyx teeth (but width has been added). The description and all measurements of the corolla is entirely original. The length of the staminal tube agrees in the two descriptions, but all other observations of the androecium are original. The length if the ovary and the style agrees in the two descriptions, but other observations are original.*

The Defendant also argues that it appears from Paper A that biological material from C. fairchildiana rarely bears fruit, so it makes sense that the descriptions of the fruit are identical. This part of the description is based on very sparse material, the Defendant notes. Concerning Paper A, the Defendant points out that Paper A only refers to two samples of C.fairchildiana, both taken from plants at the Calcutta Botanical Garden in India, whereas the PhD thesis refers to further material collected in Thailand. The material collected in Thailand allowed for an expansion of Paper A's description with new information and a confirmation of the description in Paper A. According to the Defendant, the same is true for "notes on distribution, phenology, ecology, noservation", and "notes", which all include pre-existing knowledge and adds new further information. The Defendant adds to this that the descriptions in both Paper A and the PhD thesis are largely based on the same, rather limited, material.

Concerning Paper B, the Defendant argues that the two descriptions are identical, although the description in the PhD thesis is updated to the standard format for descriptions in this type of works. According to the Defendant, this includes changing the names of certain parts of a plant to adjust to the format of the thesis, e.g. *stipe* instead of *gynophore* and *fruit* instead of *pod*.

The Defendant argues that the description in Paper B is based on a single sample, which was localised and studied in connection with the preparation of

the PhD thesis with no indication of discrepancy between the sample and the description in Paper B. The Defendant further argues that another sample was localised in the same location, and that the Defendant compared this sample to the sample from Paper B without finding anything new to add to the description. This new sample was also illustrated by the Defendant in the PhD thesis with an original line drawing (Figure 13 in the PhD thesis), which differs from the illustration in Paper A.

The Defendant argues that in the PhD thesis he refers to Paper B directly above the description, wherefore there has been no intent to conceal where the data came from. The Defendant also notes that he could not use citation due to the changes in the description as argued above.
The Defendant further argues in this context that it would probably have been a good idea to include a note in the PhD thesis stating that the description in the thesis is based mainly on the original description in Paper B due to the lack of further information on the morphological variation of species.

In summary, the Defendant has argued that his descriptions include many additional characteristics, which are all based on the Defendant's own observations.
The Defendant's descriptions are enriched with further notes on every individual species that is not found in existing literature. The Defendant has examined the previous descriptions and incorporated them in his own descriptions where they contained valid information.

Legal basis
This case has been processed under act no. 383 of 26 April 2017 on research misconduct (hereinafter the Act).

The DCRM's authority is described in section 4(1) of the Act:

> **Section 4** *The Danish Committee on Research Misconduct shall process cases concerning research misconduct in scientific products. […]*

The definition of research misconduct appears from section 3 of the Act:

> **Section 3** *[…]*
> *(1) Research misconduct shall mean: Fabrication, falsification and plagiarism committed wilfully or with gross negligence when planning, performing or reporting on research.*

However, research misconduct does not include plagiarism of little importance, cf. section 3(2)(i):

> **(2)** *Research misconduct, cf. (1)(i), shall not include:*
> *(i) cases of fabrication, falsification and plagiarism which have only had minor importance when planning, performing or reporting on the research, [...]*

It appears from the explanatory notes to the Act, section 3.4.3.1:

> *The definition of research misconduct is expected with this act to comprise the most serious breaches of responsible research practice, i.e. serious cases of fabrication, falsification or plagiarism, committed wilfully or with gross negligence. As such, research misconduct constitutes a subset of breach of responsible research practice. The intention of the act is to separate this subset for consideration in the Danish Committee on Research Misconduct, while the remaining cases of breaches of responsible research practice are considered by the research institutions as questionable research practice, cf. sections 4 and 19 of the act. The suggested definition should be viewed in the context of the suggested triviality limit of research misconduct in section 3(2)(i) of the act, cf. further on the provision below. Although it is suggested that the words 'serious breaches' are removed from the definition, the intent of the act is to ensure that it is still only qualified and serious cases of fabrication, falsification and plagiarism that can be considered research misconduct.*

It further appears from the notes to the Act section 3(2)(i):

> *Pursuant to (i) of the provision, it is suggested that research misconduct should not include cases of fabrication, falsification and plagiarism which have only had minor importance when planning, performing or reporting on the research. This suggestion thus maintains the triviality limit in relation to research misconduct within the applicable law's definition of research misconduct, pursuant to which only serious breaches of good scientific practice are included in the definition, and in the applicable executive order on the DCRM, pursuant to which the DCRM may shelve cases in which the noted research misconduct has only had little importance to the scientific message in the product. Cases of little importance are expected to comprise e.g. plagiarism of insignificant passages in method sections and similar and entirely peripheral fabrications or falsification of a small extent, which has no effect on the research carried out. Depending on circumstances, such cases may be considered by the relevant research institution as questionable research practice, cf. section 3(1)(v) and section 19 of the act.*
>
> *It is suggested that the triviality limit should not only relate to the scientific message of the scientific product that the case concerns, as there may be fabrication, falsification or plagiarism in e.g. the method basis or analyses of the product, which do not necessarily affect the scientific message. Similarly, the definition of research misconduct pursuant to (1)(i) of the provision is not limited to concern only issues that affect the scientific message of the scientific product that the case concerns.*

Under section 3(1)(v) of the Act, the meaning of questionable research practice in the Act is:

> ***(v)*** *"Violation of generally accepted standards for responsible research practices, including the standards in The Danish Code of Conduct for Research Integrity and other applicable institutional, national and international practices and guidelines for research integrity."*

The DCRM's option to refer to the relevant research institution such cases that concern issues on possible questionable scientific practice appears in section 17 of the Act:

> ***Section 17.*** *In the event that the Danish Committee on Research Misconduct assesses that a case may involve issues concerning questionable research practices not considered by the Committee to constitute research misconduct, the Committee may refer such issues to the relevant research institution for further consideration.*

The DCRM's assessment of the case

According to the particulars of the complaint, which refers to the argument of the assessment committee for the Defendant's PhD thesis, the DCRM bases its assessment on the fact that the Defendant's thesis contains coincidences of factual information from Paper A and Paper B, but to a small extent.

In its assessment of the case, the DCRM has taken into account that the assessment committee has argued that the plagiarism is of a small extent, but that it is not acceptable research practice. The DCRM also emphasises that the assessment committee has acknowledged that within plant taxonomy, which is the subject of part of the thesis, there may be reuse from previously published works, but the committee has found that such allowable reuse cannot be extended to include content and numerical data, which should be based on the PhD student's own observations. Finally, the DCRM emphasises that the thesis does not contain a methodology section, and that there is no indication of 'sample size' or statistical information in the thesis or Paper A and Paper B. The lack of a methodology section and the limited material and number of observations in the thesis make it impossible for the DCRM to assess to which extent the coincidence between numerical values in the thesis and Paper A and B is understandable.

Against this background it is the Committee's overall assessment that the plagiarism has been of little importance in the planning, implementation or reporting of research results, and that it therefore does not constitute research misconduct, cf. section 3(2)(i) of the Act.

On the basis of the particulars of the case, it is the assessment of the DCRM that the case may involve issues on questionable research practice. The DCRM therefore refers the case to the Institution for further consideration, cf. section 17 of the Act.

Appeals procedure

This decision is final and cannot be brought before another administrative authority, cf. section 18 of the Act.

Sincerely

Jens Hartig Danielsen
Chair of the Danish Committee on Research Misconduct

The Danish Committee on Research Misconduct