2015 Wageningen University – vervalsing van onderzoeksresultaten - ongegrond

1 The complaint

The Committee scientific integrity of Wageningen UR (hereafter: committee) received the complaint on ... 2014.
The complaint concerns several suspicions of violation of scientific integrity regarding image manipulations and conclusions not supported by data.

2 The procedure

The committee was extended with a member from ... University since the complaint deals with research carried out and published under affiliation of ... University. On ... 2014 ... was therefore added to the committee.
On ... 2014 the committee requested the complainant to elaborate on his complaint and to explain the suspected violations of scientific integrity more precisely. The committee received the requested elaboration on ... 2014. The complainant sent an addition to the original complaint on ... 2014. The committee decided to add this addition to the file.
The committee decided to handle the complaint in its meeting of ... 2014 on the basis of the original complaint, the requested elaboration and the addition.
The defendant was asked to write a defense to the complaint on ... 2014. On ... 2014 this defense was sent to the complainant for reply. The complainant commented on the defense and these comments were sent to the defendant on ... 2014. The defendant replied to the comments, which were received on ... 2014.
The committee requested three experts to judge the complaint and the defense. The committee asked the experts two questions: 1. Were the adaptations as reported by the complainant and confirmed by the defendant common practice amongst colleagues at that moment? 2. Do you consider the reply of the accused as conclusive/convincing? The experts reported to the committee on ..., ... and ... 2014.
On ... 2014 a hearing with the complainant took place. The attendants of these meeting were: the complainant, ..., ..., ..., all members of the committee and secretary .... The minutes of this hearing were sent to the attendants with the request to check for factual inaccuracies.
On ... 2014 a hearing with the defendant took place. The attendants of this meeting were: the defendant, ..., ..., ..., Prof...., all committee members and secretary.... The minutes of this hearing were sent to the attendants with the request to check for factual inaccuracies.
Hereafter the investigation was closed.

3 Viewpoints of parties

3.1 The viewpoint of the complainant

The complainant found 48 anomalies in 11 publications for which the accused is corresponding author. The anomalies include image manipulations (hand painting of..., hand erasing of..., unmarked cut-pasting...) and reuse of the same images (with shifted views, flipped sides, different labels and different colours) for subsequent publications (without referring that they have been previously published). These manipulations are not allowed according to journal rules and general policies. The research leading to these publications was carried out at ... University and the papers were published between ... and ....

3.2 The viewpoint of the defendant

All figures mentioned in the complaint illustrate the relevant aspects of the underlying primary data, and in no case are the conclusions in conflict with these data. For processed images, none of the processing steps did, nor were intended to, change or incorrectly represent results that would have led to a different conclusion without processing of the primary data. The rotation of ... images has in some cases led to cosmetic corrections which are not good practice, and though the defendant was unaware of this until now, the defendant takes responsibility for them and has instructed his co-workers not to do this anymore.

3.3 Written comments between complainant and defendant

The complainant was asked to react on the rebuttal of the defendant. In his reaction the complainant stated that not all original data was received. He also stated that the image manipulations have modified the original raw data in some form and as such they do not accurately show the unmodified original data.

The defendant was then asked to react on these comments. The defendant stated that where it was necessary to provide original data showing that published information is correct and representative, it was done so to the best ability. In complaints where data interpretation was disputed, data were not questioned and an explanation about why our arguments and conclusions are correct was given. It is reassuring that the found cosmetic operations in no case affected the conclusions. In formulating the defense, the defendant has consulted present and former members of the laboratory and added their names to the letter accompanying the defense.

4 Considerations of the committee

4.1 General remarks

The committee advices the Executive Board of Wageningen University or DLO about submitted complaints regarding violations of scientific integrity.

The committee bases her judgment about violation of scientific integrity on – but not exclusively - the standards of scientific integrity that are primarily deducted from the Wageningen Code of Conduct for Scientific Practice and the Scientific integrity complaints procedure Wageningen UR.
It is not about new but about well-known and long existing standards from which was – and is- deducted when and under which circumstances violation of scientific integrity occurs.
Violation of these (inter)national standards does not by definition lead to violation of scientific integrity. There can be (culpable) negligent acting not resulting in violation of scientific integrity.
The committee can consult experts when judging the possible violation of scientific integrity. The committee is however not bound to their advice. Even when experts rule on violation of scientific integrity.
The Commission has no jurisdiction to judge on civil matters nor scientific controversies.
It is therefore important to differentiate violation of scientific integrity from criticized or bad science. With criticized or bad science the discussion is often about a difference in interpretation or a difference in opinion about a scientific judgement. These matters should be discussed and settled in the appropriate forum of scientific journals, preferably in the journal in which the criticized article has been published. The Commission is neither equipped nor empowered to act as arbitrator in scientific controversies.

4.2 Expert advice

Three experts were requested to judge this case. They were asked whether the adaptations as reported by the complainant and confirmed by the defendant were common practice amongst colleagues at that moment and whether they considered the reply of the defendant as conclusive/convincing.

The first expert received the request on ... 2014 and sent the judgment on ... 2014. The expert answered by confirming the conclusion of the defendant that *all figures mentioned in the complaint illustrate the relevant aspects of the underlying primary data, and in no case are the conclusions in conflict with these data. For processed images, none of the processing steps did, or were intended to, change or incorrectly represent results that would have led to a different conclusion without processing of the primary data.* This expert also confirmed the defendant's statement that *the rotation of ... images ... has in some cases led to cosmetic corrections which are not good practice.* These cosmetic corrections do however not give rise to a need to retract these data. The expert further stated that the reply of the defendant was conclusive and that he had all the data needed to judge the cosmetic operations and data discussed.

The second expert received the request on ... 2014 and sent the judgment on ... 2014. The second expert indicated *that it is acceptable and common practice to 1) make montages of images from higher resolution images which may result in slight changes in background density between images which can be corrected, 2) to cut and paste images of ... to make a montage image of the data as long as no image manipulation of ... has taken place and 3) to add lanes to gels ... as long as there is a line drawn between the different lanes added to the image. When rotating images, some filling in of*

the background may be necessary to make the whole plate symmetrical. This is cosmetic and could be described as poor practice but has no scientific bearing on the data. What is not acceptable is any manipulation of the data containing part of an image, other than controlling brightness, contrast and levels.
The second expert further stated that the reply to the complaint has been dealt with on an image by image basis and all of the responses are convincing.

The third expert received the request on ... 2014 and sent the judgment on ... 2014. The third expert stated *that his statement only refers to the subset of figures for which original data are available. This is important to note since figure manipulations are difficult to detect with certainty. The article production process, for example, may introduce artifacts that could be misinterpreted as figure manipulations.*
At least nowadays some of the cosmetic corrections or duplications are clearly not good scientific practice. The third expert stated that there should have been a certain level of awareness on this topic
already 5-10 years ago. However, none of these manipulations affects the biological understanding of the respective figures. The expert considered the reply of the defendant as convincing.

4.3 Considerations of the committee

4.3.1 Addressing the complaint

The complaint was submitted against ..., being the corresponding and/or senior author of the articles concerned. The committee acknowledges that the corresponding author is the first contact for an article and is responsible for the content of the article. Since many coauthors do however contribute to an article and the roles of the different authors is more and more often made clear, the committee would like to express the wish to investigate the persons carrying out indicated possible cases of misconduct rather than only the corresponding author. Although being responsible, a corresponding author cannot automatically be (solely) guilty of potential scientific misconduct found in articles. The defendant should and did involve his whole team in studying the complaint.

4.3.2 Confidentiality

... . The committee wants to stress the importance of confidentiality during the procedure. A complaint can be harmful for the persons involved if it appears to be founded. Any information that could possibly harm persons should therefore only be published publicly after a thorough independent procedure has been followed. In the case of handling complaints with regards to scientific integrity, this procedure ends after the definitive decision of the Executive Board (and thus also after a potential advice from LOWI).
A difference should however be made between the scientific integrity procedure and the scientific content discussion. These can run parallel. In the case of scientific content discussion, restoring clear and recognized mistakes might even be desirable. Contacting editors of a journal about discovered and undisputed mistakes is a desired action, since it represents good academic practice to keep published findings accurate. Restoring found mistakes however, will not influence the scientific integrity procedure.

4.3.3 Lab procedure

The research under discussion was carried out at ... University and published between ... and .... In this period some undesirable actions were executed by the co-workers of the defendant. In that period, the defendant has always been clear that manipulations affecting the findings are not allowed. These guidelines were verbally communicated and an integral part of the weekly work meeting. The defendant has discussed the recently found undesired editing in the group and instructed his co-workers not to do this. Instructions about figure editing are now not only communicated verbally, but also confirmed in writing.

4.3.4 Reported anomalies

The committee has the opinion that the reported modifications are of cosmetic nature and that reported anomalies do not lead to fabrication, falsification or plagiarism. The committee did find modifications that are bad practice, but these modifications were not made with the intention to manipulate data and this has also not happened.

4.3.5 Expert judgments

The experts indicate that the alterations made to the images do not affect the conclusions of the research. One expert indicates that it is not possible to judge published images without raw data. because the modifications can also have been made during the publication process.

4.3.5.1 Conclusions

The committee judges that from the 48 anomalies reported by the complainant, none affect the conclusions made from the data. The corrections after rotation of ... represent bad practice and the committee deems the defendant (co)responsible for this. The committee however did not find any signs that these corrections were made to deliberately mislead peers. To use the serious accusation of scientific misconduct, the researcher's actions should go further than errors and carelessness and the researcher should not be willing to modify her/his actions after receiving serious, well-founded criticism. In this case, the committee judges that this description is not applicable. The defendant has changed his actions by making stricter instructions about editing papers and by having them laid down.

5 Advice

The committee advises the Executive Board of Wageningen University to declare the complaints from ... against ... unfounded. Some of the actions taken are bad practice but there are no signs of deliberate manipulations to alter research outcomes.

6 Preliminary decision of the Executive Board

The Executive Board accepted the advice of the committee and decided that the complaint was unfounded.

7 Advice LOWI

The complainant asked the National Board for Research Integrity (LOWI) to reevaluate the decision of the Executive Board. LOWI confirmed that the complaint was unfounded and advised the Executive Board to maintain its preliminary decision. The full advice is published on the LOWI website.

8 Final decision of the Executive Board

On 9 October 2015 the Executive Board converted its preliminary decision into a final decision.