

CLOSEOUT FOR M-94020003

This case was brought to the attention of OIG on 9 February 1994 by the complainant.¹ He alleged that the subject² plagiarized or closely paraphrased text in part of the subject's NSF proposal.³ The complainant alleged that the plagiarized material came from a published review article by other scientists.⁴ OIG's inquiry determined that the allegation of plagiarism had substance. OIG deferred the investigation to the institution.

After reviewing the institution's investigation report, OIG began its own investigation. OIG's investigation report and the NSF Deputy Director's 15 December 1997 letter reflecting his decision constitute the closeout for this case.

Cc: Staff Scientist, Attorney, AIG-Oversight, IG

¹ The complainant, [REDACTED]

² The subject, [REDACTED]

³ The subject's NSF proposal, [REDACTED]

⁴ The reference for the review article is: [REDACTED]

NATIONAL SCIENCE FOUNDATION

4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230



OFFICE OF THE
DEPUTY DIRECTOR

December 15, 1997

[REDACTED]

Dear [REDACTED]

As you are aware, the Office of Inspector General of the National Science Foundation (OIG) has conducted an investigation into an allegation charging you with plagiarizing text from a review article authored by [REDACTED] in your NSF proposal. I have very carefully reviewed all the materials in the case and write to inform you that NSF will not issue a finding of misconduct in science in this case.

NSF's regulations define misconduct in science to include "plagiarism, or other serious deviations from accepted practices in proposing, carrying out, or reporting results from activities funded by NSF." 45 CFR §689.1(a). Verbatim or paraphrased text should be offset and accompanied by a citation to the original source.

I agree with OIG that you did not adequately apprise the reader of the full extent of your reliance on the [REDACTED] review article in the background section of your NSF proposal. However, I also took several other factors into account in deciding whether your conduct constituted misconduct in science. These include the fact that you provided some attribution to the original authors in the introductory portion of the text, you did quote the original sources of the ideas, and that your University concluded that you did not seriously deviate from accepted practices or engage in scientific misconduct.

I caution you to use great care in future NSF proposals or submissions to ensure that you attribute full credit to the original author and that you offset verbatim or paraphrased text and include citations to the source document.

Sincerely,

Joseph Bordogna
Acting Deputy Director

CONFIDENTIAL

NSF OIG INVESTIGATION REPORT

OIG Case Number M-94020003

REPORT OF INVESTIGATION INTO AN ALLEGATION OF MISCONDUCT IN SCIENCE AND ENGINEERING

SUMMARY

The Office of Inspector General (OIG) has determined that [REDACTED] (the subject), a faculty member [REDACTED] (the institution), plagiarized text in a grant proposal funded by NSF. This conclusion is based on an OIG investigation. OIG recommends that NSF find that the subject committed misconduct in science and take the following actions as a final disposition in this case. NSF's Deputy Director should send the subject a letter of reprimand informing him that NSF has made a finding of misconduct in science against him and that when proposals are submitted by him or on his behalf to NSF, he is required to submit certification to OIG that, to the best of his knowledge, they contain nothing that violates NSF's Misconduct in Science and Engineering regulation. Further, he is required to ensure that his department chairperson submits an assurance to OIG that, to the best of that person's knowledge, the subject's proposal does not contain any plagiarized material. NSF should inform the subject that the certification and assurance actions are in effect until two years have elapsed from the final disposition of this case.

BACKGROUND

[REDACTED] (the subject) has been a faculty member [REDACTED] (the institution) since 1984. In 1991, he submitted to the [REDACTED] as the sole principal investigator (PI), proposal [REDACTED] which NSF funded.¹ The subject has an extensive award and reviewer history with NSF.² He received his Ph.D. in [REDACTED] and his first award from NSF in [REDACTED]. The subject has also served as an editor for the [REDACTED].

In February 1994, OIG received allegations of misconduct in science from a complainant who claimed that, although the subject's proposal referred one time to a review article by [REDACTED] (the Article), the proposal contained paraphrased and verbatim text from the Article that were not attributed properly. In addition, it was alleged that two of the figures in the subject's proposal were copied from the Article and not "adapted" from a published paper as the subject's figure captions indicated.

¹ At its conclusion the subject's award, [REDACTED]

² According to NSF's proposal and award database, the subject has been listed as a PI or co-PI on a total of 16 awards or award amendments and he has served as an NSF *ad hoc* reviewer [REDACTED]

OIG'S INQUIRY

OIG compared the text in the subject's proposal with the text in the Article. About 44 lines of text in the proposal appeared to be identical or substantially similar to text in the Article. The identical text in the proposal is keyed in Tab #1 of the Appendix to eleven sequentially numbered sections in the Article. Similar or paraphrased text that also appears in the eleven sections is not marked. In addition, OIG observed that nine figures in the subject's proposal were designated as "adapted" from source documents in the figure captions. These nine figures are labeled A through I (see Tab #2) in the subject's proposal and cross-referenced with the original source documents. Six of these figures (A, B, F, G, H and I; Tab #2) appeared to have been copied from the original source documents⁴ with no alterations from the cited source other than changes in size and in figure caption. The remaining three figures (C, D and E; Tab #2) cited a source document⁵ but appeared to have been copied from the Article with no alterations from the Article's figures other than changes in size and in figure caption.

OIG wrote to the subject requesting his explanation of the allegations (see Tab #3). The subject explained (see Tab #4) that, although he did read the Article prior to writing his proposal, he could show that the similarity of wording came "from citing the same literature and describing the same concepts and phenomena" as the Article. The subject addressed each of the eleven identified sections of text with specific references for comparison. He said that

while there are similarities in my text and [the Article], the indicated sections also are similar to the source references and other published literature and symposia presentations. Both my [proposal] text and [the Article] are reviews of the same material. Thus, similarity in phrasing is natural. The ideas being presented are not mine nor did they originate with [the Article's authors]. I feel that an allegation of plagiarism is unwarranted.

The subject claimed that the eleven cross-referenced sections of text in his proposal and the Article included only review material that did not represent either the subject's or the Article's authors' original ideas, and OIG agreed. However, OIG concluded that the subject did not adequately explain the extensive verbatim and substantially similar wording and phrasing between his proposal and the Article. In OIG's view the source material that the subject cited

⁴ The source documents included: the Article; [REDACTED]

⁵ The source document for figures C, D and E was [REDACTED]

was significantly different from both the proposal and the Article. We determined that the allegation of plagiarism in the text had substance and required investigation.

OIG also asked the subject about his use of the term "adapted" on each of the nine figures. The subject stated that he "did cite the original source for all of the figures." OIG agrees that he cited the original source for six of the nine figures (A, B, F, G, H and I; Tab #2). With the three figures that appeared copied from the Article the subject stated

[F]or the three figures reproduced from [the Article] but cited to the original sources [see Tab #2: items C, D and E], I felt that the intellectual effort made by [the source⁵] to assemble the data and produce the contoured fields was greater than the copying and relabeling for the sector plots and I acknowledged accordingly. In this instances [sic], I may have acted improperly, but without malice. I did acknowledge the work from which the figures came and did not claim them as my original work nor ideas.

OIG believed that the figures were a minor issue. OIG's inquiry determined that there was sufficient substance to the allegation regarding plagiarism, however, to warrant a full investigation. We contacted the Authorized Organizational Representative (AOR) designated on research proposals for the institution on August 25, 1995. At the AOR's request, we deferred the investigation to the institution (see Tab #5) in accordance with NSF regulation (45 C.F.R. § 689.4(d)(2)).

THE INSTITUTION'S INVESTIGATION

THE SIMILAR TEXT

The Investigation Committee's (the Committee) report (see Tab #6) stated that it accepted the subject's explanation that the similarities between [the Article] and his proposal occurred

because he wrote the section of his proposal from notes taken while reading [the Article], along with other papers on the same subject. When writing the proposal, he was influenced by his notes, and this resulted in similarities in wording.

Further, the Committee agreed with the subject's statement that the material presented in the Article

was established by other authors and is well-known in the field. Ideas original with [the Article] were not presented.

The Committee stated that "[s]ince both [the Article] and [the subject's] proposal section were reviews of the same body of literature, many similarities of wording were inevitable." The Committee cited two examples provided by the subject to show that similarities in wording between the Article and the subject's proposal were a natural consequence of authors using "common terminology" to discuss the same subjects.

For instance, in Section 1, which begins "South of the Pacific-Antarctic Ridge..." in the proposal [page 6], the Committee found that the similar section in [the Article] (page 63) begins "On the southern flank of the mid-ocean ridge ..." and the similar section in [redacted] begins "On the southern flank of the mid-ocean ridge..." This wording is not attributed to [redacted] [the Article's authors]. The Committee takes this coincidence in use of the "flank" metaphor as evidence not of plagiarism by [the Article's authors], but rather of the degree to which common wording arises in reviews.

OIG notes that two of the quoted phrases in the above paragraph are not correct.⁶

The second example was

in section no. 10. [redacted] states that "upper Circumpolar Deep Water is characterized by a minimum in the dissolved-oxygen concentration." [The Article's] words are "Upper Circumpolar Deep water is characterized by a minimum in dissolved oxygen concentration." [The subject's] words are "Upper Circumpolar Deep Water is characterized by a minimum in dissolved oxygen." Other common wordings from various sources were indicated by [the subject].

With respect to the alleged plagiarized text, the Committee stated that

although there were similarities between the text of the proposal and [the Article's] text, they were insufficient to constitute plagiarism and were not unlike similarities between various authors [sic] descriptions of the same phenomena. [The subject] did make extensive use of [the Article's] work, and he credits them within the proposal section under discussion: "An excellent review of the flow in this region is given by [the Article]." [This sentence is annotated in red on

⁶ The section from the Article should be "[o]n the southern flank of the Pacific Antarctic Ridge . . ." instead of "[o]n the southern flank of the mid-ocean ridge . . ." The section from [redacted] should be "[o]ver the southern flank of the midocean ridge . . ." instead of "[o]n the southern flank of the mid-ocean ridge . . ."

page 6, Tab #1] It would have been more accurate of [the subject] to have emphasized the benefits derived from from [sic] [the Article's] review more explicitly, rather than expecting the reader to understand its importance. The addition of the phrase "and I have made extensive use of that review in preparing this proposal" to his sentence would have been helpful, nevertheless his failure to do this does not constitute scientific misconduct.

The Committee explained that because [the Article's authors] "were given credit and praise" once in the proposal, and because other sources were cited appropriately for the various sections,

it would not have been proper to cite [the Article] for the entire section. To have referenced [the Article] at every mention of the material contained in their review would have led to an injustice to the authors of the source papers. The authors of other source papers were referenced by [the subject].

OIG notes the Committee apparently considers that, by merely citing the same sources that the review Article cited, the direct plagiarism of the wording of the Article could be dismissed. OIG considers the wording and organization of materials in the Article to represent the original intellectual effort of the authors and verbatim copying such text without proper citation constitutes plagiarism. In fact, with the case at hand, both citation and appropriate quotation marks of the Article's text as well as citation of the original sources would have been proper according to the Committee's logic because failure to cite the Article would be "an injustice" to the authors of the Article.

THE FIGURES

The Committee concluded that six of the nine figures (Tab #2: A, B, F, G, H and I) were cited appropriately. For the three remaining figures that appeared to have been copied from the Article (Tab #2: figures C, D and E) the Committee determined that the subject's description in the figure captions, "although correct," was "not complete." The Committee said that it would have been best to credit the figures as "adapted from [the Article's authors] who adapted from [the authors of the original source⁶]." However, the Committee determined that "no plagiarism or scientific misconduct was involved in using the simplified attribution," and OIG agreed.

THE COMMITTEE'S CONCLUSION

The Committee found that

[the subject] did not seriously deviate from the ethical standards of his scientific community, did not commit plagiarism, and is not guilty of scientific

misconduct. He fell short of perfection in not making his degree of usage of [the Article] as clear as he could have, and in not more precisely attributing the figures he indicated to be adapted from [the original source⁷]. [The subject] did not cross the threshold of seriousness in reference to "serious deviation from accepted practices."

The Committee said that the

proceedings and this report [would] emphasize to [the subject] the importance of accuracy and careful citation when referencing scientific materials. The Committee believe[d] no further action against [the subject was] warranted and therefore, not recommended.

The AOR accepted the committee's recommendation.

OIG'S ANALYSIS OF THE COMMITTEE'S INVESTIGATION

Although OIG respects the Committee's effort and gives great weight to the facts it presented, we disagree with the Committee's reasoning. When asked specifically about how it determined that the similarities were "insufficient to constitute plagiarism" (see Tab #7), it stated that because "there was no complete sentence in common between [the subject's] proposal and [the Article's] review," it judged that the similarities that existed "did not constitute plagiarism" (see Tab #8). The Committee employed an excessively stringent notion about what constituted plagiarism when it evaluated the eleven sections of identical and substantially similar text for evidence of plagiarism.⁷ OIG's independent comparison of these same eleven identified sections determined that the text in the subject's proposal was either verbatim or closely paraphrased from the Article (see Tab #9). In particular, sections #3, #4, #6, #7, #8, #9, and #11 contained very closely paraphrased text (unmarked) between the sections of annotated verbatim text. OIG believes that the scientific community's standard is that plagiarism includes verbatim copying without quotations and proper citation and paraphrasing (copying substantially similar text that retains the structure and content of the original source with only minor non-substantive changes) without citing each section that contains paraphrased text. Further, OIG believes that plagiarism of text that describes any information in a proposal can seriously erode the NSF review process by misleading the reviewers as to the proposer's communication skills, experience, and knowledge of the field.

⁷ In *Harbrace College Handbook* by J. C. Hodges and Mary E Whitten, 8th edition, 1977 (first copyright 1941), published by Harcourt Brace Jovanovich, Inc., it states that plagiarism involves the failure to acknowledge borrowed material. Specifically, it describes paraphrasing on page 372 as plagiarism. "When you paraphrase the words of another, use your own words and your own sentence structure, and be sure to give a footnote citing the source of the idea. A plagiarist often merely changes a few words or rearranges the words in the source. As you take notes and as you write your paper, be especially careful to avoid plagiarism."

As part of the Committee's judgment that the subject had not committed plagiarism, it referred to the single reference to the Article in the proposal. It contended that, although the subject could have more clearly indicated his use of the Article in the preparation of his proposal, his reference to the Article showed the reader that he used it in the preparation of the proposal. The one reference to the Article in the subject's proposal (first paragraph on page 6) appeared one full paragraph before the first of the eleven identified sections of similar text and contained no suggestion that he used the Article as a source for the plagiarized text. The subject neither offset nor bracketed in quotation marks any of these sections of verbatim or paraphrased text in his proposal, so that a reader would not know how extensively the subject used the Article in the preparation of the proposal. OIG believes that the subject's single reference to the Article in the proposal does not mitigate his ethical or scholarly responsibility to properly cite the verbatim and paraphrased text from the Article in eleven sections of text in his proposal and that this failure constitutes plagiarism.

The Committee accepted the subject's explanation that the similarities observed between the text in his proposal and the Article were the natural consequence of authors citing the same literature and describing the same concepts and phenomena, and concluded from the examples provided by the subject that other authors had used comparable wording to describe the same ideas. OIG compared the identified eleven sections of similar text in the Article and the proposal with the examples of allegedly similar text provided by the subject as his own evidence (see Tab #9 for a comparison of the identified similar text and many of the subject's referenced examples). OIG found no convincing support for the subject's explanation or the Committee's conclusion that other authors had described the same ideas in a similar fashion. Instead, the text examples provided by the subject showed that other authors described these commonly held ideas in significantly different styles from what was observed in the Article and the proposal.

The Committee accepted the subject's assertion that, when he wrote the proposal, he used notes he had prepared from the Article along with notes from other publications. The Committee concluded that the subject "was influenced by his notes, and this resulted in similarities in wording." OIG asked the Committee if it had reviewed the subject's notes. The Committee explained that it had not, because the subject had discarded his notes.

OIG found that the eleven sequentially numbered sections of text in the Article occurred in the proposal as three distinct groups (#1, #2, #3; #8, #9, #10, #11; and #4, #5, #6, #7, respectively). OIG asked the Committee if the order within the three groups in the proposal suggested that they were copied from a single source in that order. The Committee concluded that whatever similarity existed in the order of text between the proposal and the Article was the consequence of two authors writing about the same material. It stated that it did

not consider the order of the sections to be significant evidence of plagiarism (nor the lack of reproduction of the order as evidence to the contrary). [see Tab #8]

OIG believes that the observed similar order of text in this case (into three distinct groups, each with the same succession as the Article) would likely not have occurred if the subject had used separate notes from several different sources to prepare the proposal, as he contends. We think that the order within each of the three groups, when considered in conjunction with the nearly verbatim text in the eleven sections, suggests that the subject used a single source when he wrote this section of the proposal. The source was either the Article itself or verbatim and closely paraphrased notes he had prepared from the Article. The subject was plagiarizing the text as well as the organization of the ideas presented in the Article.

THE ACT AND THE STATE OF MIND

For NSF to make a finding of misconduct, a preponderance of the evidence must show that the subject committed culpable acts with a culpable state of mind. OIG believes that the preponderance of the evidence indicates that the subject committed acts that fall under NSF's definition of misconduct in science, and that he did so with a culpable state of mind.

OIG believes that the evidence supports the conclusion that the subject committed plagiarism when he copied 44 lines of identical or substantially similar text from the Article in his proposal without proper acknowledgment. We believe that the subject was not totally honest when he told us that the text in the proposal copied from the Article was similar to text in other publications. OIG believes that the subject was at least grossly negligent when he plagiarized and that his actions cannot be dismissed as merely careless. At the least, the subject prepared verbatim or closely paraphrased notes from the Article. Subsequently, the subject transcribed the text from his notes into the proposal without copying the reference or without attempting to establish the source of the text. Because the subject claimed that the notes had been destroyed and the Committee did not ask for other examples of notes the subject may have made, there is no evidence that the subject ever used notes to prepare the proposal. We believe, given the extensive number of lines of identical and substantially similar text involved, it is unlikely that the subject copied the eleven sections of text from the Article into notes, and then transcribed the text from those notes into his proposal. Instead, we believe it is more likely that the subject copied the text directly from the Article into his proposal. If so, the act was at least knowing.

OIG'S CONCLUSION REGARDING MISCONDUCT IN SCIENCE

OIG concludes that a preponderance of the evidence supports the finding that the subject plagiarized 44 lines of text in nearly the same order from the Article into his NSF proposal. It concludes that he was at least grossly negligent in doing so. OIG therefore concludes that the subject committed misconduct as defined in NSF's Misconduct in Science and Engineering regulation.

OIG'S RECOMMENDED DISPOSITION

Under §689.2(b) in NSF's Misconduct in Science and Engineering regulation, NSF, upon making a finding of misconduct, must consider the seriousness of the misconduct. OIG believes that plagiarism is seriously unacceptable in the scientific community. In relation to other examples of plagiarism, the subject's copying in his NSF proposal was comparable to at least two other cases adjudicated and found to be misconduct by the Deputy Director.⁸ The subject's plagiarism is a serious deviation from accepted practice because plagiarism in NSF proposals is an unethical practice that compromises the integrity of the NSF review process by misleading reviewers.

OIG believes that NSF should take action to protect the federal government's interest in maintaining scholarly integrity in the research it funds. In light of the subject's extensive experience as a researcher, as a journal editor and as a PI on NSF awards, he should have shown more caution and been more diligent when he prepared his proposal. When asked to explain the eleven sections of identical and substantially similar text from the Article in his proposal, the subject denied he had copied it. He claimed that the plagiarized text in his proposal bore the same relationship to the other authors' published text as it did to the text in the Article. However, his own evidence to support this contention is not convincing. As an alternative argument, the Committee concluded that the plagiarized text may have resulted from notes that the subject created, but the subject claimed he had discarded those notes. We do not find the subject's testimony to be credible and remain extremely concerned that a researcher of his level of experience does not seem to recognize that his actions were inappropriate.

We recommend that NSF's Deputy Director take the following four actions:

- (1) NSF should send a letter of reprimand to the subject stating that it has concluded that he committed a serious deviation from accepted practice and thus misconduct in science by plagiarizing in his NSF proposal.⁹

⁸ Case M-92010003 and case M-93010003 both involved plagiarism in a proposal of 35 and 32 lines, respectively. Both cases were adjudicated with a finding of misconduct in science. The sanctions for these cases are consistent with the recommended sanctions for this present case.

⁹ This is a Group I action, see §689.2(a)(1).

- (2) NSF should require that, for two years from the date of the final disposition of this case, when the subject is a principal investigator or co-principal investigator on a proposal submitted to NSF for funding, the subject will ensure that his department Chairperson has signed an assurance stating that, on the basis of the Chairperson's reading of the proposal and to the best of the Chairperson's knowledge, the proposal does not contain any plagiarized material.¹⁰
- (3) NSF should require that, for two years from the date of the final disposition of this case, when the subject is a principal investigator or co-principal investigator on a proposal submitted to NSF for funding, the subject will certify in writing that he has recently reviewed NSF's Misconduct in Science Regulation (45 C.F.R. §689), that the grant application is free of any misconduct, and that the grant application has been reviewed as described above.¹¹
- (4) NSF should require that the PI send the Chairperson's assurance and the PI's certification to the Assistant Inspector General for Oversight in NSF's Office of Inspector General, for retention in that Office's confidential file on this matter.

THE SUBJECT'S RESPONSE TO THE INVESTIGATION REPORT

We forwarded the draft investigation report to the subject for comment and received a response on October 8, 1996 (see Tab #10). We reviewed the response and concluded that it did not contain any additional information that altered our conclusions about the subject's actions.¹²

¹⁰ This is a Group II action, see §689.2(a)(2).

¹¹ This is a Group II action, see §689.2(a)(2).

¹² The subject said he did not consider the processing of his case to be timely. The subject's 30 June 1994 explanation about the allegations included a list of 21 scholarly references (see Tab 4), not readily accessible to NSF's library, that he claimed were exculpatory. After OIG obtained, reviewed, and evaluated each reference, we found major discrepancies between the text in question and the references (see Tab 9). After assessing this evidence, we decided to refer this matter to the university for investigation and did so in August 1995. The institution provided its analysis in January 1996. OIG then evaluated the institution's investigation and finally initiated its own investigation. Although we do not believe that issues of "timeliness" should affect a decision about whether an individual engaged in misconduct, we have reviewed the circumstances and (noting a furlough occurred during this time) believe this case was processed in a reasonable and timely fashion.