Investigación con (mala) Ética

¡tan lejos, tan cerca!

Éric Tanter
charla postgrado diciembre 2011

Scientific misconduct

From Wikipedia, the free encyclopedia

Scientific misconduct is the violation of the standard codes of scholarly conduct and ethical behavior in professional scientific research. A *Lancet* review on *Handling of Scientific Misconduct in Scandinavian countries* provides the following sample definitions:[1] (reproduced in The COPE report 1999[2])

- Danish definition: "Intention or gross negligence leading to fabrication of the scientific message or a false credit or emphasis given to a scientist"
- Swedish definition: "Intention[al] distortion of the research process by fabrication of data, text, hypothesis, or methods from another researcher's manuscript form or publication; or distortion of the research process in other ways."

The consequences of scientific misconduct can be severe at a personal level for both perpetrators and[*citation needed*] any individual who exposes it. In addition there are public health implications attached to the promotion of medical or other interventions based on dubious research findings.

Contents [hide]

Motivation to commit scientific misconduct   [edit]

According to David Goodstein of Caltech, there are motivators for scientists to commit misconduct, which are briefly summarised here.[3]

Career pressure

Science is still a very strongly career-driven discipline. Scientists depend on a good reputation to receive ongoing support and funding; and a good reputation relies largely on the publication of high-profile scientific papers. Hence, there is a strong imperative to "publish or perish". Clearly, this may motivate desperate (or fame-hungry) scientists to fabricate results.

To this category may also be added a paranoia that there are other scientists out there who are close to success in the same experiment, which puts extra pressure on being the first one. It is suggested as a cause of the fraud of Hwang Woo-Suk.[*citation needed*][4] A main source of detection comes when other research teams in fact fail or get different results.

Laziness

Even on the rare occasions when scientists do falsify data, they almost never do so with the active intent to introduce false information into the body of scientific knowledge. Rather, they intend to introduce a fact that they believe is true, without going to the trouble and difficulty of actually performing the experiments required.

Ease of fabrication

In many scientific fields, results are often difficult to reproduce accurately, being obscured by noise, artifacts, and other extraneous data. That means that even if a scientist does falsify data, he can expect to get away with it – or at least claim innocence if his results conflict with others in the same field. There are no "scientific police" who are trained to fight scientific crimes; all investigations are made by experts in science but amateurs in dealing with criminals. It is relatively easy to cheat although difficult to know exactly how many scientists fabricate data.[5]

Slide 1 (top-left):

- fabrication – the publication of deliberately false or misleading research, often subdivided into:
  Fabrication (science)
  - Obfuscation – the omission of critical data or results. Example: Only reporting positive outcomes and not adverse outcomes.
  - Fabrication – the actual making up of research data and (the intent of) publishing them, sometimes referred to as "drylabbing".[6]
  - Falsification – manipulation of research data and processes in order to reflect or prevent a certain result.[7]
  - bare assertions – making entirely unsubstantiated claims

Another form of fabrication is where references are included to give arguments the appearance of widespread acceptance, but are actually fake, and/or do not support the argument.[8]

- plagiarism – the act of taking credit (or attempting to take credit) for the work of another.[9] A subset is **citation plagiarism** – willful or negligent failure to appropriately credit other or prior discoverers, so as to give an improper impression of priority. This is also known as, "citation amnesia", the "disregard syndrome" and "bibliographic negligence".[10] Arguably, this is the most common type of scientific misconduct. Sometimes it is difficult to guess whether authors intentionally ignored a highly relevant cite or lacked knowledge of the prior work. Discovery credit can also be inadvertently reassigned from the original discoverer to a better-known researcher. This is a special case of the Matthew effect.[11]
- self-plagiarism – or multiple publication of the same content with different titles and/or in different journals is sometimes also considered misconduct; scientific journals explicitly ask authors not to do this. It is referred to as "salami" (i.e. many identical slices) in the jargon of medical journal editors (MJE). According to some MJE this includes publishing the same article in a different language.[12]
- the violation of ethical standards regarding human and animal experiments – such as the standard that a human subject of the experiment must give informed consent to the experiment.[13]
- ghostwriting – the phenomenon where someone other than the named author(s) makes a major contribution. Typically, this is done to mask contributions from drug companies. It incorporates plagiarism and has an additional element of financial fraud.
- Conversely, research misconduct is not limited to NOT listing authorship, but also includes the conferring authorship on those that have not made substantial contributions to the research.[14][15] This is done by senior researchers who muscle their way onto the papers of inexperienced junior researchers[16] as well as others that stack authorship in an effort to guarantee publication. This is much harder to prove due to a lack of consistency in defining "authorship" or "substantial contribution".[17][18][19]
- strategic placement of self-citations to inflate bibliometric indicators, such as the H-index.[20]
- Misappropriation of data – Literally stealing the work and results of others and publishing as to make it appear the author had performed all the work under which the data was obtained.

In addition, some academics consider **suppression**—the failure to publish significant findings due to the results being adverse to the interests of the researcher or his/her sponsor(s)—to be a form of misconduct as well; this is discussed below.

Slide 2 (top-right):

Big Stories (lejos)

- PhD without a PhD
- stolen results
- falsificated data/results
- fraud in Science
- US/Irak case at ONU
- …

Slide 3 (bottom-left):

Small Stories (cerca)

- As co-author
- As supervisor
- As PC member
- As PC chair
- As CONICYT study group member

all happened within this year…

Slide 4 (bottom-right):

Why this talk?

Two categories

Intentional   Accidental

we can't do much about
bad intentions…

be aware and "prepare"

Slide 1

many cases I've seen are **accidental**

(or at least I'd like to believe they are ;))

so this is mostly an **educational** problem...

we can do something about it!

Test: ACM policies

who knows that ACM has clear policies?

who has read these policies?

- Policy and Procedures on **Plagiarism**
- Policy on **Prior Publication** and **Simultaneous Submissions**

http://www.acm.org/publications/policies/

what about CONICYT?

Stories

Story: 1   involved as: co-author

Paper presents a new programming model
A section introduces a formalism (by others) and slight extensions to it. Good fit for the model.

Problem:

Original paper is cited, but text is taken verbatim
Impossible to know where modifications are made

Consequence:

Case of "light" plagiarism (1/2 section of 10 sections)
Causes misunderstanding that aggravates perception
Paper rejected, and quite some noise... (and bad sleep!)

Story: 2   involved as: PC chair/member

8-page paper accepted at Conf1 (notified sept.2011)
12-page paper submitted at Conf2 (submitted oct.2011)

Problem:
Conf1 paper is not mentioned at all
I was PC member of Conf1, and reviewed that paper
Other reviewer was in the PC of both conferences

Consequence:
Case of simultaneous submission
Paper rejected, warning about non-ethical conduct

Story: 3   involved as: CONICYT

A project proposal for REGULAR competition
These proposals are sent abroad to external reviewers

Problem:
One of the external reviewer reports that the project is a blatant copy of his own proposal from 2 years ago

Consequence:
Case of extreme plagiarism
Investigation between CONICYT and foreign institution
Risks elimination and prohibition to apply in the future
Serious reputation problems (repeated...)

Story: 4   involved as: n/a

A freshly-graduated PhD student receives invitation to submit a paper for a special issue
Topic related to his PhD thesis

Problem:
Sends the paper as unique author
Idea presented there was developed in pair with advisor

Consequence:
Advisor quite upset
Not a good move for the future

Story: 5   involved as: PC chair

Paper submitted to a conference

Problem:
Similar to paper submitted to a journal, returned with major revision (many comments)
Does not take into account any of the comments
Journal editor is also PC member.

Consequence:
Not a case of simultaneous submission (time out)
Very bad impression for the PC member

ACM Rules

Simultaneous Submission

The ACM does not normally permit manuscripts under review in its journals or conference proceedings to be simultaneously under review for another publication.

(By "under review" we mean a manuscript that has been submitted, and has not been either withdrawn or rejected.)

The only exceptions to the prohibition against simultaneous submission are cases where an individual ACM publication unambiguously states that such submissions are allowed in its Instructions for Authors, Calls for Papers, and other appropriate public forums.

Under no circumstances shall a paper (or substantially the same paper) be simultaneously submitted to two or more publications, or to a second publication while still under review elsewhere, without a letter of notification to the Editor-in-Chief (EiC) or Program Chair (PC) of each affected publication.

Failure to adhere to this policy is cause for rejection of the manuscript. Repeated violations may lead to a ban on future submissions at the discretion of the EiC or PC.

Prior Publication

The technical contributions appearing in ACM conference proceedings and journals are normally original papers that have not been previously published in a refereed or formally reviewed publication.

Issuing the paper as a technical report, posting the paper on a web site, or presenting the paper at a workshop or conference that does not publish formally reviewed proceedings does not disqualify it from appearing in an ACM publication.

Workshops and conferences are encouraged to indicate in their calls for papers whether or not they will publish formally reviewed proceedings so that authors can determine whether or not submission will jeopardize ACM publication.

Authors may submit to ACM conferences and journals revised versions of papers that appeared previously in refereed or formally reviewed publications or under consideration for such publication elsewhere if:

- the paper has been substantially revised (this generally means that at least 25% of the paper is material not previously published; however, this is a somewhat subjective requirement that is left up to each publication to interpret);

- upon submission, the author notifies the EiC(s) or PC(s) that the paper has been previously published; and

- the published policies of the publications or conferences involved do not prohibit this.

In addition, some journals may invite papers from certain conferences for special journal issues. This may lead to acceptance without substantial revision.

EiCs and PCs may authorize republication of papers without substantial revision under other special circumstances as well, for example, republication of a historically significant paper as part of a retrospective.

In any case where a paper is republished without substantial revision, any prior publication should be noted on the title page of the paper.

Plagiarism

Plagiarism manifests itself in a variety of forms, including:

- Verbatim copying, near-verbatim copying, or purposely paraphrasing portions of another author's paper;

- Copying elements of another author's paper, such as equations or illustrations that are not common knowledge, or copying or purposely paraphrasing sentences without citing the source; and

- Verbatim copying of portions of another author's paper with citing but not clearly differentiating what text has been copied (e.g., not applying quotation marks correctly) and/or not citing the source correctly.

We define **self-plagiarism** as the verbatim or near-verbatim reuse of significant portions of one's own copyrighted work without citing the original source.

Note that self-plagiarism does not apply to publications based on the author's own previously copyrighted work (e.g., appearing in a conference proceedings) where an explicit reference is made to the prior publication.

Such reuse does not require quotation marks to delineate the reused text but does require that the source be cited.

ACM and Plagiarism

- requires notification

- conducts an investigation

- penalties include:

  - inform department chair, dean, or supervisor

  - require a formal letter of apology to plagiarized authors

  - remove access to the paper / automatically reject

  - light: reject or revise

  - self-plagiarism: note in the DL / reject or revise

CONICYT Rules

No se permitirá, en ninguna etapa de los concursos FONDECYT -desde la presentación de los proyectos hasta la publicación de los resultados- cualquier conducta inapropiada, tales como proporcionar datos falsos y la copia sustancial de obras ajenas, sin la debida citación del nombre del (de la) autor(a), título de la obra, fecha y medio de publicación.

Lo anterior, incluye el uso no autorizado de ideas o métodos originales, obtenido por comunicación privilegiada, tales como proyectos o manuscritos bajo revisión por pares.

Se entiende por copia sustancial la coincidencia esencial o fundamental que involucre una copia de frases o párrafos que induzcan al lector a engañarse respecto a las contribuciones del(de la) autor(a), sin que el factor determinante sea el número de palabras copiadas ni el lugar del manuscrito donde se encuentra la frase en cuestión (título, introducción, métodos, hipótesis, etc.), sino la impresión equívoca inducida en el lector respecto de la autoría.
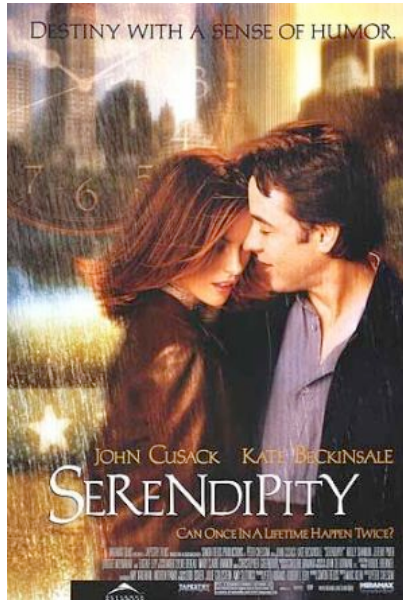
No se considera para este efecto, el uso de frases de uso general que no induzcan a error al lector.

En la postulación, todo texto, párrafos o frases textuales provenientes de una referencia bibliográfica, deberá(n) señalarse entre comillas o letra cursiva. Toda cita bibliográfica debe estar debidamente identificada en el texto y en el listado de referencias.

Conclusions

DESTINY WITH A SENSE OF HUMOR.

JOHN CUSACK   KATE BECKINSALE

SERENDIPITY

CAN ONCE IN A LIFETIME HAPPEN TWICE?

-1

ser•en•dip•i•ty | ˌserənˈdipitē |
noun
the occurrence and development of events by
    chance in a happy or beneficial way: *a fortunate
    stroke of serendipity | a series of small serendipities.*

ORIGIN 1754: coined by Horace Walpole,
suggested by *The Three Princes of Serendip*, the title of
a fairy tale in which the heroes "were always
making discoveries, by accidents and sagacity, of
things they were not in quest of."

Story 1:
A reviewer was confused and completely misinterpreted

Story 2:
I happened to be reviewer of the previous submission

Story 3:
Project was sent to the "good" reviewer

Story 4:
Advisor accidentally found out about the paper

Story 5:
I assigned the paper to the reviewer by accident

etc.

If things can go wrong

(for someone)

they eventually will...

beware: writing is a dangerous activity

Intention

vs

Facts
(sometimes subjective)