The Craft of Scientific Writing Revised Edition, 2013-2014 Gershom (J.M.L.) Martin, <u>gershom@weizmann.ac.il</u> Kimmelman 361

Unit 4Plagiarism versus "fair use"

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Cadet Honor Code at West Point (US Military Academy)



Also the core principles of scientific publishing ethics

Plagiarism and fair use

- Common law distinguishes between felonies (עבירות חמורות) and misdemeanors (עבירות קלות) "Crime of moral turpitude"
 - statutory law in many European countries distinguishes a 3rd, lower category: infractions (הפרות)
 - religious law systems have similar distinctions
- [Substantial] plagiarism (stealing somebody's ideas and/or work and passing them off as your own)="felony" for a scientist. If serious or repeated, may lead to ostracism (נידוי).
- Technical plagiarism ("borrowing" somebody else's prose etc.,... without permission and/or acknowledgment, but ideas/work are your own)="misdemeanor"
- Fair use (שימוש הוגן)=quoting or reprinting with proper acknowledgment and any applicable permissions; paraphrase; parody;... = not just legal, but common, in scholarly writing.

Ghostwriting

- Most malignant form: complete scientific studies (assuming them to be real, which is another matter) sold to the highest bidder. Mara Hvistendahl, *Science* **342**, 1035-1039 (2013): http://dx.doi.org/10.1126/science.342.6162.1035 [next slide] reports on "sting" operation by *Science*.
 - Alas, I know similar phenomena exist in the West, albeit *usually* outside the STEM fields.
- Dubious: a scientist who "cannot write his/her way out of a paper bag" hands over data tables, graphs, and a "bullet point" discussion to a science editor (who basically needs to have the relevant scientific background), who then polishes the rough "diamond"/flintstone for pay.
- More benign: scientist actually writes first draft by him/herself, then hands it over to a science editor for "polishing".
- Aside: Do celebrities/public figures write their own books/autobiographies?
 - Typically, have neither the time nor the experience for a long-form writing project even those who are excellent short-form writers. Professional long-form writers = main exception to the rule.
 - A professional ghostwriter explains: multiple long interview sessions with subject, distilled into draft, goes over it with subject, tries to capture his/her "voice",...

A 5-month investigation by Science has uncovered a flourishing academic black market involving shady agencies, corrupt scientists, and compromised editors—many of them operating in plain view. The commodity: papers in journals indexed by Thomson Reuters' Science Citation Index (SCI), Thomson Reuters' Social Sciences Citation Index, and Elsevier's Engineering Index. Science has documented authorship fees ranging from \$1600 to \$26,300. At the high end, fees exceed the annual salary of some Chinese assistant professors. But SCI papers—particularly those published in journals with a high impact factor—are so critical to getting promotions that researchers shell out. As Fan Dongsheng, a neurologist and former vice president of Peking University Third Hospital, puts it: "People are sparing no expense in order to get published in international journals."

The options include not just paying for an author's slot on a paper written by other scientists but also self-plagiarizing by translating a paper already published in Chinese and resubmitting it in English; hiring a ghostwriter to compose a paper from faked or independently gathered data; or simply buying a paper from an online catalog of manuscripts—often with a guarantee of publication.

Self-plagiarism

• Recycling your own prose from earlier published work

recycling from their own *un*published prose is something *all* professional writers do

 like songwriters often have a "stash" or "boilerplate" of unused melody snippets, riffs, breaks,... waiting for the right song to be used in

- (Alas) self-plagiarism common in "materials and methods" sections.
 - #1 priority of such sections is to guarantee reproducibility
 - therefore tolerated, but "cheesy"/déclassé
- Recycling introductions etc..: in a way insults the reader's intelligence
- Outright republication of own article: "felony", especially for research articles (less serious for review or opinion articles, but still inappropriate)
- Gray areas:
- Expansion of an earlier "rapid communication" into a full paper: journal/ publisher practices differ
 - ACS: typically allowed to recycle data etc. from communication
 - AIP: "must reference, rather than republish"
- Conference proceedings, expanded into full paper: again, journal policies differ
- Internet publication of preprint or "postprint": journal policies differ. Check ROMEO SHERPA database, <u>http://www.sherpa.ac.uk/romeo/</u>

http://www.sherpa.ac.uk/romeo/

	RoMEO Colour	Archiving policy
	<u>Green</u>	Can archive pre-print and post-print or publisher's version/PDF
ublisher names	Blue	Can archive post-print (ie final draft post-refereeing) or publisher's version/PDF
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Search Search Reset	White	Archiving not formally supported
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RoMEO:	This is a RoMEO green journal		
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Participating Publishers

The world's leading publishers have implemented plagiarism checker software into their editorial processes. Over 365 publishers, including the top 15 most influential publishers, have signed up for the CrossCheck powered by iThenticate service. Today iThenticate's database includes nearly

Alsabti affair:

Elias A. K. Alsabti: Iraqi medical researcher

- worked for American cancer institutes in the late 1970s
- acquired a reputation based on 50-60 published papers (in obscure journals) on cancer research
- upon investigation, it was revealed that he took obscure published papers from other authors and republished them in different obscure journals older his own name
- Eventually he became so reckless that he forgot to update the address information when (re)submitting
 - This is *not* how you wish to become famous!

More details: Broad and Wade, "Betrayers of the Truth: Fraud and Deceit in the Halls of Science"

Fair use (שימוש הוגן)

How is it defined? Copyright Act of 1976, 17 U.S.C. § 107. ["Four factors test"]

Notwithstanding the provisions of sections 17 U.S.C. § 106 and 17 U.S.C. § 106A, the **fair use of a copyrighted work**, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for **purposes such as criticism, comment**, news reporting, **teaching** (including multiple copies for classroom use), **scholarship, or research**, **is not an infringement of copyright**. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include:

- 1. the **purpose and character of the use**, including whether such use is of a **commercial** nature **or** is for **nonprofit** educational purposes;
- 2. the nature of the copyrighted work;
- 3. the **amount and substantiality** of the portion used in relation to the copyrighted work as a whole; and
- 4. the **effect** of the use **upon the potential market** for **or value** of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

Israeli definition (2007) basically copies the US one (incl. the "4 factors test"), except that in jurisprudence [FAPL vs Ploni, 2009] fair use was recognized as a *right* and not merely as a *defense*. In other words, in Israel one can actually sue against *infringements on the right* to fair use!

Idea-expression distinction

- Basic concept in intellectual property law (דיני קניין רוחני) law
- Specific to scientific use: copyright protects you, or the publisher of your paper, against copying the paper ("expression")
 - Common-law concept of "copyright" less expansive than later European concept of "Author's rights" in that the latter also recognized "moral rights" of the author. (Not to have work mutilated, republished for pay under another name,... without consent.)
- The ideas expressed in the paper may be protectable intellectual property through patents or other exclusive rights (plant breeder's rights, etc.)
 - note: a law of Nature *cannot* be patented

Fair use in scientific context (1)

Is copying a graph from somebody else's review article in yours OK? depends

- in practice, need to request copyright permissions from the original publisher. Nearly automatically granted --- many publishers have special web pages for this purpose. Need to add statement "Figure reproduced from [reference]. Copyright [publisher of the paper]. Reprinted with permission."

Is it OK to "reverse-engineer" a graph from another paper? (I.e., recycle his numerical data and make your own graph, presumably adding your own data.) Again, depends. ["derivative" vs "transformative" work]

If it OK to recycle *your own* graph from one paper to another? (Most commonly, from original research paper to review.) In some cases possible even without permission (depending on original copyright xfer document). In practice safest to request permission from publisher (granted essentially automatically).

Is it OK to copy a particularly concise and effective phrasing of a scientific concept or law from another paper?

- unattributed copying: no
- attributed quotation: yes

Not plagiarism: recycling common idioms, metaphors, clichés

 Hallmark of "hack writing" (and violates one of "Orwell's Rules"), but not plagiarism.

Example in Israel: recent court decision in favor of novelist Naomi Ragen - was sued for plagiarism by an obscure fellow Anglo immigrant novelist who pointed to similar sentences in an earlier novel of hers

 court (mostly) exonerated Ms. Ragen on the grounds that the snippets of dialogue involved were common conversational phrases and not unique to the work allegedly being plagiarized

[Supporters of Ms. Ragen have ascribed ulterior motives to plaintiff (*chareidi*, while the modern-Orthodox Ms. Ragen is a vocal critic of certain aspects of *chareidi* society). Cf. "SLAPP" (strategic lawsuit against public participation) and other forms of "lawfare" (draining resources of an opponent by tying him/her up in meritless but expensive and time-consuming lawsuits).]

- in scientific writing, if the only way to clearly make a point is to recycle a common metaphor, just do it
 - if the only way to make it clearly is to recycle another scientist's prose, use and properly attribute it.



Example of proper attribution

- Bad: "Quantum chemical calculations of binding energies amount to weighing the captain of a ship by weighing the ship with and without the captain on board."
- Better: "It has been argued [4] that quantum chemical [etc]"
- Also better: "According to Coulson's famous metaphor, quantum chemical..."
- Still better: "Coulson [4] famously compared ..."
 - attribution and reference
- Best: As Coulson [4] famously put it:

"It has laughingly been said that calculating the dissociation energy of a heavy molecule is like weighing the captain of a ship by determining the difference in displacement of his ship when he is, or is not, on board!"

• directly quote his own prose and mark it as a quotation (inline between quotation marks, or block quote for longer quotations).

2. "Great minds think alike". Sometimes two people DO have the same idea simultaneously and independently.

- in literature, Harry Mulisch's "Het stenen bruidsbed" ("the bridal bed of stone", a classic of postwar Dutch literature) and Kurt Vonnegut's bestknown novel "Slaughterhouse Five" share several plot devices -- both being inspired by the same historical event (the February 13-15, 1945 area bombing of the city of Dresden)

- Mulisch accused Vonnegut of plagiarism. He lost the case: While Mulisch's book predates Vonnegut's by about 10 years, Vonnegut plausibly denied knowing about it, as he does not read Dutch.

A related story in science:

The Schrödinger equation for a set of n electrons in the independent-particle approximation was first solved by D. R. Hartree. neglecting spin (and the interchangeability of particles). The Hartree equations were extended for this latter effect (at which point the "exchange energy" enters, which has no classical equivalent) simultaneously and independently by V. A. Fock in Russia and J. C. Slater in the USA. Neither probably knew the other was working on it. The community, faced with a priority dispute, came up with a Solomonic judgment: the equations are known as the Hartree-Fock equations but their (pseudo)eigenfunction as the Slater determinant.

3. **Parody**: falls under the "fair uses" if clearly recognizable as such

- example: US Supreme Court decision in "Campbell vs Acuff-Rose". The Roy Orbison song "Pretty woman" had been parodied by the rap group "2 Live Crew" [led by Luther Campbell, performing under the stage name "Luke Skywalker"]. 2LC retained the well-known opening riff and title but omitted most of the music, and substituted their own (not very tasteful) lyrics focusing on the woman's physical attributes.

The copyright owners [Acuff-Rose Music, Ltd.] sued for plagiarism. 2LC's defense was that they were lampooning the overly sentimental nature of the original [and lacked the musical talent to convincingly reproduce the actual song, but that's another story]. SCOTUS ruled in 2LC's favor, saying no reasonable person would mistake their parody for the original - if an original is so bad/lacking in artistic merit that it becomes "parody-proof" (i.e., the parody is 'only' as awful as the original), then perhaps the creators of the original have more to worry about than plagiarism.

The "Social Text" affair/"Sokal affair" Related story in science:

Physicist Alan Sokal got a little fed up with the intellectual level of what passed for postmodern literary criticism in general, and what appeared in the journal *Social Text* in particular. He wrote an obvious parody article claiming that gravity is just a social construct — written in the turbid, impenetrable jargon beloved of postmodernists — and submitted it to *Social Text*. To his horror/amusement, the journal not only accepted the monster but published it. He submitted a second paper, explaining that the first one was a hoax and what motivated him --- that one did not get published. He then took to the press, igniting a firestorm of controversy. Eventually a book resulted ("Fashionable Nonsense"; original French title,"Les impostures intellectuelles"=literally "intellectual impostures/flimflam")

Critics attacked the messenger, claiming him to be motivated by conservative political views — despite Sokal's public history of a *very* different type of political activism. (Note the use of the fallacies of 'argumentum ad hominem' and/or 'poisoning the well' to try and hide that the 'Social Text' emperor is buck-naked.)

"Muggeridge's Law: No satire can compete with reality for sheer absurdity." (Malcolm Muggeridge)



- Fashionable Nonsense delivers the perfect coup de grace."
- -BARBARA EHRENREICH, AUTHOR OF Blood Rites AND The Snarling Citizen

FASHIONABLE NONSENSE

POSTMODERN INTELLECTUALS'

ABUSE of SCIENCE



John Bohannon of Science prepared a bogus "scientific" paper claiming to report anticancer properties of some substance X extracted from lichen (חזזיות) species Y on cancer cell line Z. He *deliberately* planted several fatal flaws in the paper, such as:

- 1. treating cells with X swimming in cytotoxic concentrations of alcohol, and no alcohol at all for the control group
- 2. treating cells with X and radiation then the control group with neither and claiming X enhances the effect of radiation
- 3. Providing graphs of data that actually directly contradict what is written in the text.

To ensure appropriately poor English, the paper was machine-translated to French and then machine-translated back, with the worst mistranslations manually corrected. A database was then built up for the following variables: databases for X, Y, and Z, of Swahili names for the author, and Swahili place names to use for fictitious universities.

• Fictitious faculty with affiliations in Europe, USA, ... would be too easy to verify Then a computer program was written that randomly pulls X, Y, Z, fictitious author name, and fake address to generate a bogus "paper". Several hundred different "papers" were then each submitted to a different "open access" journal.

- 157 journals accepted the garbage papers for publication
- 98 rejected, many of them on non-scientific grounds (formatting etc.)
 - only 36 had referee reports that spotted the fundamental scientific flaws
 - 16 of those papers were still accepted by the editors *despite* the reports
- 29 did not answer
- 20 wrote that the paper was still under review

The SCIENCE Open Access sting (continued)

- many of the "accepting" journals were by obvious scam publishers and/or vanity presses
 - "vanity press"=publishing house that will publish anything you want if you pay them
- however, open access journals affiliated with major publishing houses also accepted the bogus paper
- two journals published by the controversial Hindawi outfit actually rejected it
- A PLoS (Public Library of Science) journal pre-screened it on ethical issues (origin of animal cells used in experiment) — then, after those issues were "clarified" to its satisfaction, rejected the paper for scientific flaws
- There are probably plenty of "traditional" (pay-access) journals out there with lax publication standards, if perhaps not quite as blatant.

Considering open-access publication? First check if the publisher is not on the "List of Predatory Open-Access Publishers": <u>http://scholarlyoa.com/publishers/</u>