



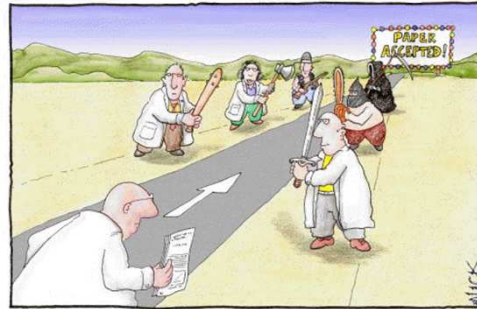
How to Write Great Papers

From title to references
From submission to publication

Presented by: Jaap van Harten, PhD, Executive Publisher
Elsevier BV, Amsterdam, The Netherlands
Location: Tel Aviv University, Tel Aviv, Israel
Date: March 3, 2016



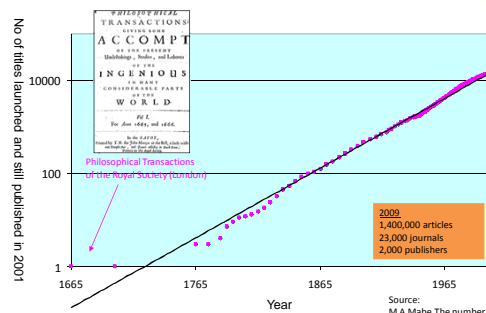
Why are you here?



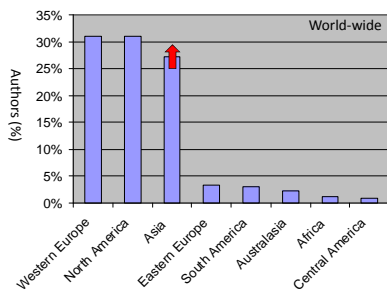
Tell me a bit about yourself



Peer-Reviewed Journal Growth 1665-2001



Geographical Breakdown of "Pharma" Authors



Trends in publishing



- **Rapid conversion from "print" to "electronic"**
 - 1997: print only
 - 2013: 82% e-only (mostly e-collections)
 - 9% print only
 - 9% print-plus-electronic
- **Changing role of "journals" due to e-access**
- **Increased usage of articles**
 - at lower cost per article
- **Electronic submission**
 - Increased manuscript inflow
- **Experimentation with new publishing models**
 - E.g. "author pays" models, "delayed open access", etc.

What are your *personal* reasons for publishing?

However, editors, reviewers, and the research community don't consider these reasons when assessing your work.

Thought Question

What is it that distinguishes an excellent article from a poor one?

"All animals are equal, but some animals are more equal than others."
- George Orwell - Animal Farm

A good manuscript has

- **good CONTENT**
 - is useful and exciting
- and has
- **a good PRESENTATION of the data**
 - is clear and logically constructed

9

Why do you publish your work?

Check the originality of the idea at the very beginning of your research.

- Do you have something to tell?
- Does anybody want to hear/read your story?

- Have you REALLY done something new and interesting?
- Is there anything challenging in your work?
- Is the work directly related to a current hot topic?
- Have you provided solutions to any difficult problems?

Only when the answers are "yes", then start preparing your manuscript!

Choose the right journal

- Assess the quality of the work you want to publish
- Who do you want to reach?
 - Pharmacologists? Clinicians??
 - International? National?
- Articles in your references may lead you to the right journal
- Candidate journal
 - Aims and Scope
 - Types of accepted articles / Hot topics
 - Readership
- Ask help from your supervisor or colleagues
 - The supervisor (who is often a co-author) has at least co-responsibility for your work.

Choose the right journal

Do not just "descend the stairs"

Top journals
Nature, Science, Lancet, NEJM,

↓

Field-specific top journals

↓

Other field-specific journals

↓

National journals

Impact Factor & H-index

"Impact Factor 2014" = The average number of times an article published in 2012 or 2013 was cited in 2014

H-index An h-index of 8 tells you that an author published 8 articles that were cited at least 8 times since publication

Read the 'Guide for Authors'!

- Stick to the Guide for Authors in your manuscript, **even in the first draft** (text layout, nomenclature, figures & tables, references etc.). In the end it will save you time, and also the editor's.
- Editors (and reviewers) do not like wasting time on poorly prepared manuscripts. It is a sign of disrespect.

General Structure of a Research Article

- Authorship
- Title
- Abstract
- Keywords
- Main text (IMRAD)
 - Introduction
 - Methods
 - Results
 - And
 - Discussions
- Conclusions
- Acknowledgements
- References
- Supplementary Data

Work in progress: How it will look like

The final article

The process of writing – building the article

Authorship

- Policies regarding authorship can vary.
- One example: the International Committee of Medical Journal Editors ("Vancouver Group") declared that an author must:
 - substantially contribute to conception and design, or acquisition of data, or analysis and interpretation of data;
 - draft the article or revise it critically for important intellectual content; and
 - give their approval of the final full version to be published.
- agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ALL 4 conditions must be fulfilled to be an author!

All others would qualify as "Acknowledged Individuals"



Authorship - Order & Abuses



General principles for who is listed first

- **First Author**
 - Conducts and/or supervises the data generation and analysis and the proper presentation and interpretation of the results
 - Puts paper together and submits the paper to journal
- **Corresponding author**
 - The first author or a senior author from the institution
 - Particularly when the first author is a PhD student or postdoc, and may move to another institution soon.

Avoid

Ghost Authorship

- leaving out authors who should be included

Gift Authorship

- including authors who did not contribute significantly



Author names: common problems



Different Spellings

- Järvinen / Jaervinen / Jarvinen
- Lueßen / Lueben / Luessen
- van Harten / Vanharten / Van

First/Last Names

- Asian names often difficult for Europeans or Americans

What in case of marriage/divorce?

Be consistent!

If you are not, how can others be?



Title



- A good title should contain the **fewest** possible words that **adequately** describe the content of a paper.
- **Effective titles**
 - Identify the main issue of the paper
 - Begin with the subject of the paper
 - Are accurate, unambiguous, specific, and complete
 - Are as short as possible
- **Articles with short, catchy titles are often better cited**
- **Do not contain rarely-used abbreviations**
- **Attract readers**



Keywords



- In an “electronic world, keywords determine whether your article is found or not!”
- **Avoid to make them**
 - too general (“pharmacology”, “mouse”, “disease”, etc.)
 - too narrow (so that nobody will ever search for it)
- **Effective approach:**
 - Look at the keywords of articles relevant to your manuscript
 - Play with these keywords, and see whether they return relevant papers, neither too many nor too few



Abstract



- Is freely available in electronic abstracting & indexing services
- PubMed, Medline, Embase, Scopus,
- Provides a short description of perspective and purpose of the paper.
 - But does not overemphasize the perspective by providing a literature review
- Gives key results
 - But minimal experimental details.
- Includes a short description of the interpretation & conclusions



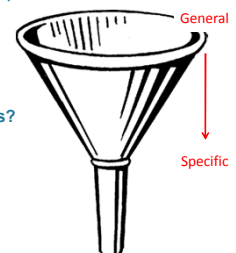
Introduction



The place to convince readers that you know why your work is relevant, also for them

Answer a series of questions:

- What is the problem?
- Are there any existing solutions?
- Which one is the best?
- What is its main limitation?
- What do you hope to achieve?



Methods / Experimental

- Include all important details so that readers can reproduce the work.
 - Details that were previously published can be omitted but a general summary of those experiments should be included
- Give vendor names (and addresses) of equipment etc. used
- Identify all chemicals used
 - Do not use proprietary, unidentifiable compounds without description
- Present proper control experiments
- Avoid adding comments and discussion
- Write in the past tense
 - Use of active or passive voice depends on the journal
- Consider use of Supplementary Materials
 - Documents, spreadsheets, audio, video, *Reviewers will criticize incomplete or incorrect descriptions, and may even recommend rejection*

Ethics Committee approval

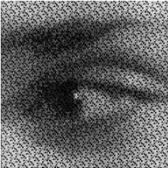
- Experiments on humans or animals must follow applicable ethics standards
 - e.g. most recent version of the Helsinki Declaration and/or relevant (local, national, international) animal experimentation guidelines
- Approval of the local ethics committee is required, and should be specified in the manuscript
- Editors can make their own decisions as to whether the experiments were done in an ethically acceptable manner
 - Sometimes local ethics approvals are way below internationally accepted standards

Results – what have you found?

- The following should be included
 - The **main findings**
 - Thus not *all* findings
 - Findings from experiments described in the Methods section
 - Highlight findings that **differ** from findings in previous publications, and **unexpected** findings
 - Results of the **statistical analysis**

Results – Figures and tables

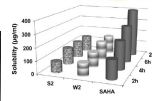
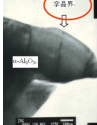
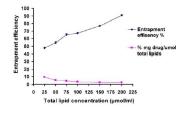
- > Illustrations are critical, because
 - > Figures and tables are the most efficient way to present results and
 - > Results are the driving force of the publication
- > Captions and legends must be detailed enough to make figures and tables self-explanatory
- > No duplication of results described in text or other illustrations



"One Picture is Worth a Thousand Words"
Sue Hanauer (1968)

Results – Appearance counts!

- Un-crowded plots
 - 3 or 4 data sets per figure; well-selected scales; readable axis label size; clear symbols; data sets easily distinguishable.
- Each photograph must have a scale marker of professional quality in a corner.
- Text in photos / figures in English
 - Not in French, German, Chinese, Korean, ...
- Use color **ONLY** when necessary.
 - If different line styles can clarify the meaning, then never use colors or other thrilling effects.
- Color must be visible and distinguishable when printed in black & white.
- Do not include long boring tables!

Discussion – what do the results mean?

- Check for the following:
 - How do your results relate to the original question or objectives outlined in the Introduction section?
 - Do you provide interpretation for each of your results presented?
 - Are your results consistent with what other investigators have reported? Or are there any differences? Why?
 - Are there any limitations?
 - Does the discussion logically lead to your conclusion?
- Do not
 - Make statements that go beyond what the results can support
 - Suddenly introduce new terms or ideas



Conclusions



- Present global and specific conclusions
- Indicate uses and extensions if appropriate
- Suggest future experiments and indicate whether they are underway
- Do not summarize the paper
 - The abstract is for that purpose
- Avoid bold judgments about impact



References: get them right!



- Adhere to the **Guide for Authors** of the journal
 - It is your responsibility, not of the Editors, to format references correctly!
- Check
 - Referencing style of the journal
 - The spelling of author names, the year of publication
 - Punctuation use
 - Use of "et al.": "et al." = "and others"
- Avoid citing the following if possible:
 - Personal communications, unpublished observations, manuscripts not yet accepted for publication
 - Editors may ask for such documents for evaluation of the manuscripts
 - Articles published only in the local language, which are difficult to find for international readers



Supplementary Material



- Data of secondary importance for the main scientific thrust of the article
 - e.g. individual curves, when a representative curve or a mean curve is given in the article itself
- Or data that do not fit into the main body of the article
 - e.g. audio, video,
- Not part of the printed article
 - Will be available online with the published paper
- Must relate to, and support the article



Typical length of a full article



- Not the same for all journals, even in the same field
- "...25- 30 pages is the typical length for a submitted manuscript, including **ESSENTIAL** data only."
 - Title page
 - Abstract 1 paragraph
 - Introduction 1.5-2 manuscript pages (double-spaced, 12pt)
 - Methods 2-4 manuscript pages
 - Results and Discussion 10-12 manuscript pages
 - Conclusions 1-2 manuscript pages
 - Figures 6-8
 - Tables 1-3
 - References 20-50
- Letters or short communications have a stricter size limitation
 - e.g. 3,000 words and no more than 5 figures/tables



Abbreviations



- Abbreviations must be defined **on the first use**
 - In abstract as well as main text
 - Some journals do not allow the use of abbreviations in the abstract
- Abbreviations that are **firmly established** in the field do not need to be defined
 - e.g. DNA
- Never define an abbreviation of a term that is only used once
- Avoid acronyms, if possible
 - Abbreviations that consist of the initial letters of a series of words
 - Can be typical "lab jargon", incomprehensible to outsiders



Cover letter



Your chance to speak to the Editor directly

- View it as a job application letter
 - You want to give your work the best possible shot
- WHY did you submit the manuscript to **THIS** journal?
 - Do not summarize your manuscript, or repeat the abstract
- Suggest suitable reviewers
 - Not from your own inner circle
 - You can also mention who should not review your paper, and why
- Mention and explain conflicts of interest, if applicable

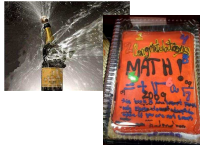
ELSEVIER **Do everything to make your submission a success**

- **No one gets it right the first time!**
 - Write, and re-write
- **Suggestions**
 - After writing a first version, take several days of rest; come back with a self-critical, fresh view.
 - Ask colleagues and supervisor to review your manuscript. Ask them to be highly critical, and **be open to their suggestions.**

ELSEVIER **First Decision: "Accepted" or "Rejected"**

Accepted

- **Very rare, but it happens**



- **Congratulations!**
 - Cake for the department
 - Now wait for page proofs and then for your article online and in print

Rejected

- **Probability 40-90% ...**
- **Do not despair**
 - It happens to everybody
- **Try to understand WHY**
 - Consider reviewers' advice
 - Be self-critical
- **If you submit to another journal, begin as if it were a new manuscript**
 - Take advantage of the reviewers' comments. *They may review your (resubmitted) manuscript again!*
 - Read the Guide for Authors of the new journal, again and again.

ELSEVIER **First Decision: "Major" or "Minor" Revisions**

Minor revision

- Basically, the manuscript is worth to be published
- Some elements in the manuscript must be clarified, restructured, shortened (often) or expanded (rarely)
- Textual adaptations
- "Minor revision" does NOT guarantee acceptance after revision!

Major revision

- The manuscript may finally be published in the journal
- Significant deficiencies must be corrected before acceptance
- Usually involves (significant) textual modifications and/or additional experiments

ELSEVIER **Manuscript Revision**

Prepare a detailed Response Letter

- Copy-paste each reviewer comment, and type your response below it
- State specifically which changes you made to the manuscript
 - Include page/line numbers
 - No general statements like "Comment accepted, and Discussion changed accordingly."
- Provide a scientific response to comments to accept,
- or a convincing, solid and polite rebuttal when you feel the reviewer was wrong.
- Write in such a manner, that your response can be forwarded to the reviewer without prior editing

Do not do yourself a disfavour, but cherish your work

- You spent weeks and months in the lab or the library to do the research
- It took you weeks to write the manuscript

Why then run the risk of avoidable rejection by not taking manuscript revision serious?

ELSEVIER **Resubmission with/without track changes**

power. The good results obtained for CL were confirmed also for MRT: average fold-error was 2.28, with 51% and 78% predicted within 2- and 3-fold of observed, respectively (mse and me were 3.70 and -0.59, respectively). The predictions were more biased in case of $V_{0.5}$: average fold-error was 3.20, with 30% and 58% predicted within 2- and 3-fold of observed, respectively (mse and the me were 3892 and -160, respectively). For the terminal half-life average fold-error was 5.4. Twenty-five predictions out of 45 were underestimated by a factor of 2 or more and only one estimation was overestimated by more than 2.

power. The good results obtained for CL were confirmed also for MRT: average fold-error was 2.28 with 51% and 78% predicted within 2- and 3-fold of observed, respectively (mse and me were 3.70 and -0.59, respectively). The predictions were more biased in case of $V_{0.5}$: average fold-error was 3.20 with 30% and 58% predicted within 2- and 3-fold of observed, respectively (mse and the me were 3892 and -160, respectively). For the terminal half-life average fold-error was 5.4. Twenty-five predictions out of 45 were underestimated by a factor of 2 or more and only one estimation was overestimated by more than 2.

41

ELSEVIER **How NOT to win the Hearts and Minds of Editors**

"I am sorry, I must send an **appeal** against your criminal letter. Your sent e-mail is not an editorial answer, but only an explanation of the **inquisitor**, who by criminal pseudo-arguments is saving place in journal for his **protected clients**."

[...]

I am absolutely convinced that your approach used in a case of my manuscript which is **preferring words over the content, meaning, hypothesis and theory is the most reductionist**, and therefore **most primitive and stupid methodology** which I can even to imagine ! It has **nothing to do with the science!**

[...]

I advice you to change work-profile, because being an **inquisitor** is not only big shame, but brings also **big damages to science**.

[...]

The criminal counterselection which you have shown in my case is now causing the **decay of the Western Civilization's power**.

You are only a **Finite Prejudice Machine!**"

Email from dissatisfied author to editor, 2012

Publish AND Perish! – if you break ethics rules

- International scientific ethics has evolved over centuries, and are commonly held throughout the world.
- Scientific ethics is not considered to have national variants or characteristics
 - there is a single ethics standard for science.
- Ethics problems with scientific articles are on the rise globally.

M. Errami & H. Garner
A tale of two citations
Nature 451 (2008): 397-399

Detection of Plagiarism and Fraud

- Elsevier is participating in 2 plagiarism detection schemes
 - Turnitin (for universities) & iThenticate (for publishers and corporations)
 - Manuscripts are checked against a database of 20 million peer reviewed articles which have been donated by 50+ publishers, including Elsevier.
 - All post-1994 Elsevier journal content is included, and pre-1995 content is being added week-by-week
- Editors and reviewers
- Your own colleagues
- "Other" whistleblowers
 - "The walls have ears", it seems ...

ScienceDirect
ELSEVIER

doi:10.1016/j.sigpro.2005.07.019 Cite or Link Using DOI
Copyright © 2005 Elsevier B.V. All rights reserved.

RETRACTED: Matching pursuit-based approach for ultrasonic NDT™

Electronics and Telecommunication Engineering Department, University of Jaen, Spain
Signal Theory and Communications Department, University of Alcalá, Alcalá, Madrid,
Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher.
<http://www.elsevier.com/locate/withdrawalpolicy>

Reason: This article is virtually identical to the previously published article "New algorithm for SNR improvement in ultrasonic NDT™" (Independent Nondestructive Evaluation) volume 38 (2005) 453–456 authored by N. Ruiz-Royes, P. Vota-Ca Mata-Campos and J.C. Cuevas-Martinez.

Articles of which the authors have committed plagiarism or fraud are not removed from ScienceDirect. Everybody who downloads it will see the reason of retraction...

Ethics Issues in Publishing

Scientific misconduct

- Falsification of results

Publication misconduct

- Plagiarism
 - Different forms / severities
 - The paper must be original to the authors
- Duplicate publication
- Duplicate submission
- Appropriate acknowledgement of prior research and researchers
- Appropriate identification of all co-authors
- Conflict of interest

Figure Manipulation

As long as they don't obscure or eliminate info present in the original image

Brightness
Contrast
Colour Balance
Nonlinear adjustments

Enhanced
Obscured
Moved
Removed
Introduced

Must be disclosed in the figure legend

Figure Manipulation – Example
Different authors and experiments

Am J Pathol, 2001

Life Sci, 2004
Rotated 180°

Life Sci, 2004

Figure Manipulation – Example
Same manuscript, different experiments

Control Condition 1 Condition 2 Condition 3

Figure Manipulation – Example
Same manuscript, different experiments

Control Condition 1 Condition 2 Condition 3

Figure Manipulation – Example
Same manuscript, different experiments

Figure Manipulation – Example
Same authors, different experiments

Publication ethics – Self-plagiarism

2003 2004

Same colour left and right

Same text

What leads to acceptance ?

- **A**ttention to details
- **C**heck and double check your work
- **C**onsider the reviewers' comments
- **E**nglish must be as good as possible
- **P**resentation is important
- **T**ake your time with revision
- **A**cknowledge those who have helped you
- **N**ew, original and previously unpublished
- **C**ritically evaluate your own manuscript
- **E**thical rules must be obeyed

– Nigel John Cook
Editor-in-Chief, *Ore Geology Reviews*



Thank you!
Any Questions?



j.harten@elsevier.com

"Harris, when I said 'any questions' I was using only a figure of speech."