What To Do To Have Your Paper Rejected

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Abstract. In this paper, we highlight certain guidelines for graduate students and novice researchers to avoid unnecessary details and erroneous approaches when preparing their papers for submission. Following these guidelines should decrease, substantially, the probability of their papers rejected.

1. Introduction

The authors' intention in this note is to assist junior and inexperienced members of the mathematical community in getting their writings accepted for publication in journals that are recognised and respected in the field. The scene of mathematical publication in the journal environment has changed substantially in the last ten years. This is due, on the one hand, to the emergence of so-called publishers making it their business of selling to authors a platform for what is known as open-source publications for a fee, and is due on the other to an ever increasing number of aspiring authors whose professional career depends on publishing. Academic institutions exert enormous pressure on their personnel to make the institution more visible by publishing in prominent journals. Here "prominence" is measured, alas, in terms of statistical parameters such as the famous impact factor.

Accordingly, a pedagogy of the production of publishable material is of great importance. We attempt to give guidance to the writing of mathematical texts for publication in professional journals. Our intention is to be entertaining, maybe even witty, in the presentation of the advice in the form of a point-for-point instruction to authors how to get their prospective submission rejected. This amounts to a listing of what an author should avoid under all circumstances. We have tried to make the content of the list of things to avoid comprehensive. Its scope reaches from mathematical content through the style of presentation to the ethics of scientific publication. All of these domains are valuable topics for discussion.

2. Mathematical Content

• Choose a general, ambiguous, or lengthy title for your paper.

For example,

"A Result in Group Theory",

or

"On Banach Algebras",

or

"A Theoretical Approach to Matrix Algebra with Particular Emphasis on Diagonalisation of Certain Sparse Matrices with Complex or Real Entries and Some Applications in Celestial Mechanics."

• Write a two-line abstract expressing some very general facts.

For example,

"In this paper, we investigate some general inequalities and present some interesting applications.",

or

"This paper is devoted to the study of some second order differential equations and their solutions. Our results extend some known results in the literature."

• Do not define the basic concepts used in your paper.

Then you may receive a message with the following content:

> *"The exposition of the paper is poor. For example, the author does not even provide definitions of the basic objects considered in the paper. Accordingly, I regret to be unable to accept your paper for publication."*

• Do not provide motivations for the subject of your paper and/or avoid describing your methods properly and accurately.

In such a case, you would naturally receive a comment such as the following from the journal:

"While your work appears to be mathematically correct, it is not clear what impact such results have. Publications in this journal require clear reasons for the interest in the subject and for the development of new techniques."

• Prove your results based on the results of unpublished papers.

That would warrant a message like the following:

"Some of your results are based on unpublished results which are not available on the Internet and could not be confirmed by our referees. Accordingly, I regret to report that your paper cannot be accepted in the present form. However, you may resubmit your paper when the papers on which your results are based, are available on some publication platforms."

• Write the core of your article based on trivial generalisations.

For example,

add or eliminate a parameter in an equation, or, if a property is proved for two elements, state and prove it for three elements (and plan to do it for n elements in the next paper!)

Then you should expect a reply including such statements as:

"Trivial operations such as changing or adding a parameter on some known results, do not generally lead to an original work. Many of the resulting statements are straightforward. The readership for such a paper is usually very limited.",

or

"The authors simply extend a known inequality involving some double integrals to another inequality for triple integrals. Almost no new techniques have been presented. We would not be surprised if the authors will next try to publish a paper for multiple integrals!",

or

"Most parts of this article are well-known, and the notion of a k-ring does not seem to give better proofs compared to the standard ones. The article seems to be far below the standards of the journal."

• Take a famous open conjecture, assume a variant of its assertion as a hypothesis, and build up a stack of derived facts.

• Concentrate on a worthless problem and make it your research topic.

Then most likely you will receive a report such as:

"The subject of this paper is out of the mainstream of research in mathematics. There are few readers, who might be interested in such a topic."

• Write a paper with short and trivial proofs.

For example,

write a 10-page paper in which 6 pages are devoted to the introduction, 2 pages to references, and only 2 pages are allocated to the main results. Furthermore, to make it even more unacceptable, make sure that more than half of these 2 pages are filled with some lemmas from other papers.

• Omit serious parts of the proofs and create gaps.

For example,

"The proof is trivial and is left to the reader".

• Write a paper, where the statement of the theorems are much longer than their proofs.

• Do not provide a clear objective and do not give substantial examples for the concepts you define.

For example,

introduce the notion of 'probabilistic non-Archimedean Jordan CQ^*-algebra', which has no interesting impact beyond a definition, or investigate on a property while the set of mathematical objects satisfying that property is empty.

Doing so would entice a referee reaction such as the following:

"The author introduces some new notions which are close to certain notions already used in the literature (in fact, some of them are redefining the existing terminologies) without any motivation. One needs to provide substantial examples for the significance of the use of the new notions."

• For your results, avoid illustrated explanations altogether, and instead offer only highly abstract ideas.

• Whenever you face a difficulty in your proof, or you needed a property satisfied, add as many hypotheses as necessary so that you can prove your theorem easily. Never mind if adding more hypotheses ensures that your theorem does not apply to nontrivial cases.

Excessive hypotheses in your paper would inevitably result in a reply such as:

> *"The assumptions are too strong and not interesting. The whole paper seems to be artificial."*

• End your paper with a lemma that has no application.

3. Style Oriented

• In the "Style File" do not delete the statement, "Insert your abstract here." and write your abstract following this command.

For example,

the resulting text is "Insert your abstract here. In this paper we find the fool's solitaire number for a graphs ..."

• Present your article in a single section without including introduction and without literature review of the subject.

• Begin each section with a definition or theorem without any preliminary explanation.

For example:

"2. Main Results.

Theorem 2.1. Let R be a commutative ring. ..."

• Write your results one after another without any comments or interpretations. For example, do not explain what Theorem A is about, or how it is related to other results of your paper. Or overwhelm your paper with definitions, one after another, with no justifications for their introduction.

For example:

"Definition 1. ...

Definition 2. ...

Definition 3. ...

Definition 4. ..."

• Ignore the length, the writing style, and other specifications required by the journal to which you are submitting your work.

• Submit your paper without polishing its language, correcting its typos, and also without having it grammatically edited by an expert.

For example,

write "Let A is commutative ring and a is belong to A that is a idempotent element."

You will then receive a referee comment similar to the following:

> *"The presentation of the paper is unacceptable, several misprints and typos can be detected. The paper has poor English. It is impossible for me to scientifically follow discussions and write a review for this paper."*,

or

> *"It seems that the author has first written the paper in his native language and then has translated it word by word to English. The mathematical clarity of the paper is missing."*

• Write a weak paper and submit it to a high quality journal.

You would then receive a message such as:

> *"The results of this paper are not substantial to merit publication in this journal"*,

or

> *"This paper does not fulfill the general quality and novelty which normally characterise papers published in this journal."*

• Submit a paper in a subject such as algebra to a journal devoted to geometry.

Then you will typically receive a response such as:

> *"I regret to inform you that your paper is not in the scope of this journal. You may submit your work to a journal compatible with the topic of your article."*

• Submit your paper to a journal, where the editorial board's interests are far from the subject of your paper.

• **Mark inaccurate "Mathematical Subject Classifications".**

• **Suggest non-expert referees as potential reviewers for your paper.**

• **In your paper refer to irrelevant and unnecessary references.**

For example,

Write a 6-page paper with 36 references.

Then, expect to receive a letter from the editor with statements of the following sort:

> *"Your short paper has too many references. One expects a balance between the length and depth of a paper with the number of references. Furthermore, self-citations need to be very limited."*

• **Use different formats for different references, give incomplete references, or inaccurate information.**

For example:

"[1] W.B. Arveson, *C^*-algebras and numerical linear algebra*, J. Funct. Anal. **122** (1994), no. 2, 333–360.

[2] Bhatia, R., Matrix Theory, (Graduate text in Mathematics) Springer Verlag, New York, 1997.

[3] A. Böttcher, A.V. Chithra and M.N.N. Namboodiri: Approximation of Approximation Numbers by Truncation. *J. Integr. Equ. Oper. Theory* 2001, 39, 387-395."

You may then receive a comment such as the following from the editor:

> *"The references of the paper are not prepared in a standard homogenous format. I am afraid to inform you that the paper cannot be considered in the present form."*

4. Ethics

• **In your abstract, mention that you have generalised the results of a mediocre paper.**

• **Acknowledge a well-known mathematician who did not contribute to your paper.**

• **Insert paraphrased material from other authors' works to pretend that you have not plagiarised.**

For example,

if your paper is computational, use a different but somehow similar boundary value. Or, simply change the symbols, e.g. use α-derivation instead of σ-derivation.

Then you should expect receiving a letter with such a content as:

> *"All your results are either known or adaptation of results appearing in the references. This translation to a 'new scope' does not bring enough interest to be published."*

• **Make minor modifications to a published paper to create and submit a new one.**

For example,

if the original paper is on a linear operator T, replace T with its adjoint T^* throughout the paper and make straightforward modifications on the proofs of the original paper for T^*.

• **Introduce your own notation while standard notation exists.**

Do this to receive a report such as:

> *"It took me some time to figure out the statements of the results. This is due to the new notations employed by the author while the standard notation exists. This makes the whole work confusing."*

• **Call your own results interesting or well-known. Or, call an object or a construction after yourself.**

You would then receive a reply with a content such as:

> *"The terminology of the paper is unusual. It is not expected from an author to use his/her name on a construction or a result."*

• **Submit your paper to more than one journal simultaneously.**

You may then receive irate reports of the following type from the editors of the journals:

> *"Your action of submitting your manuscript to two journals at the same time is unethical. According to the journal policy we have to put your name in the black list. This means that we no longer consider any submission from you for possible publication in our journal during the next 5 years."*

• In your introduction, when referring to the latest results on the subject, only mention your own work.

For example,

"The author investigates ..., see author's papers [1, 2, 3, 4, 5, 6, 7]."

Likely reaction from the editor:

"The literature review of the paper is too poor. The author needs to search MathSciNet, Zentralblatt Math and Google Scholar, to find other new contributions in the subject of the paper and cite the most important items properly."

• Send consecutive messages to the editor of the journal for unusual requests such as speeding up the refereeing process of your article.

In such a case, a most polite response you may receive is:

"Your paper is still under review. The handling editor of your paper has tried to provide a report as early as possible. A peer review essentially depends on the referee and sometimes is out of the control of the editors. Therefore, you need to have more patience. However, if you feel it is not possible for you to wait, you may withdraw your paper and after our confirmation, submit it to another more relevant journal."

Remark. There are numerous essays and books in the literature on "how to write mathematical articles." Of those, we would particularly like to recommend [1, 2, 3, 4].

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References

[1] P. R. Halmos, How to write mathematics, *Enseignement Math.* (2) **16** (1970) 123–152.
[2] N. J. Higham, *Handbook of Writing for the Mathematical Sciences*, Second edition, Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA, 1998.
[3] S. G. Krantz, *Mathematical Publishing. A Guidebook*, American Mathematical Society, Providence, RI, 2005.
[4] J. Trzeciak, *Writing Mathematical Papers in English*, A practical guide, European Mathematical Society, Providence, RI, 2005.

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