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„Wissenschaftliches Arbeiten und Lehren“

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How to Review a Paper
Elements of a Review

- Short summary of the text
- Contribution statement
- Classification within the scientific context
- Typical questions to ask
  - what is new about this work
  - which problem is this work trying to solve
  - which other work does it extend
  - what is the argumentation of the authors
Critical Review

• A review is NOT about personal interests or personal criticism of the author
• The review should focus on content and presentation
• Typical questions
  • which questions are not answered?
  • what are the limitations of the work?
  • where are contradictions?
  • is the argumentation sound and easy to follow?
  • does the work really provide a contribution?

Ethics in Scientific Communication

• It is ok to consider a contribution to be superfluous or of no need for the scientific community.
• It is not ok to personally judge or insult the author.
Tasks of a Reviewer

• Analyse for
  • correctness
  • originality
  • significance
  • quality
  • improvements

• How to
  • judge whether something is worth to be published?
  • determine which improvements are required prior to publication?
Important Questions

• What is a paper that “merits publication”?
• What is expected from a reviewer?
• How does a typical report for a review look like?
• What questions should be covered?
• What is the overall verdict?
When does a paper merit publication?

- A paper merits publication if there is a scientific contribution
- Examples:
  - new and significant results
  - new knowledge through synthesis of known results
  - helpful surveys and tutorials
  - combinations of these categories
- Worth to publish: small, surprising results that stimulate a new direction for future research
- Not worth to publish: repetition of results from other papers
- Only worth to publish after improvement: good ideas that are badly presented
Role of the Reviewer

- Subjective opinion whether or not a paper provides a scientific contribution
- Usually more than one reviewer

How to find / chose reviewers?
- paper bidding
- keywords
- experts from the field
Expectations Towards a Reviewer

• Decision in the form of a recommendation
  • accept
  • reject
• Justification for the recommendation
• Ways for improvement (particularly in case of rejection)
• How critical should a reviewer be?
Typical Review Report

• Overall judgement (usually scale from 1-5)
• Summary (1-5 sentences)
• Originality and significance
• Quality (methodology, precision, errors, presentation)
• Justification for the rating
• Optional hints for the editors

• Authors receive “cleaned” version / meta-review
• Deadlines
Examples for Review Forms
Possible Verdicts (Smith, 1989)

- Major results - very significant
- Good, solid, interesting work; a definite contribution
- Minor, but positive, contribution to knowledge
- Elegant and technically correct but useless
- Neither elegant nor useful, but not actually wrong
- Wrong and misleading
- The paper is so badly written that a technical evaluation is impossible
Some Final Issues

- Multiple submissions
- Plagiarism
- Anonymity
- Acknowledgements
- Reputation of the authors
- Can you use material from a paper under review?
- Conflict of interest