

# How to write a good peer review

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Research Square Editorial Services  
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# What's the point of this talk?

- When you write a review, you have two distinct audiences: the journal editor and the author of the paper.
- These audiences have different questions that you should answer in your review:
  - Editor: “Is this paper publishable?”
  - Author: “How can I improve this paper before it is published?”
- Both the editor and author want to see evidence that you read and understood the paper.
- By following the outline I'll describe here, you'll be helping your fellow scientists to publish more and better papers.

# Who am I?

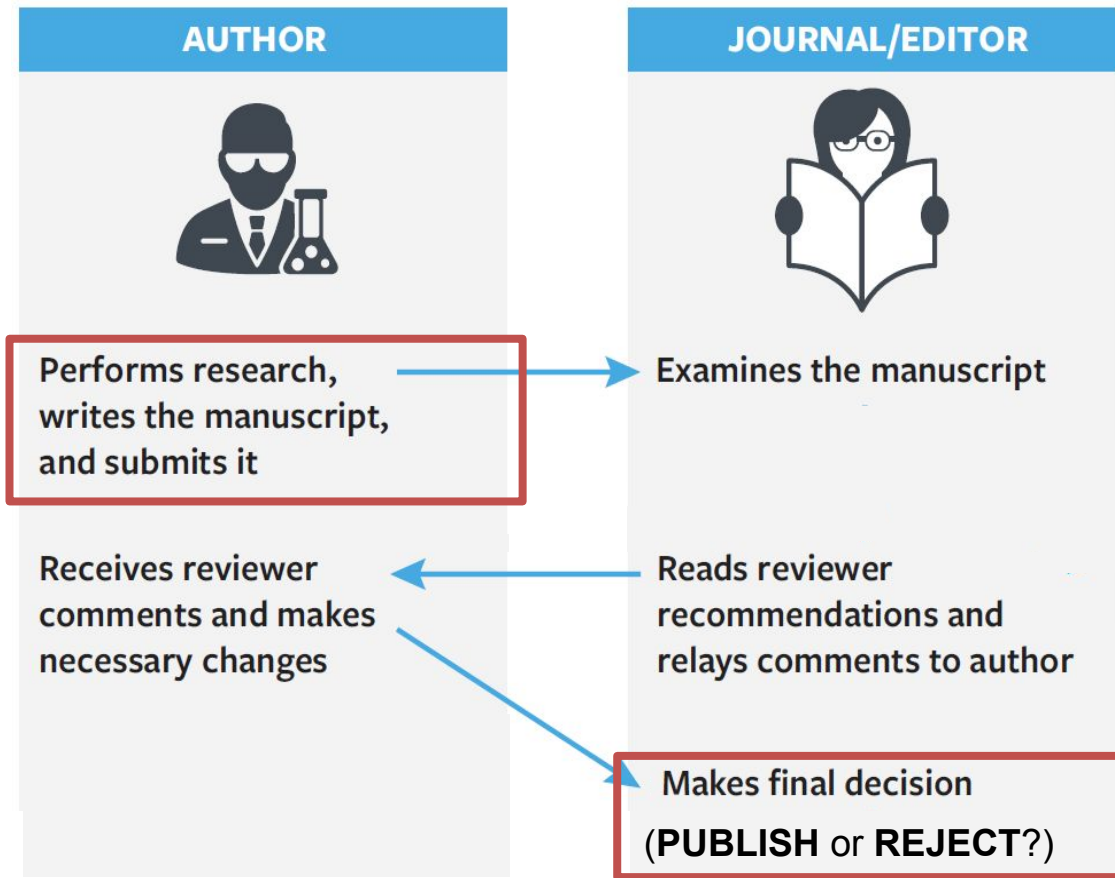
- Ph. D. from The Pennsylvania State University in the US
- First author or co-author of over 20 peer-reviewed papers
- Formerly a researcher, instructor, and scientific programmer
- Now oversee a team that coordinates peer reviews for hundreds of scientific manuscripts each month

# What is the role of publishing in an academic career?

- Publishing high-quality papers as quickly as possible is still the primary goal of researchers in academic settings.
- The authors of the papers you review likely share this goal with you.

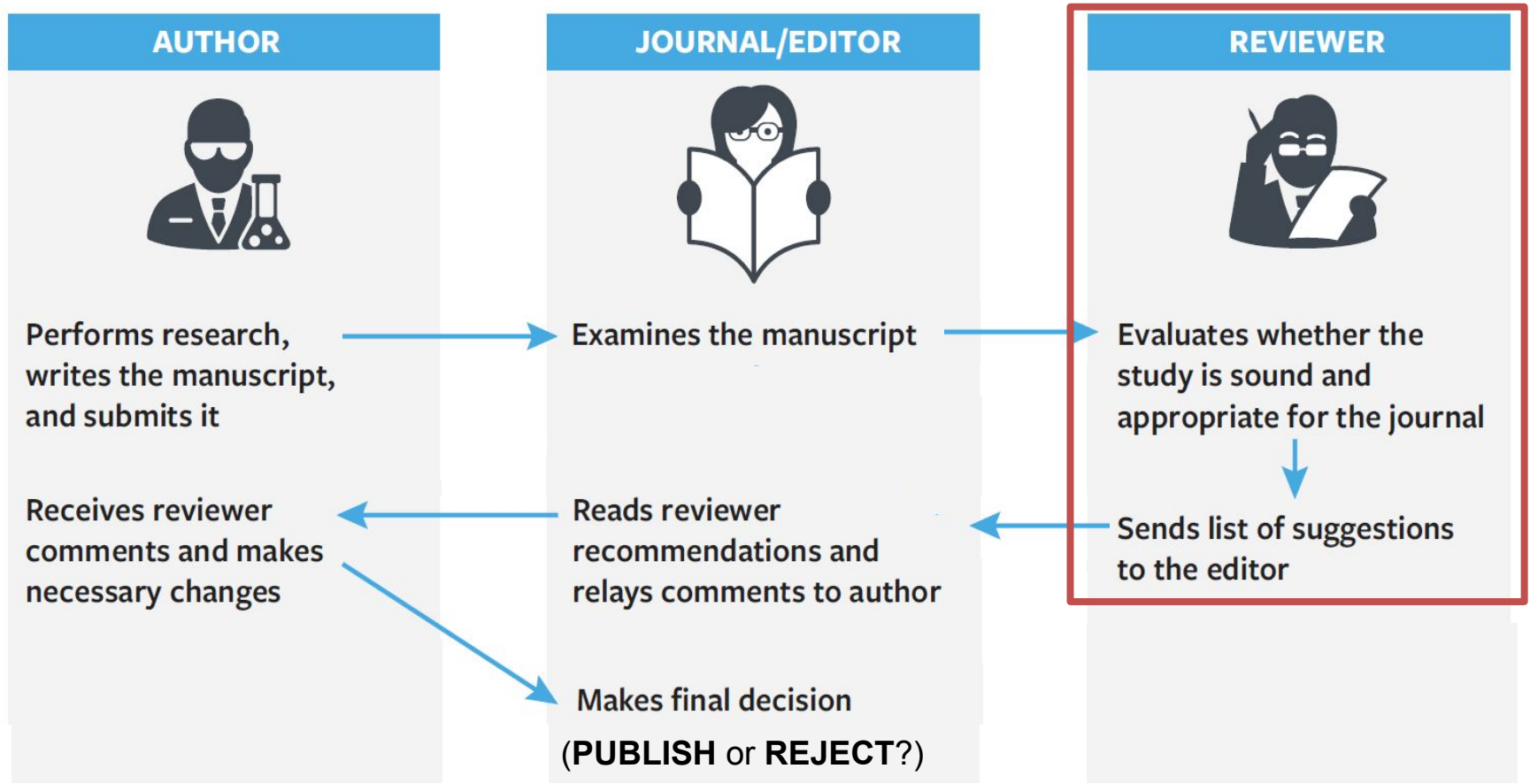


# How does peer review fit into the publication process?



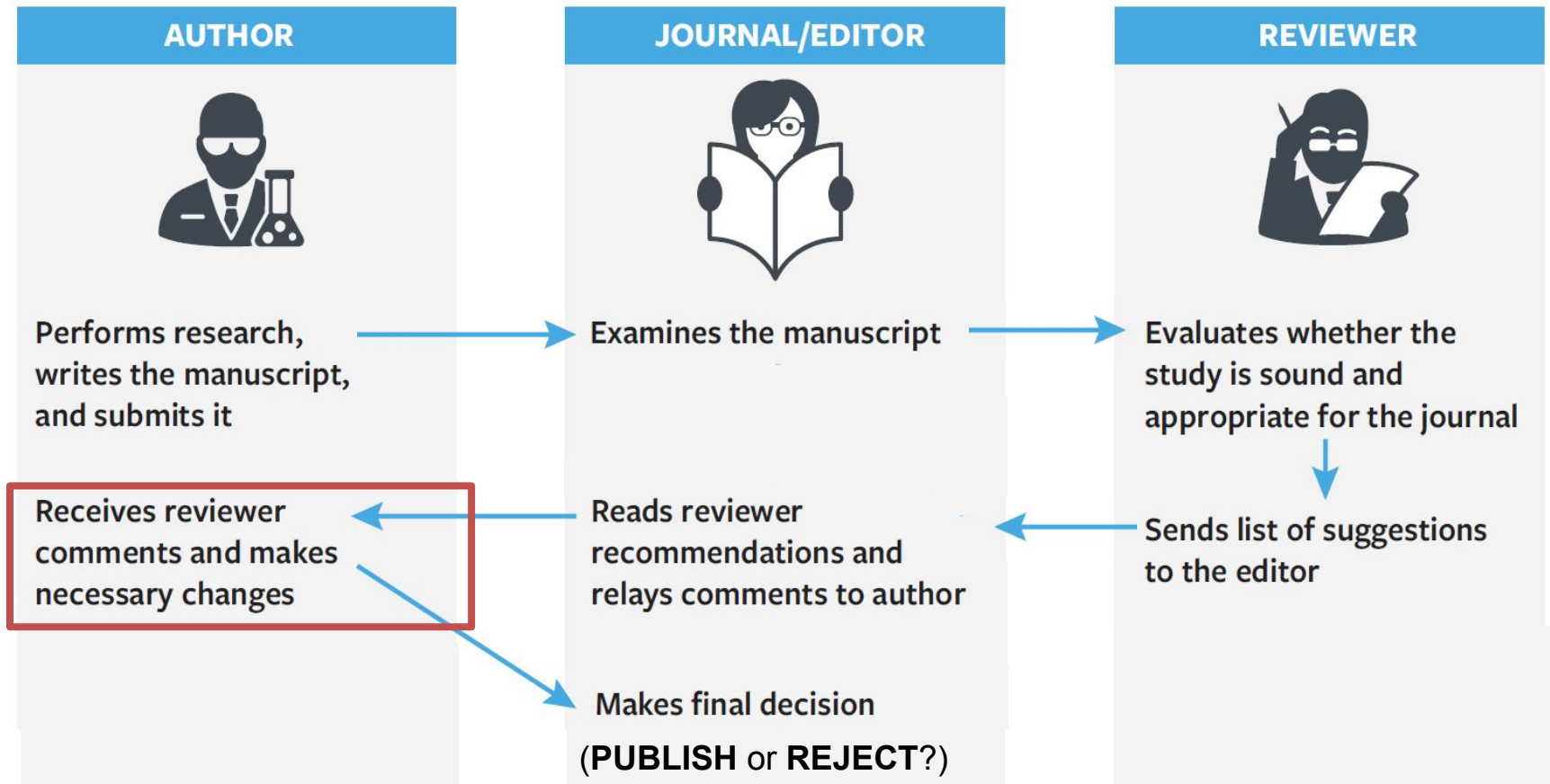
Modified from J. Grigston and B. Mudrak (2016; <https://www.aje.com/en/arc/state-of-authorship-report/>)

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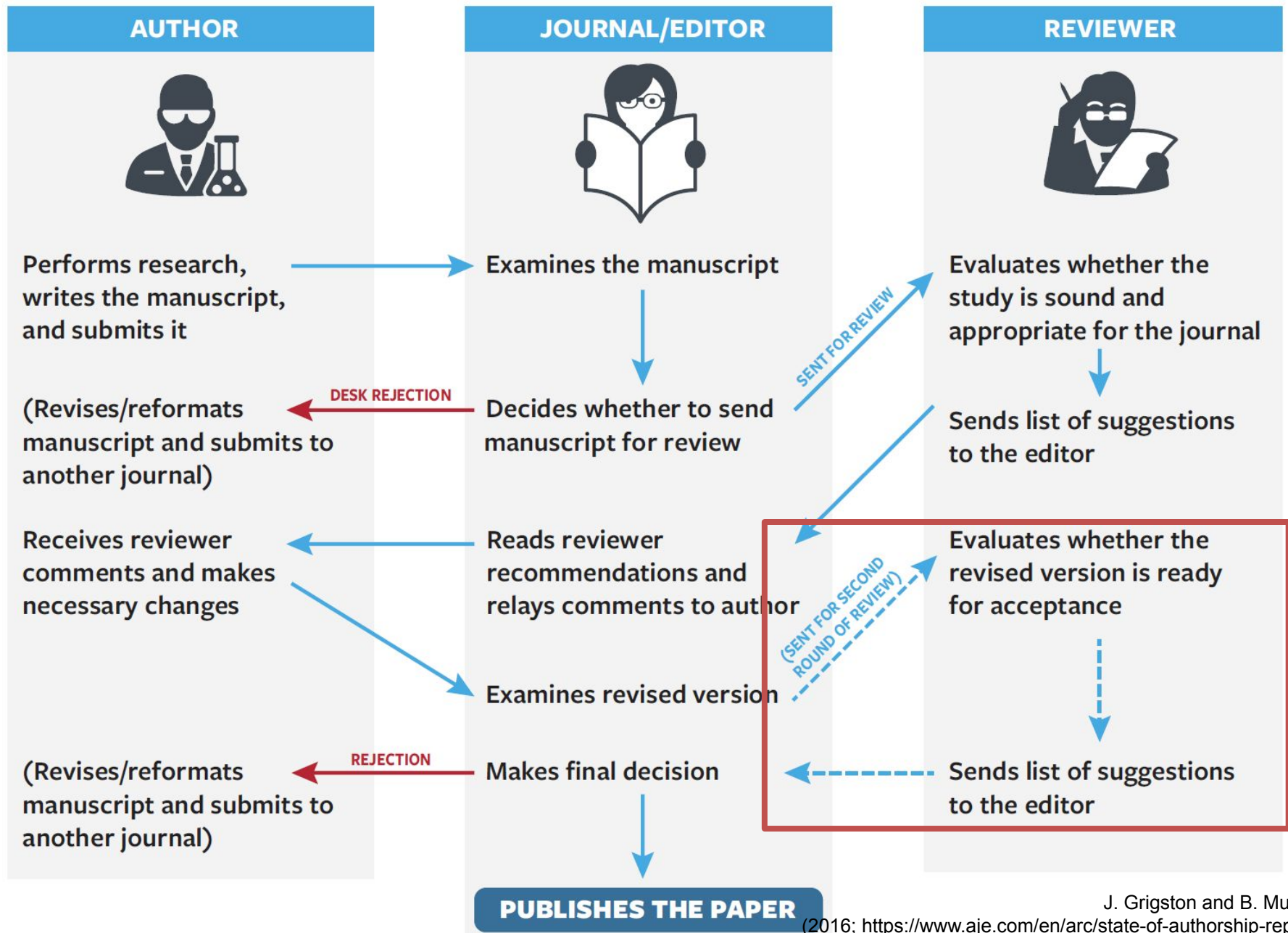
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# So:

- As a scientist, your goal is to publish high-quality papers as quickly as possible. The authors of the papers you review also have this goal.
- You can help the authors to publish better papers faster by providing specific, actionable review comments.
  - Better: Your review comments are used by the authors to improve their work.
  - Faster: If the editor can easily determine whether the authors have addressed your concerns, the paper can be published without additional rounds of review.

# What makes a bad peer review?

Bad peer reviews are usually short:

| Complete review text   | Why is this a bad review?  |
|--|--|
| This paper is excellent, and it should be published in its current form.   | While positive, this review provides no explanation of your assessment.  |
| The abstract is not properly formatted. Please rewrite it so that it includes introduction, methods, results, and conclusion sections. | This review comments only on formatting, a minor aspect of a scientific paper. The editor and author will wonder whether you understood the science. |
| The authors have used the wrong method to address their question. The paper should be rejected.  | Provide more context to help the editor understand the paper's flaws and a list of the paper's shortcomings so the authors can improve their work.   |

# What makes a good peer review?

- A brief summary of the paper
- An explanation of how the paper adds to the literature
- An overall assessment of whether the paper should be published
- A description of any problems in the science that the paper describes
- A description of any problems in how the science is presented
- A detailed list of minor issues in the paper

# Summary

- What question did the authors try to answer?
- What did the authors do to answer this question?
- What are the major conclusions of the paper?

# Contribution to the literature

- Does the paper contribute something new to the literature, or are there already many other studies that reach the same conclusions?
- Have the authors acknowledged the work of other scientists through appropriate citations? If references to key papers are missing, provide explicit citations to them.

# Publishability

- Your options include
  - “This paper is publishable without modification.”
  - “Minor revisions are required.”
  - “Major revisions are required.”
  - “The work described in this paper is not publishable.”
- Try to distinguish the science from how it’s presented -- could this work be published if the paper were revised?
- Consider omitting your opinion about whether the paper is appropriate for this journal; the editor will make that determination.



# Quality of the science

- Is the question that the authors pose answerable?
- Are the methods appropriate?
- Have the methods been described in sufficient detail?
- Are the conclusions reasonable, given the data presented in the paper?

# Presentation

- Is the paper appropriately structured?
- Is the language clear and easy to follow?
- Are the figures clear?

# Minor issues

- Most papers have small issues, so this is your opportunity to help the authors to find and correct these problems.
- Use the page and/or line numbers in the manuscript to point out small issues in the paper.
- This list is more helpful to the authors than a scanned copy of the manuscript with handwritten comments (don't send these).
- Don't try to provide language editing in a review -- see <https://www.aje.com/arc/peer-review-language-challenges/>

# So:

- A bad peer review leaves the editor and authors wondering whether you've read and understood the paper and/or doesn't help the authors to improve their work.
- A good peer review establishes your credibility as a reviewer and provides both an assessment of whether the paper should be published and actionable suggestions that the authors can use to improve their work.

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  - Editor: “Is this paper publishable?”
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- By following the outline I'll describe here, you'll be helping your fellow scientists to publish more and better papers.

# How can I participate in peer reviewing?

- You'll need to wait to be invited by a journal editor.
- Make sure you're easily findable on the Internet! Create one of the following and include your publications, where you work, your title, and your e-mail address.
  - Google Scholar page
  - Researchgate.com
  - Institutional Web page



# Thank you!

## Thanks to

- Theresa Somerville for setting up this webinar
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