



# Open Science as the New Normal of Research ?

Peer review

Open for you! - An Introduction Series to Open Science IV | 10 February 2025



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- 1. TRADITIONAL PEER-REVIEW PROCESS**
- 2. TYPES OF PEER-REVIEW**
- 3. BEYOND TRADITIONAL PROCESS : ANOTHER  
TIMELINE OF PUBLICATION**

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# Traditional peer-review process

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# History of peer-review

## Philosophical Transactions of the Royal Society

- **1665 : Launch of the « first » scientific scientific journal**  
**Decision based on the editor in chief's opinion**
- **1750 : Decision based on editorial comittee's opinion**
- **1830': Peer-review formelised with referees and rapports**
- **1980 : Reintroduction of the role of editor in chief**

## D<sup>r</sup> Davy's Paper.

1839

The value of D<sup>r</sup> Davy's Paper is principally out of the doubts recently cast by Professor Müller on the previously accepted opinions of the nature of the Testis and epididymis in the higher Cartilaginous fishes. The application of a new mode of observation as a test of their nature, by which the confidence of Comparative Anatomists in the descriptions of Cuvier, Carus, and others may be re-established, becomes therefore an acceptable contribution to this branch of Anatomy at the present time: and I should therefore recommend the publication of D<sup>r</sup> Davy's Paper in the Philosophical Transactions. At the same time, I do not concur in the Author's speculations on the function of the external appendages, and their glandular cavities, in the Male Sharks and Rays; which, by the way, is the same as that proposed by M. Geoffroy St. Hilaire; but agree with Cuvier in believing that Observations on the living Fish can alone elucidate the true functions of these sexual appendages.

W<sup>m</sup> Clift.

June 12<sup>th</sup> 1839.

To D<sup>r</sup> Roget  
Sec. R. S.

REFeree REPORT BY W. CLIFT ON 'ON THE MALE ORGANS OF SOME OF THE CARTILAGINOUS FISHES' BY J. DAVY, 1839. FROM THE ROYAL SOCIETY, RR/1/53. WEBSITE : MAKING SCIENCE

Paper no. B.62

1951

## REFeree'S REPORT

To the Sectional Committee for Physiology

Paper by A.M. Turing F.R.S.

On The Chemical basis of morphogenesis

1. Does it contain contributions to knowledge of sufficient scientific interest for the space required? Yes
2. Are any portions of the paper, or any illustrations, redundant? Yes
3. Should the paper be published by the Society? Yes, subject to drastic condensation.
4. If so, in the 'Philosophical Transactions' or the 'Proceedings'? (see note on opposite page): Proceedings, if shortened. Otherwise Transactions
5. Or could it more appropriately be published by some other body? No
6. Is the paper suitable for reading before a meeting of the Society? Doubtful
7. Comments or criticisms which might enable the author to improve or correct his statement. (Further remarks may be attached.)

I regret that my report in the absence of frequent or better, must be severely grounded. As it is rather lengthy, I attach it. I should be glad to discuss the paper with the author, but may be leaving for India shortly. I have no objection to his being informed of my identity. In fact this might possibly matter. But unfortunately I am not likely to be in England again before February. I regard the central idea as being sufficiently important to warrant publication. I am equally clear that the paper should not be published as it stands. Especially if the author saw fit to incorporate any of my suggestions

REFeree'S REPORT BY JOHN BURDON SANDERSON HALDANE, ON A PAPER 'THE CHEMICAL BASIS OF MORPHOGENESIS' BY ALAN MATHISON TURING (P/1/5), 1951. FROM THE ROYAL SOCIETY ARCHIVE RR/76/74. WEBSITE : MAKING SCIENCE



# Peer Review History

Original Submission	May 21, 2024
<a href="#">Decision Letter</a> - Olav Rueppell, Editor	10 Jun 2024
Revision 1	
<a href="#">Author Response</a>	20 Jul 2024
<a href="#">Decision Letter</a> - Olav Rueppell, Editor	12 Aug 2024
Revision 2	
<a href="#">Author Response</a>	18 Aug 2024
<a href="#">Decision Letter</a> - Olav Rueppell, Editor	20 Aug 2024
Formally Accepted	
<a href="#">Acceptance Letter</a> - Olav Rueppell, Editor	27 Aug 2024

# Peer Review History

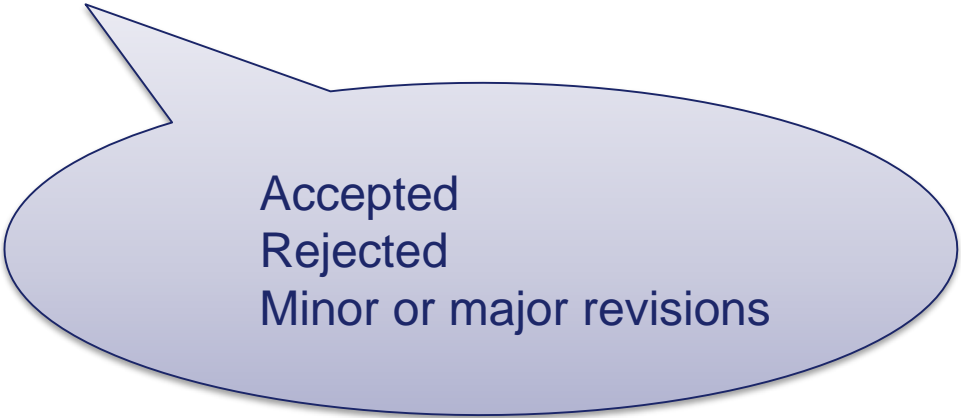
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PONE-D-24-20571R1Perception, regulation, and effects on longevity of pollen fatty acids in the honey bee, Apis melliferaPLOS ONE	
Dear Dr. Leonhardt,	
Thank you for re-submitting your manuscript to PLOS ONE. As you can see, the reviewer (and I) are satisfied with your revisions. However, before I can fully accept it, please fix the references at this stage. You might also want to give the manuscript an overall read through for catching minor errors. Finally, if you could please explain the authorship change?	
Please submit your revised manuscript by Sep 26 2024 11:59PM. If you will need more time than this to complete your revisions, please reply to this message or contact the journal office at <a href="mailto:plosone@plos.org">plosone@plos.org</a> . When you're ready to submit your revision, log on to <a href="https://www.editorialmanager.com/pone/">https://www.editorialmanager.com/pone/</a> and select the 'Submissions Needing Revision' folder to locate your manuscript file.	
Please include the following items when submitting your revised manuscript:	
<ul style="list-style-type: none"> <li>➤ A rebuttal letter that responds to each point raised by the academic editor and reviewer(s). You should upload this letter as a separate file labeled 'Response to Reviewers'.</li> <li>➤ A marked-up copy of your manuscript that highlights changes made to the original version. You should upload this as a separate file labeled 'Revised Manuscript with Track Changes'.</li> <li>➤ An unmarked version of your revised paper without tracked changes. You should upload this as a separate file labeled 'Manuscript'.</li> </ul>	

If you would like to make changes to your financial disclosure, please include your updated statement in your cover letter.



# Why peer-review ?

- **Control in scientific communication**
- **Identifying errors (methodology)**
- **Detecting breaches of scientific integrity**
- **Providing constructive critique to the author**
- **Providing feedbacks to the editor**



Accepted  
Rejected  
Minor or major revisions

# What...

## ... is under review?

- **Articles**
- **Book Chapters**
- **Conference proceedings (sometimes)**

All the parts of the publication (abstract, introduction, methods, figures, tables, references, etc.)

## ... is not under review?

- **Articles reviews**
- **Book reviews**
- **Editorials**
- **News briefs**



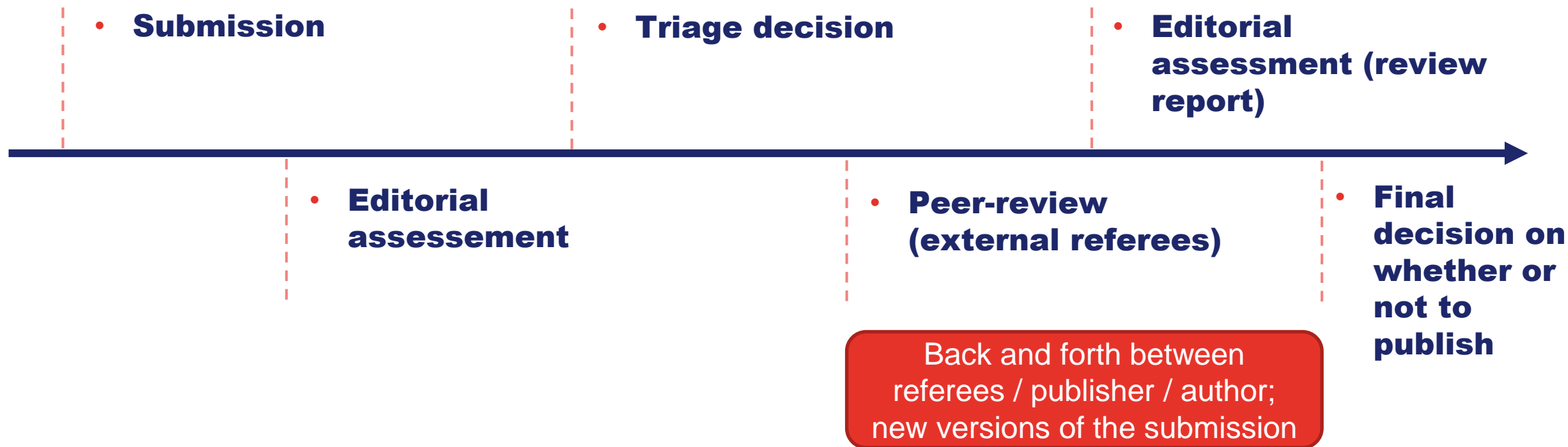
# By whom ?

*Peers, referees, reviewers*

They should...

- **Be external**
- **Be an expert**
- **Be without conflict of interest (≠ institution, 3-years without collaboration...)**
- **Respect intellectual propriety and confidentiality of the work**
- **Avoid bias**

# How ? Peer-review workflow



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# Types of peer-review

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## Single blind

### Pros

- **No self-censorship (referees)**

### Cons

- **Bias (referees)**

Author

- Identity visible

Referees

- Anonymized (for author)

Editor

- Identity visible

## Double blind

### Pros

- **Without bias (referees)**

### Cons

- **Anonymity not completely guaranteed**

Author

- Anonymized (for referees)

Referees

- Anonymized (for author)

Editor

- Identity visible

## Trible blind

### Pros

- **Without bias (referees)**

### Cons

- **Anonymity not completely guaranteed**

Author

- Anonymized (for referees and editor)

Referees

- Anonymized (for author and editor)

Editor

- Identity visible

# Open peer-review

## Pros

- **Interesting (science under construction)**
- **More attention paid to the quality of the report by the referee**
- **Conflict of interest undisclosed**

## Cons

- **Refusal to review for journals applying open peer review**
- **Fear to criticize more senior researcher (concern for career)**

Author

- Author response can be published

Referees

- Referee report can be published
- Identity can be visible

Readers

- Community can participate to the review process



# Open peer-review

## Pros

- **Interesting (science under construction)**
- **More attention paid to the quality of the report by the referee**
- **Conflict of interest undisclosed**

## Cons

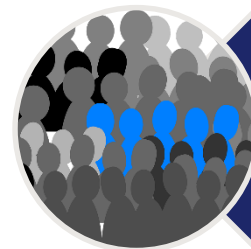
- **Refusal to review for journals applying open peer review**
- **Fear to criticize more senior researcher (concern for career)**



Open identity



Open report



Open participation

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# Another timeline of publication

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# « Publishing » then reviewing

## 3 types of system

- **Submission of the preprint on the journal website before peer-review**
- **Overlay journals : using a preprint server during the submission and peer review process**
- **Review carried out by an external platform**

## What is published ?

- **Everything**
- **Just what passed peer review**

# « Publishing » then reviewing

## Example with J Phil Econ

**1 ) deposit of the preprint in an open archive via the journal**



**2) Upload new versions during the peer review process**

**3) Publication after acceptance in the journal website (= final version)**

# « Publishing » then reviewing

## Example with eLife

**1) Preprint submitted to the publisher**

**2) Peer-review published on the publisher website**

Reviewed Preprint  
v1 • February 5, 2025  
Not revised

**3) Reviewed version published on the publisher website**

Reviewed Preprint  
v2 • February 4, 2025  
Revised by authors

**4) Final version and version of record (if asked) published on the publisher website**

Version of Record  
January 31, 2025  
[Read the peer reviews](#)

# « Publishing » then reviewing

Review carried out by an external platform

- **Peer review service**
- **Backed or not by a journal**
- **Often based on research community**

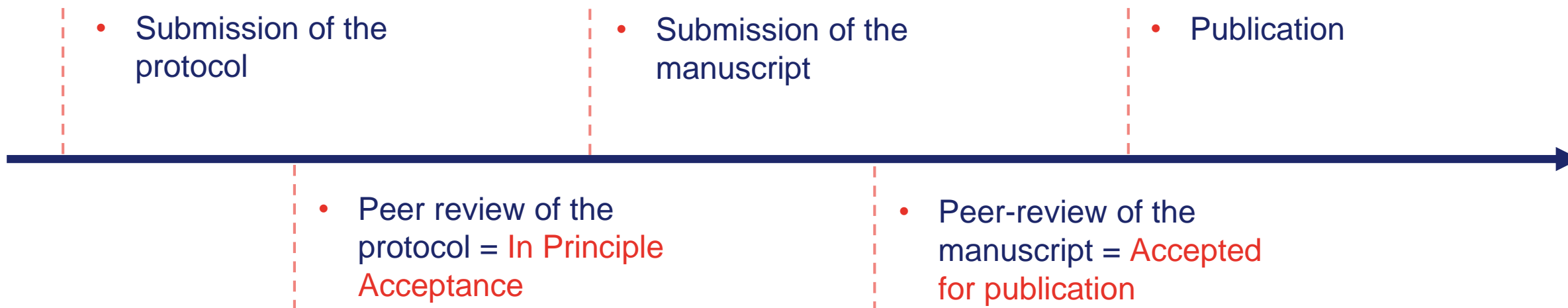
Peer Community in

*Review*  
COMMONS

# Reviewing in two stages

Registered reports

**Publishing format : review before results**  
**Importance of the quality of research methodology**





# Guidelines on peer review : how to review ?

***COPE Ethical Guidelines for Peer Reviewers. Version 2 September 2017***

**Ethical guidelines for peer reviewers (English)**

**<https://doi.org/10.24318/cope.2019.1.9>**

**Web of Science Academy : 3 e-learning courses on scholarly peer review**

**Sense about science. *Peer Review: the nuts and bolts. A guide for understanding the peer review process and the role it plays within society.* 2021. <https://senseaboutscience.org/activities/peer-review-the-nuts-and-bolts-2/>**

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# Thank you!

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