

Peer-reviewing scientific papers

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The responsibility: public distrust of science

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Print This Post

Ex-Vaccine Developer Reveals Lies the Vaccine Industry is Built Upon in Interview

What pushes scientists to lie? The disturbing but familiar story of Haruko Obokata



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Welcome to the 6th mass extinction (which you caused, of course)

POSTED AT 7:01 PM ON JUNE 20, 2015 BY JAZZ SHAW

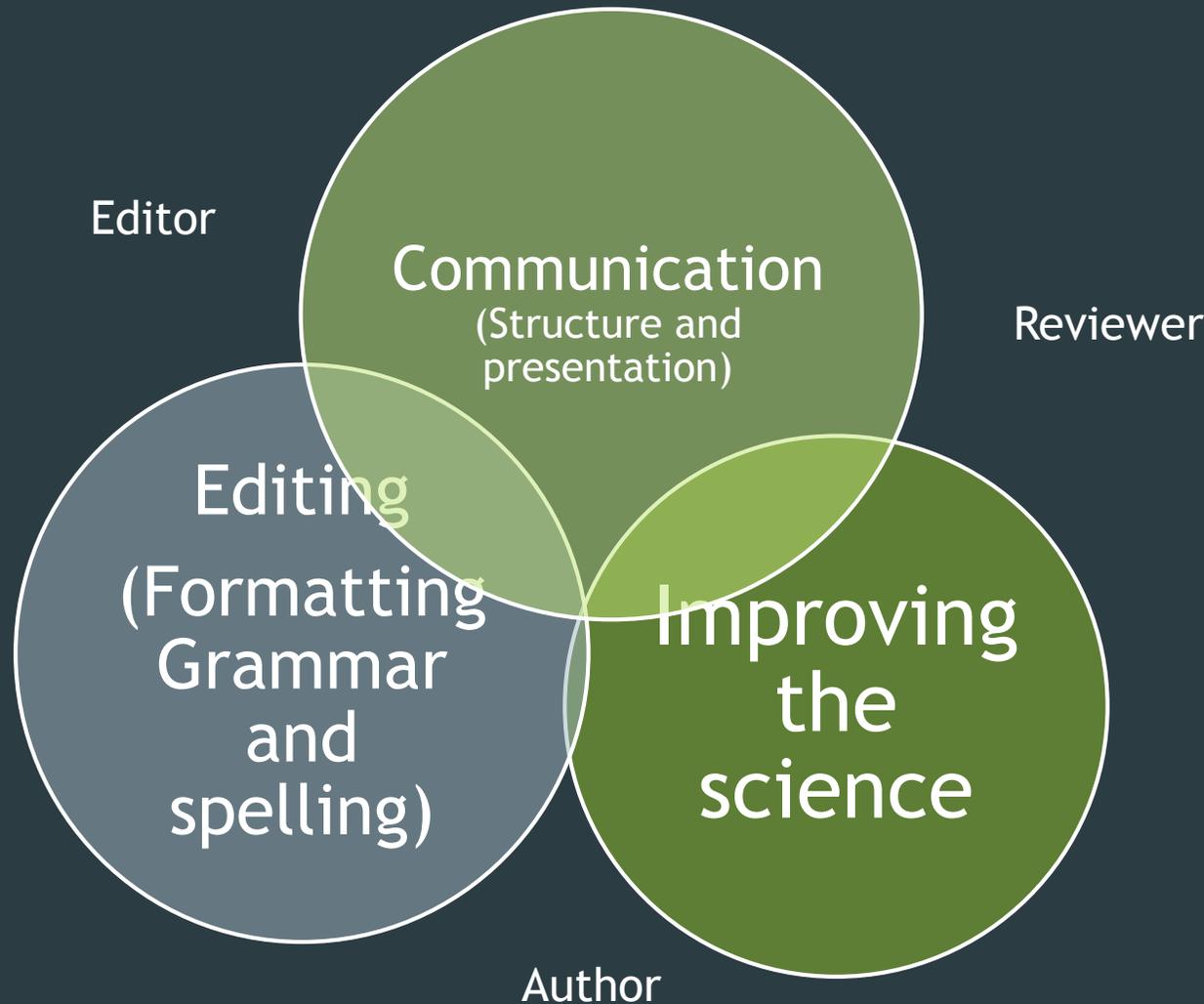
The invitation: terrifying for a young scientist

Three questions

- ▶ Do I have the expertise?
- ▶ Do I have the time?
- ▶ Am I free of conflicts of interest and bias?



The reviewer's role: leave the commas to the editor



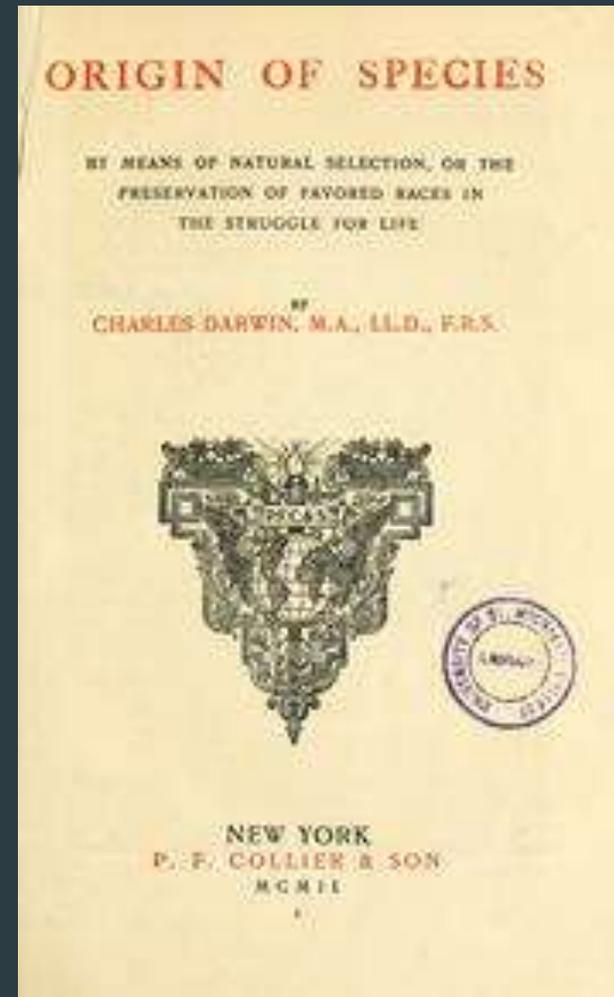
The big picture: what's it about?

- ▶ Read and understand abstract and paper
 - ▶ Read again, make notes
 - ▶ SUMMARISE your understanding of objectives, approach, conclusions
-
- ▶ The main question: “So what?”

Data + statistics \neq science

Clarity of thought

Darwin and his contemporaries did not have the statistical tools we take for granted today. They presented their evidence carefully and logically



The nitty-gritty: looking at the details

- ▶ Carefully read again.
- ▶ Make notes
- ▶ Investigate background, justification, methods, design, results and interpretation
- ▶ **Read the literature!**

Check the data and information presented

See anything odd?

	A	B	C	D
Variable 1	145.8	134.9	1.282	198.0
Variable 2	1.897	2.098	120.3	1.045

What about these?

- ▶ “...total soil carbon could exceed 200mg.ha⁻¹” (Soil carbon is measured in tonnes [Mg] not milligrams [mg])
- ▶ “The study was conducted in central Zambia... Mean annual precipitation of 254mm” (Bit dry?)
- ▶ “...in northern Zimbabwe (S12° 34’, E27° 16’)” (Zimbabwe lies south of S15°)

The recommendation: improving the paper

- ▶ Respectful
- ▶ Practical suggestions
- ▶ Improvements
- ▶ Questions for clarification

The follow-up: is it better?

- ▶ Review the revisions
- ▶ May be contradictory recommendations
- ▶ Editor makes the final decision

Authors will learn more
from a good rejection
than from a poor
acceptance

Resources: Google these for more help

- ▶ Peerage of Science website
- ▶ Frederic Hoppin. 2002. How I review an original scientific article. *American Journal of Respiratory and Critical Care Medicine*. (166): 1019-1023