LETTER

A suggestion on improving mathematically heavy papers

C. P. Snow spoke of the split of the "two cultures" of science and art, bemoaning the lack of crosstalk between the two. It seems that something similar has happened between the worlds of theoretical and empirical biology, and mathematics is the barrier. The findings of Fawcett and Higginson are a cause for concern (1), but they offer up a number of potential solutions. The authors note the risks of moving the majority of the equations to an appendix, where they are more likely to be skipped over. Continuity is hugely important when trying to grasp a new idea. Certainly, jumping to a new page in search of further explanation is jarring. I would suggest the adoption of an in-text drop-down box whereby a reader can reveal more of the detail as (s)he reads the paper if (s)he chooses. These text boxes could contain the information in the appendix with perhaps some more explanation of the derivations. Surely, in the age of Web 2.0, this would be something trivially easy to implement. It would also remove the problem of limited journal space. A link to the appendix that opens in-text while you are reading adds nothing more to the word count, and, importantly, there is no disruption to the flow of the text. I believe this would cater to all readers; for instance, mathematically fluent readers simply do not click on the extra explanation. Every effort should be made to create papers that can be understood by as wide an audience as possible.

Adam Kane[1]

Theoretical Ecology Research Group, School of Natural Science, Trinity College Dublin, Dublin 2, Ireland

1. Fawcett TW, Higginson AD (2012) Heavy use of equations impedes communication among biologists. *Proc Natl Acad Sci USA* 109:11735–11739.

Author contributions: A.K. wrote the paper.

The author declares no conflict of interest.

[1]E-mail: kanead@tcd.ie.

www.pnas.org/cgi/doi/10.1073/pnas.1212310109