Section A

Answer one question.

- 1 "Mathematics is just a game played according to certain rules; it is ultimately meaningless." How far do you agree?
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- 2 "Science is made up of mistakes, but these mistakes are what lead us to the truth." Discuss. [30]
- 3 Should the study of society require more causal explanation than interpretive understanding?

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4 To what extent does bias affect knowledge construction?

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Section B You must answer question five.

5 The Role of Peer Review

Peer review has long been held to be the gold standard in determining the quality of any scholarly journal publication. Scientific journals catalogue the contributions, thoughts, and opinions of researchers, investigators, and experts in the field, and the prestige of a journal depends on the validity, usefulness, and quality of the articles published. The peer review process is essentially a quality control mechanism as it subjects research papers to independent scrutiny by other (anonymous) qualified experts before the journal editor makes a final publication.

Theoretically, peer review should help authors make their manuscript better. But in reality, the cutthroat attitude that pervades the system results in ludicrous rejections for personal reasons—if the reviewer feels that the paper threatens his or her own research or contradicts his or her beliefs, for example—or simply for convenience, since top journals get too many submissions and it's easier to just reject a paper than spend the time to improve it. Reviewers are also more likely to favour manuscripts that are clearly written, are creative, demonstrate positive results, and have interesting titles, and may more readily accept manuscripts from more prestigious institutions than those from lesser-known institutions.

Now, it is a well-known fact that, aside from its use in scientific journals, peer review is the process by which grants are allocated, academics are promoted, textbooks are written, and Nobel prizes are won. A publication that has been peer reviewed gains respectability and acceptance and is considered a relevant contribution to the field; peer review is a professional privilege and responsibility that directly impacts what is accepted as important to a body of knowledge. This is very important in Science, since nothing can be considered true unless verified by the scientific community. The certainty of Science rests largely on how well new theories and ideas fit in with the rest of the field. But if peer reviews aren't as credible a process as is often believed to be, we wouldn't know if what is published is really true!

Perhaps anonymous peer review should be abolished, because reviewers are biased by personal motives. Anonymity gives the reviewer latitude to say all sorts of nasty things, and allows for the infiltration of inevitable personal biases—against the scientific ideas presented or even the authors themselves—into a judgment that should be based entirely on scientific merit.

In addition, there are no agreed-upon, evidence-based guidelines as to what constitutes a qualified reviewer. Journal editors simply pick and choose whoever they think is suitable. This arbitrariness in what has been called the gold-standard for evaluating and selecting quality scientific publication is disturbing, especially since we continually hail the value-free, objective nature of Science and its coherence in being able to explain the world we live in.

We also wouldn't know if journal editors are accepting or rejecting publications based on what is currently trending or what they want people to read so as to boost article sales and publication profit. Back in the day when data for music hits were compiled based on verbal reports by music store owners, it was common practice for music store owners to report whatever music genre was not selling well as their "top hit" so as to engineer more sales of that genre. This was the way rock 'n' roll made it to the top of the charts in the '70s. So who knows if journal editors are doing the very same thing and influencing publication so that some authors get more visibility than others?

[Turn over

We need a new way of doing Science that eliminates all possible personal bias such that we are left with completely objective explanations of the world on which we can base our predictions. Only then can we say, with certainty, that our scientific explanations and predictions of the world are true.

- Adapted from "I Hate Your Paper", by Jef Akst

The author makes claims about the nature of scientific knowledge. Discuss and evaluate the author's claims, using your own understanding of the nature and construction of knowledge in science as well as the ideas raised by the author.

[30]

END OF PAPER