Lab 9

Peer Review

The most important part of doing science is the peer-review process. After one completes a research project, the report is submitted for publication. The publisher has a number of reviewer (usually made up of respected authors) and the submission is sent to two (sometimes three) reviewers who advise the publisher on the merits of the work. Once you make a submission, it might be two months before the reviewers finish reviewing the work. Generally the publisher will return the reviewers' comments to the author. If all reviewers agree that the paper is viable, then the publisher accepts it. If they agree not to accept a paper, then it is rejected. If the reviewers are split, then the decision is at the discretion of the publisher. In most cases, the reviewer makes suggestions for how to improve the paper or where to clarify the discussion. In some cases, the author must either significantly revise the entire project or make an argument why the reviewer is either mistaken or is merely pointing out the specific point-of-contention that the author was intending to spark in the readers. In most cases, the process of an accepted paper is

1. Author submits article.
2. Publishers submit to reviewers, who read and return comments to the publisher.
3. Publisher gives author a chance to respond; most do (!).
4. Publishers provide authors' response to reviewers, who then give final approval (or not).
5. Paper goes to Editor, who returns paper to author for grammar, spelling, and formatting corrections.
6. After the author fixes or refuses to fix the editor's "suggestions," the paper goes to publication.

This process can take anywhere from 1-2 months to a year and a half. This week, we will do Item 1. Next week, we will do Item 2.

Usually during the review process, the reviewer is not informed of the name of the submission author – to minimize influencing the reviewer. Similarly, the names of the reviewers are not revealed to the submission author. This is called "double-blind review." Some disciplines are specialized enough that all of the active researchers are familiar with each other's work. In those cases, it is possible to guess who an author is (based on the approach to the project) or to guess who the reviewer is (based on the style of comments). In principle, both sides are civil in their comments and reactions because they are members of the same community and see each other annually at the topic meetings. Researchers are competitors and collaborators who only progress by working off of each others' ideas.

9.1 The Assignment

In order to manage the double-blind review process, before you leave lab today you will all turn in your (personally selected) code name. Do not tell anybody what you selected and do not use a nickname that is easily recognizable by others – the point of a secret identity is to keep the secret!

In this week's lab, one lab section will do Hooke's Law and Simple Harmonic Motion and the other lab section will do The Simple Pendulum. The underlying ideas are similar to each other and will help you next

week when you review an article submitted by a colleague who did the other experiment. When you submit your lab this week, you will submit your notebook and two (almost identical) copies of your report. One copy will have your name *and* your secret code name. The other copy will have *only* your secret identity.

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A PDF version might be found at peer.pdf (100 kB)