

THOUGHTS ON LAURENCE LOEWE

TO: John Doebley
FROM: Millard Susman
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I've been following Laurence Lowe's progress for couple of years now. His area of study is far removed from my own area of expertise, and my relationship to him is more related to institutional, cultural, and personal issues than to detailed consultation on his research. I have, however, been reading his manuscripts and giving general advice on language, organization, and exposition. My overall impression of Laurence is that he is totally immersed in his research work, extremely hard-working, exceptionally well-read, and admirably original and creative. On the other hand, Laurence has problems with focus. He seems to be unable to write a short story; everything turns into a novel — or perhaps a trilogy. That problem needs attention. On the whole, Laurence seems to me a remarkably gifted person who has much to contribute to genetics and to biological science. He does, however, have to find an effective way to deliver his contribution.

I have a few specific concerns about the evaluation of Laurence.

1. When Laurence was hired, he described his scholarly interests, which were directed toward systems biology in general with an emphasis on evolutionary systems biology. He was to work at the intersection between computer science and evolutionary genetics. Work at that intersection might not be exciting to geneticists or to computer scientists, but it might provide valuable methodology for making progress in genetics and evolutionary biology. If that is the sort of work Laurence was hired to do, it is important to judge his progress accordingly. Do others working at the interface of computer science and biology find his work valuable? The invitations Laurence has received to present talks, submit papers, and write reviews suggest that he has attracted the attention and respect of his peers.
2. Laurence has not published many papers, but some of the papers he has published have been gigantic, and they were evaluated by expert peers before they were accepted for publication. One of these papers, an encyclopedia article, was much more than a review article. It contained an enormous amount of Laurence's original work and could be considered a research publication despite its appearance in an encyclopedia. His publication in the *Annals of the New York Academy of Sciences* is another of those "iceberg" papers with 20 pages in sight on the pages of the publication and an additional 70+ pages submerged in an on-line supplement.
3. The FlyClockbase manuscript is an extraordinary attempt to compile and analyze a vast quantity of research data on an important biological subject. I think the manuscript that Laurence prepared on this subject is a poorly designed gemisch of genetics, systems biology, computer science, and statistical methodology. It is not designed to appeal to any readers except Loewe clones, who are interested in all of those subjects. I thought Laurence should have split the paper into three or four

papers to be published in different journals. Nevertheless, the paper contains an abundance of original scientific information and thought. There are few people who can read the entire paper without suffering some sort of brain damage, but the paper appears to me to be full of good stuff that deserves to be printed in journals that aim at appropriate specialized audiences. I'm hoping that Laurence will be able to dismember the manuscript and get it printed in such journals.

4. I do think it's important for Laurence to demonstrate that he is making good progress on publications and grant funding. Of course, these are times that try scientists' souls. The budget that the president has submitted to Congress has no room for new research funding. Nevertheless, Laurence should be doing what he can to push out papers on the work he has already done and to bring in funds to support new work. He faces a time crunch now, with lots of work to be done on several fronts. In addition to advice from his mentors, Laurence needs an unambiguous statement from the Laboratory of Genetics about how much time he has to meet the Laboratory's tenure expectations. And, given the possibility that he might not be promoted, he needs to know exactly how much time he will have after the tenure decision to arrange a career transition.



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