## WRITING A THESIS

Joseph M. Sussman MIT December 14, 1998

A dozen ideas about writing a thesis:

1. Write a thesis that is like a steak, not a lobster. Both are good to eat, but eating a lobster is very hard work, while a steak is much easier to consume. Both represent quality, but the steak is more accessible. The reader shouldn't have to unnecessarily struggle to figure out what you have to say. Be as clear as possible.

A thesis being difficult to understand is no guarantee of advanced or original or excellent work.

In the 17<sup>th</sup> century, scientific papers were written in Latin, to make the work appear sophisticated and advanced (among other reasons); often, the papers were neither, but rather simply inaccessible. So, as Dr. William Bowen says, "Don't pass off obscurity for profundity".

## 2. Some researchers suffer from the following delusion:

"If more than five people in the world can understand your work, it is not worth doing."

Now, this may well be true for people at the true "cutting edge" (Einstein, Newton, Freud, ...), but not many of us are. Researchers sometimes try to make their work understandable to the few so that it appears important when, often, it can be written to be understandable to many -- and, by virtue of that, may be even more important.

SO, BE CLEAR. A thesis is a story. Tell it!

3. There are two hard parts to a thesis: starting and finishing. Getting the idea of what to work on and actually writing the thesis are hard. The easiest and most enjoyable part is doing the research itself.

4. "My thesis advisor thinks it is a good topic" is an inadequate answer to the question, "Why did you decide on that thesis area?" *You* have to *own* the topic. Whose thesis is this anyway?

5. Don't save all the writing for the end. Rather, write the thesis as you conduct the research. It is a good discipline to write every week. The more you write, the better you get at it (as with most everything). even if you end up throwing out some of your early written material, the writing is still a worthwhile activity because you will find yourself sharpening your thinking in order to express yourself clearly.

If your writing isn't clear to others, consider the possibility *you* don't understand the topic well enough.

Remember, there is no good writing, only good rewriting -- it takes a while to get it right.

6. Before you write the last chapter of your thesis, think about the transparencies you would use in a ten-minute presentation on your research requested by your new boss. The transparencies define that final chapter.

- 7. The conventional wisdom is that the thesis advisor holds up the completion of the thesis by continually coming up with new tasks for the student to do. Sometimes this happens but, often, the opposite is true; the thesis advisor says, "You've done enough -- time to write it up"; and the student, thinking his/her thesis is the modern equivalent of Darwin's <a href="The Origin of Species">The Origin of Species</a>\*, says, "No, not yet -- I have a few more ideas I want to get into the thesis", thereby delaying its completion.
  - \* In fact, Darwin didn't get his act together to publish this work until informed that a rival was about to publish his similar findings.

8. You will wake up some fine morning convinced that your thesis is trivial. It happens to everyone and is almost never true. You have just been thinking about it so long and so deeply that it APPEARS obvious, but it is a virtual certainty that it is not.

This phenomenon is related to writing clearly. Don't skip all the intermediate steps in your logic that are now "trivial" -- they aren't trivial to others.

9. Progress on thesis research is often non-linear. While it may take a year (or two or three) to do one, a remarkable amount of the work seems to get done in a few short weeks or months (we hope the subconscious is working away during periods of no apparent progress).

10. Work on your thesis every day. It keeps the momentum going. "Getting stale" is a myth and a poor excuse for not working. When you hit a stone wall on some part of the work, there is always something you can be doing (e.g., write the literature review) and you may serendipitously find a way through or around that stone wall.

Just keep working.

11. If your thesis advisor is not demanding enough about your progress, deputize someone to bug you once a week about how you are doing and report to them seriously. Few of us are self-disciplined enough to produce continuously without a boss.

- 12. Remember that this thesis experience is probably the only time in your career that you will have the luxury of working on one thing in a concentrated, intense way\*. So, enjoy it. As soon as you finish, your time will be fragmented, just like it is for the rest of us.
  - \* Written originally with a doctoral thesis in mind, but true to a degree for master's theses as well.