

How to write Geological Thesis

Submitted by- Kyaw Linn Zaw
Kyaw Zin Lat

Outline

- General aspects and philosophy
- Organization
 - of the whole thesis
 - Within the thesis
- Writing style and form
- Getting started, keeping going

What is a thesis

- *A thesis is a "proposition laid down or stated, or put forward as a premise to be proved", or a "statement written and submitted by a candidate as the sole or principal requirement for a university degree" (Oxford English Dictionary).*
- *A dissertation is defined as "an extended scholarly essay submitted for a degree" (OED).*

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- *"The difficulty is not to write, but to write what you mean."*

—Robert Louis Stevenson

- Good writing requires Time & Discipline
 - Salvatore J. Lacone

■ **KISS POWER**

Keep It Simple & Stylish

Plan

Organize

Write

Edit

Rewrite

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- A research paper (or thesis) is an attempt to persuade.
 - The key to persuasion is organization.
 - A picture is worth a thousand words.
 - Don't use a thousand words where five hundred will do.
 - If at first you don't succeed, try, again.

Keep to the point

- A concise paper or thesis requires keeping the main points in mind--**ONLY** include background information, data, discussion that is relevant to these points
- For a proposal, focus on the aspects for which you request funding

The outline is the necessary framework

- Use the MS Word outline tool
- Keep going back to “outline view” throughout the various drafts of your writing



Organization of the thesis

- Abstract
- Introduction
- Background and Literature review
- Problem statement/research question
- Methods
- Data presentation
- Interpretation
- Discussion
- Conclusions
- References

**Different types of writing might have more/less emphasis on each of these elements

Abstract

- Write this LAST!
- Abstracts should be 1-2 pages and should be self-contained
- Model after a paper in your field
- Written to attract readers to your article or thesis, gives a good initial impression
- Summary of the contents of the thesis
- Brief but contains sufficient detail
 - motivation for the work (problem statement)
 - project objectives
 - techniques employed
 - main results and conclusions

Introduction

- Write this second to last!
- give a brief overview of your main results.
- You probably wrote this for your thesis proposal; **REWRITE IT AFTER** body of thesis is written
- Look at examples in published literature in your field
- This section is likely to contain a lot of reference citations--put your thesis in context of existing work

Background

- A brief section giving background information may be necessary. Your readers may not have any experience with some of the material needed to follow your thesis, so you need to give it to them. A more informative title is usually better, e.g. “Regional geology of the Lebyin Area, Myanmar”

Literature review

- Provides context for and details about the motivation for the project
- States why the problem is important
- Sets the scene for the work described in the thesis
- Describes what others have done and hence sets a benchmark for the current project
- Justifies the use of specific techniques or problem solving procedures

Problem Statement

1. A concise statement of the question that your thesis or paper tackles
2. Justification, by *direct* reference to previous work, that your question is previously unanswered. This is where you *analyze* the information which you presented in the “state of the art” section
3. Discussion of why it is worthwhile to answer this question.
4. Highlight the section with a heading using words such as “problem” or “question”

Data and interpretation

- No standard form. But still organized!
- One or several sections and subsections.
- Methods, Data, Interpretation sections are separate
- Only one purpose: to convince the advisor (reader/reviewer) that you answered the question or solved the problem stated in the previous section.
- For a proposal: describe methods, preliminary data, types of data to be collected

Methods

- Depending on your topic this may be one paragraph or a long section
- If measurement error is important to your study, state how this was assessed.

Data presentation

- Draft your figures first: (A picture is worth a thousand words)
- Make captions stand alone
- Use enough figures to present the data that justifies your interpretations and conclusions. No more, no less. (Don't use 1000 words when 500 will do)
- Write your text around your figures

Interpretation

- Keep separate from data, clearly distinguished by paragraph, section, and/or words like “are interpreted to show”.
- Useful to subdivide interpretation into a “local” or small scale (directly flows from your data) and a “regional” or “big picture” scale, that flows from consideration of your data with that of others.

Discussion

- Look at discussion sections in papers in your field. See what they cover.
- Usually is a broader scale interpretation than just your data (relate to previous published results)
- Addresses the bigger problems of your research topic and how your study fits into solving those problems
- Is NOT a conclusion section

Conclusions

- Conclusions are *not* a rambling summary of the thesis: they are *short, concise* statements of the inferences that you have made because of your work. It helps to organize these as short numbered paragraphs, ordered from most to least important. All conclusions should be directly related to the research question stated

References

- All references cited, including those in Tables and Figure captions. No more, no less.
- Use consistent style throughout (e.g. “et al.” OR “and others”, not both)

A few words on form

- Format: Typography, layout
- Mechanics:
 - Grammar
 - Usage
 - Punctuation
 - spelling

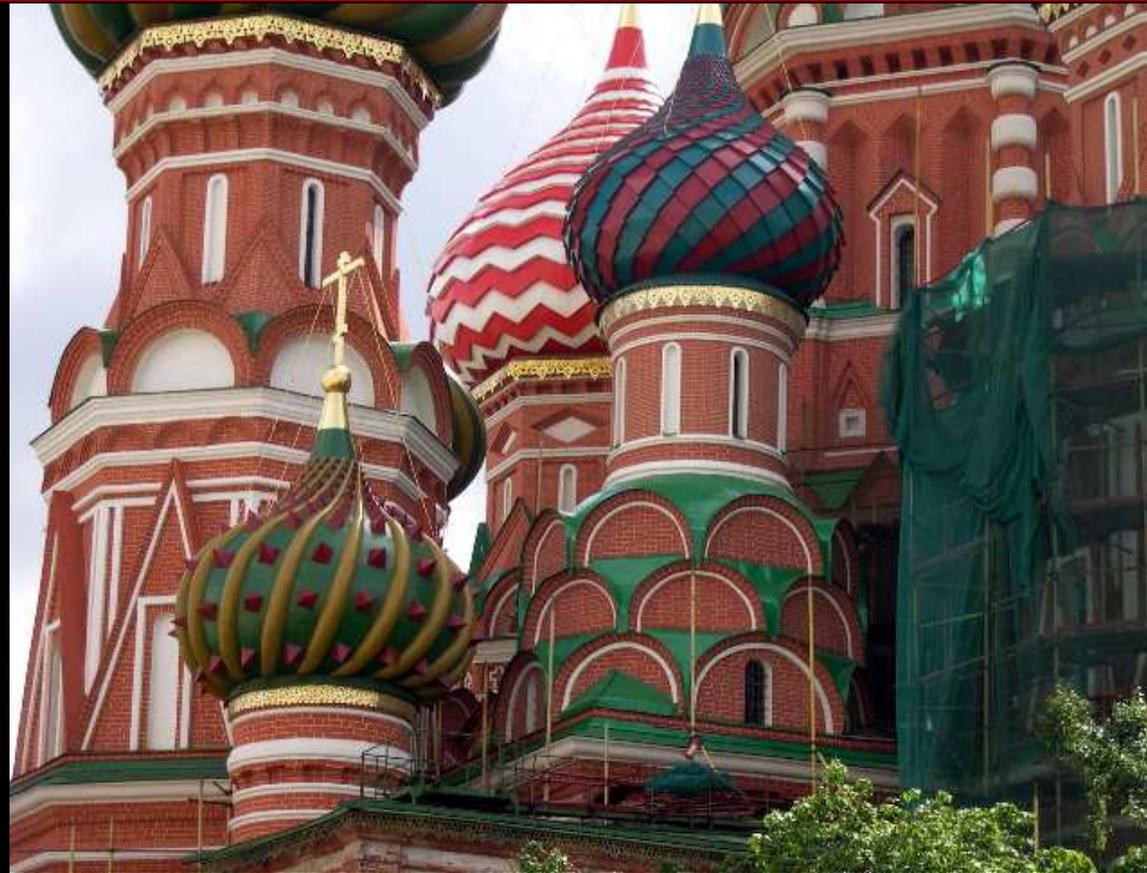
Shed light on your subject:
clarity is everything



Avoid convoluted writing



Avoid ornate language, words you don't really understand
(look it up!)



Be professional! (or at least try really hard)

