Have a Cow, Man (2010 Version)

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree
Doctor of Philosophy in the Graduate School of The Ohio State
University

By

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The Ohio State University

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Dissertation Committee:

Big Dude, Advisor

Other Dude

Some other dude

Abstract

This is the abstract of the thesis and shows how the world's problems can be solved by having a cow.

New 2010 version:

> In reality, after you have actually had a cow, and written it up as your dissertation, remember that the dissertation or thesis abstract should be less than 500 words. There is no requirement for an external abstract, but an environment exists for it if this changes back. See the old instructions below for details.

Old 1996 version:

> In reality, after you have actually had a cow, and written it up as your dissertation, remember that the dissertation or thesis abstract should be less than 350 words. Two copies of the external version of the abstract must be submitted separately to the Graduate School. The environment `externalabstract` can be used to generate the required external abstract pages.

This is dedicated to the one I love ... la la la ...

Acknowledgments

I thank everyone who has ever had a cow. ...

In reality, this is the only page of the dissertation which the author has full control of. You can write anything you want here, and no one can tell you it's wrong (except if the margins don't line up!!!!).

Vita

January 0, 1800 .... Born - Cowtown, USA

1900 .... B.S. Cow Science

1950 .... M.S. Cow-Dairy Science

1985-present .... Graduate Teaching Associate,
Holstein University.

Publications

Research Publications

B. Simpson "Milking a Cow". *Journal of Dairy Science*, 00(2):277–287, Feb. 1900.

Fields of Study

Major Field: Department of Cow and Dairy Science

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Chapter 1: Introduction

This is the first chapter of the dissertation. It probably rambles on about Cows and Bulls and what-not. It most likely contains no details, but suggests what will be seen in the other chapters. Maybe you can give a glimpse of "the problem" in this chapter, state your thesis, and suggest how your thesis is going to be justified. Since the bulk of the material is going to be in the succeeding chapters, this chapter should inform the reader about what the subsequent chapters contain.

Pretty cool, huh?

1.1   Getting Started

Well, before you write up your dissertation and zoom over to the Graduate School with your *magnus opus*, be sure to read the Grad School's Graduate Student Handbook [2]. It tells you a lot of stuff you need to know. And since you will be using LaTeX to write your dissertation, have Lamport's LaTeX 2_ε book [1] handy.

1.2   The OSU Dissertation Class

The latest version of the OSU Dissertation Class (1996) was derived from the old version originally created in the CIS department. The new format specifications are

much closer to the way the classes in LaTeX 2_ε function by default; therefore, many of the more challenging aspects of creating the class are no longer needed.

A lot of graduate students have contributed to the creation of the dissertation class files `osudissert96.cls` and `osudissert96-mods.sty`. Elizabeth Zwicky created the original style files. J. Ramanujam and Con O'Connell are the other main contributors. Most recently, Mark Hanes has updated the files to conform to the 1996 Graduate School guidelines. Al Fencl created the vita style in `osudissert96`. All other contributors are mentioned at the top of that file.

This document was initially created by Manas Mandal from Con O'Connell's dissertation to help a student in Physics. Since a lot of other people have expressed interest in the style files and how to use them in a dissertation, this sample dissertation was produced by Manas Mandal and Al Fencl. This document has also been modified by Mark Hanes to reflect the 1996 Graduate School requirements.

1.2.1 What you need in order to use `osudissert96`

To use the `osudissert96` class, you will need to have

1. LaTeX 2_ε (obviously).

2. `osudissert96.cls`

3. `osudissert96-mods.sty`

These files are currently all available on the EE HP and Sun Workstations.

1.2.2 Compiling the Example

This document is split into several files. If you have not compiled it yet or had difficulty compiling it, you should make sure you have the following files:

`Thesis.tex`	The main document. Run LaTeX on this file
`abstract.tex`	The Abstract for the thesis.
`ack.tex`	The Acknowledgement for the thesis.
`vita.tex`	The Vita for the author of the thesis.
`ch1.intro.tex`	Chapter 1 of the thesis.
`ch2.problem.tex`	Chapter 2 of the thesis.
`ch3.implem.tex`	Chapter 3 of the thesis.
`ch4.end.tex`	Chapter 4 of the thesis.
`app1.tex`	The first appendix of the thesis.
`app2.tex`	The second appendix of the thesis.
`bibfile.bib`	The sample bibliography database.

To fully compile this example, you should do the following:

1. Run LaTeX on `Thesis`. This will do the inital compilation of the document and will create a list of the labels and references made.

2. Run BibTeX on `Thesis`. This will go into `bibfile.bib` and extract the appropriate bibliography for the references cited in the dissertation.

3. Run LaTeX on `Thesis` *two* more times. The first time, LaTeX will go through and (at the end) will recognize the references made in the citations and will set up the table of contents. However, the table of contents will probably be off since the table of contents will grow. The second time through, LaTeX will get the page numbers correct in the table of contents.

You will need to perform the above steps on your own dissertation/thesis as well.

1.2.3   Getting more information

If you need additional information, please check out EE's LaTeX 2$_\varepsilon$ web page, `http://eewww.eng.ohio-state.edu/~hanes/latex2e`. If you can't find what you

need there, you might want to read the `.cls` and `.sty` files used to generate this dissertation to see how the various commands are used and start from there. A complete list of the commands defined in `osudissert96` is also provided in Appendix B.

1.2.4   Ph.D. Dissertation and Master's Thesis

The `osudissert96` class provides support for both Ph.D. dissertations and Master's theses. While this document is an example of a Ph.D. dissertation, it is possible generate a Master's thesis just by including the appropriate documentclass option. For example, to produce a Master's of Science thesis, give the option `ms`:

```
\documentclass[ms]{osudissert96}
```

1.3   Organization of this Thesis

The rest of this thesis is organized as follows.

Chapter 2 will introduce the problems with cows, and what all has been done by other researchers about it. In reality, Chapter 2 discusses LaTeX and provides pointers to advice and examples of how to use the `osudissert96` class.

Chapter 3 describes the details of the implementation method used in having a cow, and how it does solve all the world's problems. In reality, Chapter 3 discusses figures and tables and how to create them "easily" using LaTeX.

Chapter 4 summarizes the results of the thesis, and gives pointers to future research that can be based on this exemplary work. It has no real bearing on reality.

Appendix A explains some of the data used to create Table 3.1. It also has little to do with reality.

Appendix B lists all the commands defined in `osudissert96`.

Chapter 2: The Problem To Be Solved

This is the chapter that describes what cow-related problem will be looked at in the thesis. Basically, we want to discover the "proper" way to have a cow. This will reduce the number of inappropriate cows that occur in the United States each year. We have studied aspects of this problem in the past, and documented it in [3].

That is some sort of chapter. What a piece of work!

2.1   LaTeX and BibTeX

It is assumed that you are conversant with LaTeX and BibTeX. Hopefully, you have made a large bibliography database as you went through your many years at OSU, especially when you did some literature survey as part of your General Exams. If you aren't conversant with BibTeX, read the relevant sections in Lamport's book [1]. You should learn how to do citations using `\cite`. Some examples of this can be found in the `.tex` files for this document (see Section 2.1.3).

2.1.1   Some LaTeX advice

LaTeX will also help you number your figures, etc., properly. To reference them properly, use the `\label` and `\ref` commands. Details can be found in [1] and examples can be seen in the `.tex` files for this document (see Section 2.1.3).

You should also make sure your understand the `\include` and `\input` commands. They will allow you to break up your documents into different parts, which you can then process separately. That way, you don't need to print *everything* everytime; you can just print a single chapter if you want (`dvips` also has the capability of printing specific pages). However, the page numbers, etc., will be done as though everything was printed. The sample thesis you are looking at was split into parts and combined using the `\include` command.

2.1.2 Some BibTEX advice

Everyone has opinions about how citations and references are made, so be sure to look at lots of journals/books to decide what style you want to use. BibTEX has support for quite a few styles. The Graduate School has been known to accept the `plain` and `apalike` styles.

2.1.3 Some Examples

Probably the *best* way to figure out how to use the `osudissert96` class with LaTeX 2$_\varepsilon$ is to look at how we created this document.

The main file (`Thesis.tex`) is set up with *many* comments explaining where to put any special commands you use, how to split the document into parts and use `\include` to combine the parts into a coherent whole, what the basic order of the dissertation should be, etc.

We also used several common "tricks" (`\label` and `\ref`, `table` and `figure` environments, `\verb` and `verbatim` environments, etc.) that we will make use of in the subsequent files.

Please read this document and look at the `.tex` files to see *how* we did it. If you don't understand something, you can usually find answers in the LaTeX book [1]. If that fails and you still don't understand how/why something was done, ask someone who has done it before.

2.2   Other Useful Tools

There are other tools that come in handy while writing a thesis. Spelling Checkers and Grammar Checkers may come in handy!! On the CIS and EE machines, `ispell` is very useful. `dvips` can be used to print a subset of the pages from your thesis. Remember not to print your entire thesis out everytime you make a small change. Use `dvips` with the -n and -p options!

Chapter 3: How to Actually Have a Cow

To actually have a cow, one must read [4] and look at the Cow Car in Figure 3.1. The table shown in Table 3.1 was generated using the data in Appendix A and further justifies this research.

3.1 Captions of Figures and Tables in LaTeX

In both figures and tables, you will want to have some sort of caption describing your work. These captions are generated using the command \caption{*text*} where *text* is your table/figure description. When this command is placed in a figure (see Section 3.2), it will generate the output "Figure *M.N*: *text*" where *M* is the chapter number and *N* is the sequence number of this figure (starting with Figure 1.1) and *text* is the text you have specified. If the \caption command is used in a table
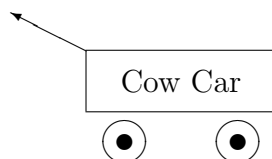
Figure 3.1: An example figure.

Summary of Cows Had	
Year	Number of Cows
1990	57
1991	80
1992	199

Table 3.1: An example table.

Summary of Cows Had	
Year	Number of Cows
1990	57
1991	80
1992	199

Table 3.2: Same example table but with an unnecessarily long name so as to cause it to go to multiple lines in the List of Figures.

environment (see Section 3.3), you will get "Table *M.N*: *text*" where *M* is the chapter number and *N* is the sequence number of this table (starting with Table 1.) and *text* is the text you have specified.

One important thesis style note (see [2]) is that the captions in figures *and* tables should come *after* the figure/table. This is different than in previous format specifications from the Graduate School.

3.2   Figures in LATEX

Figures are included in LATEX using the `figure` environment:

```
\begin{figure}
stuff for your figure
\caption{Description of your figure}
\end{figure}
```

Normally it is a pain to draw figures using TEX/LATEX commands. The picture shown in Figure 3.1 was produced using the `picture` environment.

3.2.1 "Pasting" Existing Figures in LATEX

Occasionally, you will want/need to include figures and pictures generated by other people. To do this, you will basically want to have LATEX leave some blank space for you and then (after the document is printed), use a copy machine to "paste" your figure into the document. This is easily done by using the `\vspace*` command. This command will leave a specified amount of vertical space in your document. For example, to leave 3 inches of vertical space, you would type

```
\vspace*{3in}
```

If you do make use of someone else's figures, you *must* have written permission from the creator of the figure to use it in your dissertation. *Be sure you have all required permissions before you attempt to turn in your thesis to the graduate school!!* Permission via email is usually adequate.

3.2.2 Postscript figures in LATEX

> Note: This section is written assuming you are using a *PostScript* printer such as those available in CIS and EE. If you are using LATEX 2$_\varepsilon$ in another department, please check with the system staff there to make sure this section applies to you.

A lot of people prefer to generate their pictures using WYSIWYG[1] programs like *idraw, xfig, MacDraw, FrameMaker*, etc. These result in a *PostScript* file which

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[1] *What You See Is What You Get.*

contains the picture. Figures in postscript can also be produced as the output of a graphics program, or as the dump of a window in a windowing system. These can be included in your document using the LaTeX 2_ε package `epsfig`. In the portion where the "*stuff for your figure*" goes, use the `\epsfig` command to include the postscript file. When the document is finally printed on a postscript printer using the `dvips` program, the postscript file will be printed out as part of the document.

The Recommended Method

The recommended method is as follows. It uses the package `epsfig`, and assumes that the postscript file conforms to the *Encapsulated Postscript Script* standards. This calculates the amount of space the figure will take up, and automatically reserves space within the document for the postscript figure. The command `\epsfig` can be used as follows:

```
\epsfig{file=psfilename,width=desiredwidth}
```

An example command would be

```
\epsfig{file=dsmfig.ps,width=4in}
```

where `dsmfig.ps` is the name of the postscript file.

3.3 Tables in LaTeX

Tables are created using the `table` environment:

```
\begin{table}
stuff for your table (using tabular?)
\caption{Description of your table}
\end{table}
```

Most tables are created using the `tabular` environment. Details on using the `tabular` environment can be found in Lamport's LaTeX 2ε book [1]. An example table is shown in Table 3.1.

Of course, you can also use the method of Section 3.2.1 to leave blank space and "paste" in a pre-made table after the document is printed as well.

Chapter 4: Contributions and Future Work

We have successfully shown in Chapter 3 how the problems of having a cow can be solved. A lot of work can still be done in this field so that better and bigger cows can be had. This is a matter which can be pursued by those weeny grad students who have just started their Ph.D.

In reality, this document has been prepared by Manas Mandal and Al Fencl to assist people in using the `osudissert96` class for LaTeX to generate masters theses and doctoral dissertations at the Ohio State University. The relevant files are available from the Department of Computer and Information Science or Electrical Engineering. Also, ask around your department; the files may have already migrated to a computer in your home department.

Keep in mind that this document *is not intended to teach you LaTeX* nor should it be used as such. Lamport's book [1] is a very good introduction to the wonderful world of LaTeX and it would be well worth your while to purchase that book!

It is our sincere hope that the use of this document and the related style files will help you in producing your thesis and/or dissertation. We wish you "Good Luck"!

Appendix A: The Data on Cows

This is the data that was used to produce the table in Table 3.1. In 1990, 57 people had cows. In 1991, 80 people had cows. In 1992, 199 people had cows.

Appendix B: Important commands defined in `osudissert96`

The following is a list of all commands available in `osudissert96`.

```
\author{First Middle Last}
\title{The title of the thesis}
\authordegrees{degree1, degree2}
\unit{Department of Whatever The Name Is}
\degree{Doctor of Philosophy}
\committee{Dissertation}
\advisorname{Name of advisor}  % Possible usage "Prof. Big Dude"
\member{Name of committee member}

\thesis  % this makes it a thesis rather than a dissertation,
         %  similar to the documentclass option [masters] or [ms].

\maketitle

\disscopyright      % or \blankpage

\begin{abstract}
\end{abstract}

\begin{externalabstract}
\end{externalabstract}


\dedication{This is dedicated to \ldots}

\begin{acknowledgements}
\end{acknowledgements}

\begin{vita}
```

```
\dateitem{Important Date}{ Why its important}

\begin{publist}
\researchpubs
\pubitem{Bibliography item (from BibTeX?)}

\instructpubs
\pubitem{Bibliography item (from BibTeX?)}
\end{publist}

\begin{fieldsstudy}
\majorfield*          % which uses \unit above
% \majorfield{Your Major Field}
\begin{studieslist}
\studyitem{Topic 1}{Prof.\ 1}
\studyitem{Topic 2}{Prof.\ 2}
\studyitem{Topic 3}{Prof.\ 3}
\end{studieslist}
%% Note:  If there were only one field of study, the following list
%%        would best be done using the following command:
%%  \onestudy{Only Topic}{Only Professor}
\end{fieldsstudy}

\end{vita}
```

Bibliography

[1] Leslie Lamport. *LaTeX : A Document Preparation System*. Addison-Wesley, Second edition, 1994.

[2] Graduate School. Guidelines for Preparing and Submitting Theses, Dissertations, and D.M.A. Documents. In *The 1995–1996 Graduate Student Handbook*, pages 83–130. The Ohio State University, 1996.

[3] B. Simpson and H. Simpson. "Milking a Cow". *Journal of Dairy Science*, 00(2):277–287, February 1900.

[4] M. Simpson and H. Simpson. "On having a Cow". *Applied Gnarly Cows*, 99(9):9–99, Sept. 1999.