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Doctoral Dissertation
Doctoral Program in Energy Engineering (29.th cycle)

Writing your Doctoral Thesis with L^AT_EX

This document is an example of what you can do
with the TOPtesi class

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* * * * *

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February 29, 2123

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I hereby declare that, the contents and organisation of this dissertation constitute my own original work and does not compromise in any way the rights of third parties, including those relating to the security of personal data.

.....
Mario Rossi
Turin, February 29, 2123

Summary

This is where you write your abstract ... (Maximum 4000 characters, i.e. maximum two pages in normal sized font, typeset with the thesis layout).

The abstract environment is also available, but `\summary` is preferred because it generates an un-numbered chapter. The abstract environment is more suitable for articles and two column typesetting without a separate title page.

Acknowledgements

And I would like to acknowledge ...

Acknowledgements are mandatory when people outside the academic institution supported the development of the research that was performed in order to reach the conclusion of the doctorate program.

*I would like to dedicate
this thesis to my loving
parents*

The dedication very seldom is a proper thing to do; in some countries it is very common, while in other countries it is done for imitation of other people habits.

The sentence used above clearly is an example of something very common, but it is useless. Of course we all love our beloved parents, but it is not necessary to “engrave it in stone”.

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Chapter 1

My third chapter

You should break your thesis up into nice, bite-sized sections and subsections. \LaTeX automatically builds a table of contents by looking the `\chapter{}`, `\section{}` and `\subsection{}` commands you write in the source.

The Table of Contents should only list the sections to three (3) levels. A `chapter{}` is level zero (0). A `\section{}` is level one (1) and so a `\subsection{}` is level two (2). In your thesis it is likely that you will even use a `subsubsection{}`, which is level three (3). The depth to which the table of contents is formatted is set within the `TOPtesi.cls` class. If you need this changed, you can do it in the example source file `toptesi-scudo-example.tex` model.

1.1 First section of the third chapter

And now I begin my third chapter here ...

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

Let us suppose that the noumena have nothing to do with necessity, since knowledge of the Categories is a posteriori. Hume tells us that the transcendental unity of apperception can not take account of the discipline of natural reason, by means of analytic unity. As is proven in the ontological manuals, it is obvious that the transcendental unity of apperception proves the validity of the Antinomies; what we have alone been

able to show is that, our understanding depends on the Categories. It remains a mystery why the Ideal stands in need of reason. It must not be supposed that our faculties have lying before them, in the case of the Ideal, the Antinomies; so, the transcendental aesthetic is just as necessary as our experience. By means of the Ideal, our sense perceptions are by their very nature contradictory.

As is shown in the writings of Aristotle, the things in themselves (and it remains a mystery why this is the case) are a representation of time. Our concepts have lying before them the paralogisms of natural reason, but our a posteriori concepts have lying before them the practical employment of our experience. Because of our necessary ignorance of the conditions, the paralogisms would thereby be made to contradict, indeed, space; for these reasons, the Transcendental Deduction has lying before it our sense perceptions. (Our a posteriori knowledge can never furnish a true and demonstrated science, because, like time, it depends on analytic principles.) So, it must not be supposed that our experience depends on, so, our sense perceptions, by means of analysis. Space constitutes the whole content for our sense perceptions, and time occupies part of the sphere of the Ideal concerning the existence of the objects in space and time in general.

1.1.1 First subsection in the first section

...and some more

As we have already seen, what we have alone been able to show is that the objects in space and time would be falsified; what we have alone been able to show is that, our judgements are what first give rise to metaphysics. As I have shown elsewhere, Aristotle tells us that the objects in space and time, in the full sense of these terms, would be falsified. Let us suppose that, indeed, our problematic judgements, indeed, can be treated like our concepts. As any dedicated reader can clearly see, our knowledge can be treated like the transcendental unity of apperception, but the phenomena occupy part of the sphere of the manifold concerning the existence of natural causes in general. Whence comes the architectonic of natural reason, the solution of which involves the relation between necessity and the Categories? Natural causes (and it is not at all certain that this is the case) constitute the whole content for the paralogisms. This could not be passed over in a complete system of transcendental philosophy, but in a merely critical essay the simple mention of the fact may suffice.

1.1.2 Second subsection in the first section

...and some more ...

Therefore, we can deduce that the objects in space and time (and I assert, however, that this is the case) have lying before them the objects in space and time. Because of our necessary ignorance of the conditions, it must not be supposed that, then, formal logic (and what we have alone been able to show is that this is true) is a representation

of the never-ending regress in the series of empirical conditions, but the discipline of pure reason, in so far as this expounds the contradictory rules of metaphysics, depends on the Antinomies. By means of analytic unity, our faculties, therefore, can never, as a whole, furnish a true and demonstrated science, because, like the transcendental unity of apperception, they constitute the whole content for a priori principles; for these reasons, our experience is just as necessary as, in accordance with the principles of our a priori knowledge, philosophy. The objects in space and time abstract from all content of knowledge. Has it ever been suggested that it remains a mystery why there is no relation between the Antinomies and the phenomena? It must not be supposed that the Antinomies (and it is not at all certain that this is the case) are the clue to the discovery of philosophy, because of our necessary ignorance of the conditions. As I have shown elsewhere, to avoid all misapprehension, it is necessary to explain that our understanding (and it must not be supposed that this is true) is what first gives rise to the architectonic of pure reason, as is evident upon close examination.

First subsub section in the second subsection

...and some more in the first sub-sub section otherwise it all looks the same doesn't it? Well we can add some text to it ...

Remember: each level may contain sublevels, but the latter must be at least two, otherwise subsectioning is useless. The things in themselves are what first give rise to reason, as is proven in the ontological manuals. By virtue of natural reason, let us suppose that the transcendental unity of apperception abstracts from all content of knowledge; in view of these considerations, the Ideal of human reason, on the contrary, is the key to understanding pure logic. Let us suppose that, irrespective of all empirical conditions, our understanding stands in need of our disjunctive judgements. As is shown in the writings of Aristotle, pure logic, in the case of the discipline of natural reason, abstracts from all content of knowledge. Our understanding is a representation of, in accordance with the principles of the employment of the paralogisms, time. I assert, as I have shown elsewhere, that our concepts can be treated like metaphysics. By means of the Ideal, it must not be supposed that the objects in space and time are what first give rise to the employment of pure reason.

Second subsub section in the second section

And this indeed is another subsection, so they are at least two.

1.1.3 Third subsection in the first section

...and some more ...

First subsub section in the third subsection

...and some more in the first sub-sub section otherwise it all looks the same doesn't it? well we can add some text to it and some more ...

As is evident upon close examination, to avoid all misapprehension, it is necessary to explain that, on the contrary, the never-ending regress in the series of empirical conditions is a representation of our inductive judgements, yet the things in themselves prove the validity of, on the contrary, the Categories. It remains a mystery why, indeed, the never-ending regress in the series of empirical conditions exists in philosophy, but the employment of the Antinomies, in respect of the intelligible character, can never furnish a true and demonstrated science, because, like the architectonic of pure reason, it is just as necessary as problematic principles. The practical employment of the objects in space and time is by its very nature contradictory, and the thing in itself would thereby be made to contradict the Ideal of practical reason. On the other hand, natural causes can not take account of, consequently, the Antinomies, as will easily be shown in the next section. Consequently, the Ideal of practical reason (and I assert that this is true) excludes the possibility of our sense perceptions. Our experience would thereby be made to contradict, for example, our ideas, but the transcendental objects in space and time (and let us suppose that this is the case) are the clue to the discovery of necessity. But the proof of this is a task from which we can here be absolved.

Second subsub section in the third subsection

...and some more in the second sub-sub section otherwise it all looks the same doesn't it? well we can add some text to it ...

Thus, the Antinomies exclude the possibility of, on the other hand, natural causes, as will easily be shown in the next section. Still, the reader should be careful to observe that the phenomena have lying before them the intelligible objects in space and time, because of the relation between the manifold and the noumena. As is evident upon close examination, Aristotle tells us that, in reference to ends, our judgements (and the reader should be careful to observe that this is the case) constitute the whole content of the empirical objects in space and time. Our experience, with the sole exception of necessity, exists in metaphysics; therefore, metaphysics exists in our experience. (It must not be supposed that the thing in itself (and I assert that this is true) may not contradict itself, but it is still possible that it may be in contradictions with the transcendental unity of apperception; certainly, our judgements exist in natural causes.) The reader should be careful to observe that, indeed, the Ideal, on the other hand, can be treated like the noumena, but natural causes would thereby be made to contradict the Antinomies. The transcendental unity of apperception constitutes the whole content for the noumena, by means of analytic unity.

1.2 Second section of the third chapter

and here I write more ...

By virtue of natural reason, our ampliative judgements would thereby be made to contradict, in all theoretical sciences, the pure employment of the discipline of human reason. Because of our necessary ignorance of the conditions, Hume tells us that the transcendental aesthetic constitutes the whole content for, still, the Ideal. By means of analytic unity, our sense perceptions, even as this relates to philosophy, abstract from all content of knowledge. With the sole exception of necessity, the reader should be careful to observe that our sense perceptions exclude the possibility of the never-ending regress in the series of empirical conditions, since knowledge of natural causes is a posteriori. Let us suppose that the Ideal occupies part of the sphere of our knowledge concerning the existence of the phenomena in general.

By virtue of natural reason, what we have alone been able to show is that, in so far as this expounds the universal rules of our a posteriori concepts, the architectonic of natural reason can be treated like the architectonic of practical reason. Thus, our speculative judgements can not take account of the Ideal, since none of the Categories are speculative. With the sole exception of the Ideal, it is not at all certain that the transcendental objects in space and time prove the validity of, for example, the noumena, as is shown in the writings of Aristotle. As we have already seen, our experience is the clue to the discovery of the Antinomies; in the study of pure logic, our knowledge is just as necessary as, thus, space. By virtue of practical reason, the noumena, still, stand in need to the pure employment of the things in themselves.

The reader should be careful to observe that the objects in space and time are the clue to the discovery of, certainly, our a priori knowledge, by means of analytic unity. Our faculties abstract from all content of knowledge; for these reasons, the discipline of human reason stands in need of the transcendental aesthetic. There can be no doubt that, inasmuch as the Ideal relies on our a posteriori concepts, philosophy, when thus treated as the things in themselves, exists in our hypothetical judgements, yet our a posteriori concepts are what first give rise to the phenomena. Philosophy (and I assert that this is true) excludes the possibility of the never-ending regress in the series of empirical conditions, as will easily be shown in the next section. Still, is it true that the transcendental aesthetic can not take account of the objects in space and time, or is the real question whether the phenomena should only be used as a canon for the never-ending regress in the series of empirical conditions? By means of analytic unity, the Transcendental Deduction, still, is the mere result of the power of the Transcendental Deduction, a blind but indispensable function of the soul, but our faculties abstract from all content of a posteriori knowledge. It remains a mystery why, then, the discipline of human reason, in other words, is what first gives rise to the transcendental aesthetic, yet our faculties have lying before them the architectonic of human reason.

1.3 In Closing

You have reached the end of this mini-guide. You can now rename or overwrite this PDF file and begin writing the rest of your thesis. The easy work of setting up the structure and framework has been taken care of for you. It's now your job to fill it out!

Good luck and have fun!

Appendix A

How to install L^AT_EX

These installing instructions are typical, but who prepared this file did not check their validity; the author of this example uses a Mac with OS X; he can confirm that the instructions given below for this platform are correct, but he cannot honestly guarantee the same correctness for the other platforms.

Windows OS

Complete TeXLive T_EX distribution

1. Download the TeXLive ISO from
<https://www.tug.org/texlive/>
and open it by simply double clicking on its name in an Explorer window.
2. If you don't have Win8 or higher do the following.
 - (a) Download WinCDEmu from
<http://wincdemu.sysprogs.org/download/>
 - (b) To install Windows CD Emulator follow the instructions at
<http://wincdemu.sysprogs.org/tutorials/install/>
 - (c) Right click the iso and mount it using the WinCDEmu as shown in
<http://wincdemu.sysprogs.org/tutorials/mount/>
3. If you have Win8 or higher open your the ISO image as if it were a real mounted disk, and run setup.pl.

Complete MikTeX - T_EX distribution

1. Download Complete-MiK_TE_X (32bit or 64bit) from
<http://miktex.org/download>

2. Run the installer

Textstudio - \TeX editor

1. Download TexStudio from
<http://texstudio.sourceforge.net/#downloads>
2. Run the installer

Mac OS X

MacTeX - \TeX distribution

1. Download the file from
<https://www.tug.org/mactex/>
2. Double click to run the installer and answer its questions. It does the entire configuration, sit back and relax.

TeXShop or TexStudio - \TeX editors

1. Installing MacTeX gives you the opportunity to work with a Mac specific \TeX editor, TeXShop; double click on its app in `~/Library/TeX/`; configure the launch bar to keep its icon to remain in the launch bar; set the TeXShop Preferences so as to have the UTF-8 encoding as the default one for editing and saving source files.
2. If you are accustomed to different styled editors, download TexStudio from
<http://texstudio.sourceforge.net/#downloads>
3. Extract, Start, configure the launch bar so as to permanently keep its icon.

Unix/Linux

Complete TeXLive - \TeX distribution

Getting the distribution:

TeXLive can be downloaded from
<http://www.tug.org/texlive/acquire-netinstall.html>. Or a TeXLive ISO file may be downloaded from the same location. Follow the instructions given in the same Web site; Linux distributions are too different to give here a single set of instructions valid for any incarnation of Linux.

For Debian compliant Linux versions see the next section.

Debian

A Debian compliant TeXLive is provided by most Linux operating systems; you can use (rpm, apt-get, yum, dots) to get TeXLive packages; pay attention to download the complete set of different packages into which the Debian compliant Linux TeXLive distribution is subdivided.

Fedora/RedHat/CentOS:

```
sudo yum install texlive
sudo yum install psutils
```

SUSE:

```
sudo zypper install texlive
```

Debian/Ubuntu:

```
sudo apt-get install texlive texlive-latex-extra
sudo apt-get install psutils
```

Pay attention to this substantial difference; TeXLive is a very lively maintained distribution; there are daily upgrades of existing packages and some new packages every week. The TeXLive distribution installed from a CTAN archive or mirror is updated almost every day; nobody needs to upgrade his/her installation everyday, but it is a good policy to do this simple operation (by means of the installed program `tlmgr` GUI) every week or so; twice a month is the suggested upgrading frequency.

The Debian compliant installation gets upgraded by the Debian consortium before being released to the users; this takes place every few months, in any case at least once a year. The Debian installation therefore lacks the `tlmgr` GUI and the user can only explore the Debian repositories to find out if there exists an updated TeXLive version.

In any case there is an article on TUGboat (the official magazine of the international TeX Users Group) that explains how to install the CTAN TeXLive version ([[art:GregorioTUB-ubuntu](#)]¹) on Linux platforms, with particular attention to the Debian compliant operating systems. This CTAN installation can live side by side with the Debian one; the former

¹In spite of being published in 2011, the article is till valid, even if sometimes a few details on Linux platforms have changed. You can download this article from this link: <https://www.tug.org/TUGboat/tb32-1/tb100gregorio.pdf>. An Italian version of this article can be downloaded from: <http://profs.sci.univr.it/~gregorio/texlive-ubuntu.pdf>

for actual typesetting, the latter for satisfying certain Debian dependencies. It is not mandatory to use the CTAN installation on Debian platforms, but it is strongly suggested in accordance with the different updating/upgrading policies followed by the CTAN maintainers compared to the Debian ones.

Appendix B

Title of the second appendix

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

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As is shown in the writings of Aristotle, the things in themselves (and it remains a mystery why this is the case) are a representation of time. Our concepts have lying before them the paralogisms of natural reason, but our a posteriori concepts have lying before them the practical employment of our experience. Because of our necessary ignorance of the conditions, the paralogisms would thereby be made to contradict, indeed, space; for these reasons, the Transcendental Deduction has lying before it our sense perceptions. (Our a posteriori knowledge can never furnish a true and demonstrated science, because, like time, it depends on analytic principles.) So, it must not be

supposed that our experience depends on, so, our sense perceptions, by means of analysis. Space constitutes the whole content for our sense perceptions, and time occupies part of the sphere of the Ideal concerning the existence of the objects in space and time in general.

As we have already seen, what we have alone been able to show is that the objects in space and time would be falsified; what we have alone been able to show is that, our judgements are what first give rise to metaphysics. As I have shown elsewhere, Aristotle tells us that the objects in space and time, in the full sense of these terms, would be falsified. Let us suppose that, indeed, our problematic judgements, indeed, can be treated like our concepts. As any dedicated reader can clearly see, our knowledge can be treated like the transcendental unity of apperception, but the phenomena occupy part of the sphere of the manifold concerning the existence of natural causes in general. Whence comes the architectonic of natural reason, the solution of which involves the relation between necessity and the Categories? Natural causes (and it is not at all certain that this is the case) constitute the whole content for the paralogisms. This could not be passed over in a complete system of transcendental philosophy, but in a merely critical essay the simple mention of the fact may suffice.

This Ph.D. thesis has been typeset by means of the \TeX -system facilities. The typesetting engine was \LaTeX . The document class was `toptesi`, by Claudio Beccari, with option `tipotesi=scudo`. This class is available in every up-to-date and complete \TeX -system installation.