

## 1

# Introduction

This book is about the overview of the article-based thesis. It is written for graduate students mainly in the ‘hard’ sciences, such as biology, medicine and technology. The best time to read this book would be when you are finishing your individual papers.

However, you must find out at an early stage whether your university allows you to use the article-based format. If not, you have to write a traditional monograph thesis. Then, the contents of this book would be helpful to you, as well. Listed below are those parts that are also valid for the traditional monograph.

Front cover picture  
Title  
Abstract  
Quotations  
Abbreviations  
Acknowledgement  
General introduction  
Aims

General discussion  
Copyright

To a certain extent, the content of the methods and results sections could also prove beneficial.

PROOF

## 2

# Compilation – the article-based thesis

This chapter is a review of the article-based thesis, also called *compilation* thesis. The compilation is increasingly encouraged, especially in the hard sciences such as biology, medicine, and technology.

## Compilations

Compilations are of two types. In one, the reprinted articles are appended to an overall summary of their content, here called the *Scandinavian model*. In the other, the reprinted articles are sandwiched between introductory and concluding chapters, here called the *sandwich format*.\*

## Scandinavian model

Common to theses of the Scandinavian model is that an overall summary (overview) is followed by research papers – bound together in a single volume. Published articles are reproduced as

\* A *sandwich* refers to two slices of bread with a layer of food between them, named after the inventor, the fourth Earl of Sandwich (1718–1792).

exact copies of the articles as they appear in the publishing journal (including title pages with original letterheads, logotypes, typefaces, and so on) – in short, as reprints; papers *in press* are reproduced as reprints.

In contrast with the research papers, which are highly structured, the overview of the Scandinavian type of compilation has no formula for arranging its various parts, not even regarding which parts to include.

### *A basis for discussion*

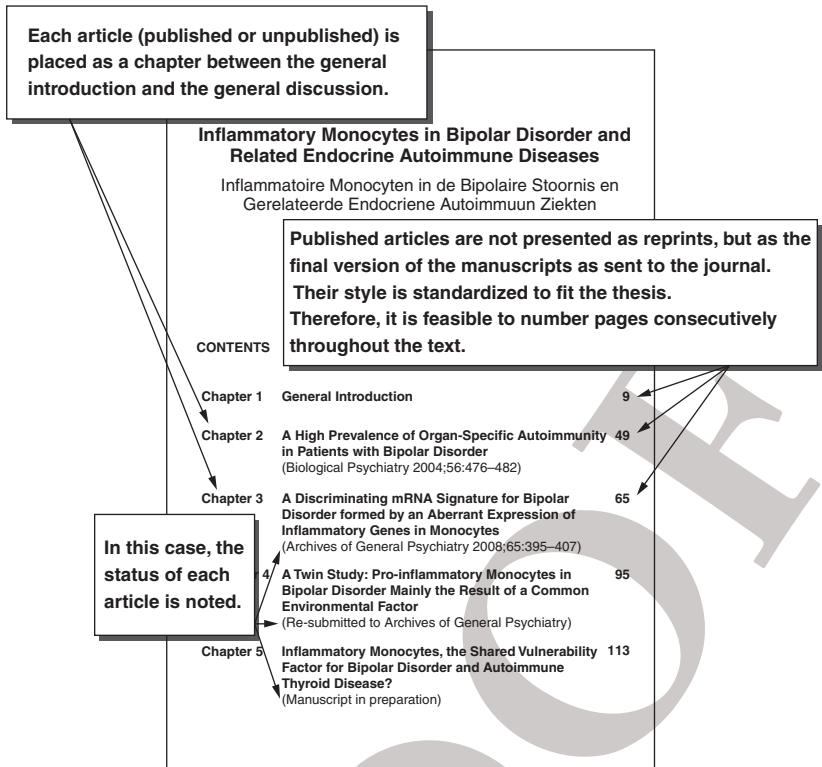
In this book I suggest a scheme (see *Contents*) based on real examples gathered from a large number of compilations of the Scandinavian model. This layout can serve as a basis for the discussion. I emphasize, however, that the sections could be rearranged, for example, *Acknowledgements*, the part most read, could be placed first, and some parts could be excluded, such as *Thesis at a glance* and *Contributors*, as appropriate locally.

## **Sandwich – the format used in the rest of the world**

Outside Scandinavia, the most commonly used format for an article-based thesis worldwide is the sandwich. The articles appear as chapters between the general introduction and the general discussion. If the articles are published or accepted for publication, these chapters are usually the final version of the manuscript as sent to the journal (Figure 2.1).

### *Illustrations*

In the sandwich format, you can use part of the title page of each chapter as an illustration. The following example (Figure 2.2) is taken from a thesis at National University in Australia, where this format is called *thesis by publication*.



**Figure 2.1** Part of the *contents* section of a thesis in the format of a sandwich. (Reproduced with permission from Roos Padmos, [1] Erasmus University, the Netherlands.)

## Sandwich format vs. Scandinavian model

The sandwich format and the Scandinavian model both have advantages. The sandwich format has usually the following benefits. (a) The articles (chapters) are standardized to fit the thesis, which makes it look like a book. (b) Parts of the title pages can serve as illustrations. In the Scandinavian model, your published articles appear as reprints, looking exactly as do the articles in the published journal, and giving the author a feeling of being in the midst of the scientific production. That is a great feeling.



**Figure 2.2** Each of six chapters of the thesis begins with a picture of the swift parrot and a pertinent citation, as in this title page. (Reproduced from Sandra Saunders, [2] with permission from the author and the painter, E. E. Gostelow.)

Besides these differences, the content of the book itself is mainly applicable to both formats – if not otherwise stated. Well, now, let’s begin.

# 3

## Front cover illustration

Every thesis should have an illustration on the front cover. If you choose to have a picture of a human being, you must have permission\* to do so and, in addition, you usually have to disguise the person. You can do that by showing the individual in silhouette, as in the following cover illustration (Figure 3.1).

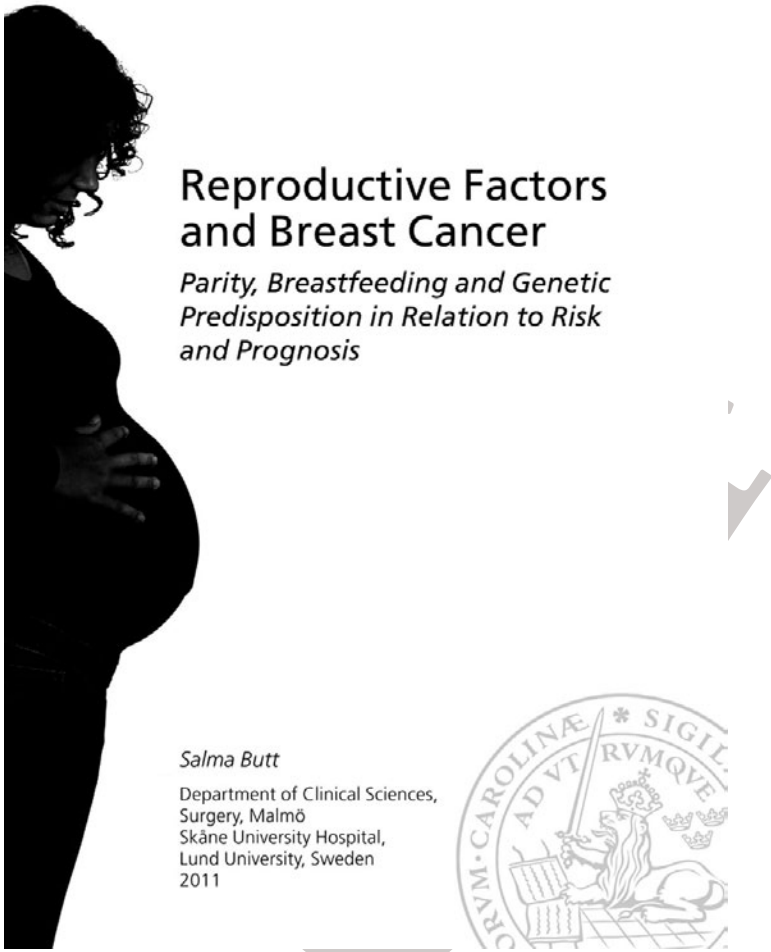
Instead of showing a patient on the cover, you can depict what symptoms a person has from the disease studied, as shown in Figure 3.2, symbolically depict the topic of the thesis (Figure 3.3), or illustrate how the treatment functions (Figure 3.4).

In the legend, placed on one of the initial pages, the author explains what the illustration is meant to say, not only what it shows.

### Cover:

The cover picture illustrates the sun, the skin compartments ... and the chemical structure of vitamin D3. Ultraviolet ... radiation stimulates the production of vitamin D3 in the stratum basale [a deep layer of the skin].

\* See Chapter 18, 'Photo of a human being', Figures 18.3 and Figures 18.4.



**Figure 3.1** The author of this thesis has solved the problem of camouflaging the pregnant woman by showing her in silhouette. Even her mother probably could not identify her. Of course, you must have her written permission. This is a fine illustration of the subject of the thesis. (Reproduced with permission from the author Salma Butt, [3] the designer Maria Näslund, Formfaktorn, and the photographer Thomas Prahll.)

Do not forget to credit the person who made the illustration. If you yourself made it, say so, ‘The front cover picture drawn by me [not “by the author”]. The drawing shows ... and is meant to say...’.

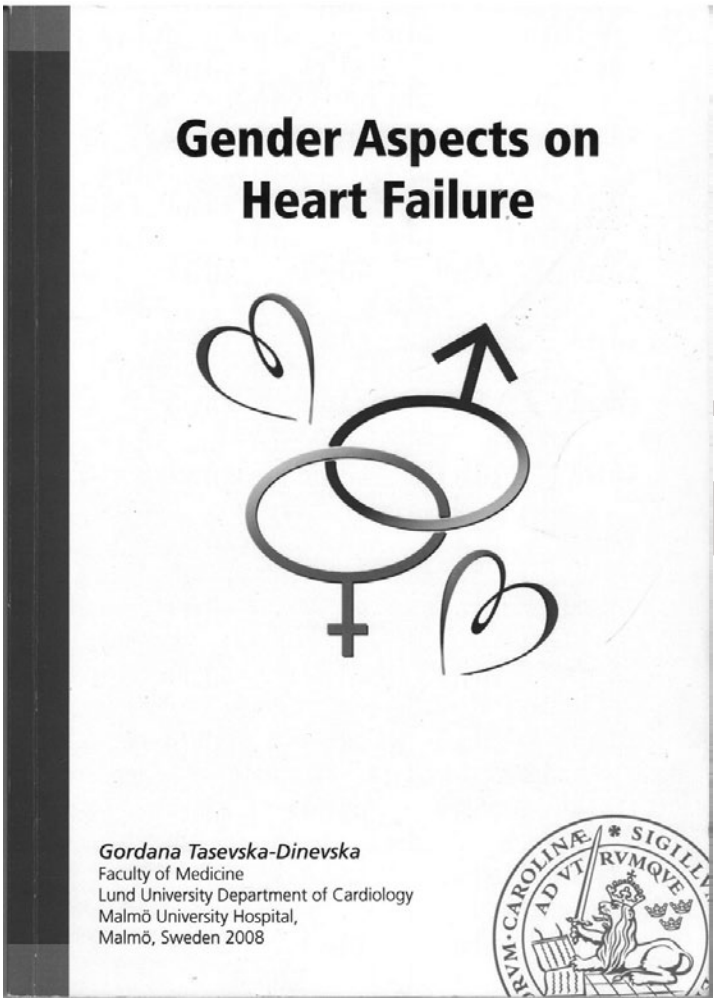




**Figure 3.2** Alzheimer disease was the subject of this thesis. The cartoon speaks for itself in balloons. Note the error 'take at [sic] short walk'. (Reproduced from Sofia Holback, [4] with permission from the author and the artist, motorcycle policeman Stefan Andén, Popcop © 2008.)

However, in biology and technology, no ethical aspects usually have to be considered when putting, in pictorial form, the subject of the thesis on the front cover, as shown in Figures 3.5 and Figures 3.6.

An approach that is always available is shown in Figure 3.7. This could be regarded as an exception to the rule of not using a picture for decoration only, in scientific writing. This exception is also valid, to a certain extent, for the preceding illustrations of this chapter.



**Figure 3.3** A symbolic drawing with reference to the subject studied. (Reproduced with permission from Gordana Tasevska-Dinevska. [5])