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## Organizing a Chapter or Paper: the Micro-Structure

George said: 'You know we are on the wrong track altogether. We must not think of the things we could do with, but only of the things that we can't do without.'

*A character in Jerome K. Jerome's Three Men in a Boat* <sup>1</sup>

The building blocks of a completed thesis are chapters. Yet if these blocks are to hold together they must themselves be effectively structured internally, so that they can bear a load rather than crumbling away under pressure. A first step then is to divide the chapter into parts. In addition, two elements of designing internal structure are commonly mishandled: devising headings and subheadings to highlight your organizing pattern; and writing the starts and ends of the chapter and its main sections. I discuss these three issues in turn.

### Dividing a chapter into sections

The human mind is only capable of absorbing a few things at a time.

*Stanislaw Lem* <sup>2</sup>

Nothing is particularly hard if you divide it into small parts.

*Henry Ford* <sup>3</sup>

A chapter of 10,000 words is impossible for you to hold in your head as an author unless it can be split into shorter component parts linked by a common theme. It is similarly difficult for readers to follow your argument without the cues provided by 'organizers', especially the sections of the chapter and their associated armoury of headings, which should convey in condensed form a sense of the argument being made. Fixing the sections to be used in any one chapter is normally straightforward, since chapters are much shorter and simpler than whole theses. But the scheme which you adopt has to work not just for this chapter but across all your chapters in a recognizably similar way, unless readers are to start anew in understanding a new scheme of organizers with each fresh chapter.

Whenever you are chunking up text, it is a basic principle to try and make sure that the sections you create are similarly sized. Dividing the text as evenly as possible generates consistent and hence more accurate expectations amongst readers about how long each section will be. Just as thesis chapters should be around 10,000 words (plus or minus 2000 words), so the sections inside chapters should all be approximately the same length and have the same importance for your argument. How many sections you need depends on the precise length of your chapter, but a rough rule of thumb is that you will need a major heading to break up the text every 2000 to 2500 words, or every seven to eight pages of A4 paper typed double-spaced. Both you as the author and readers will be able to hold this much information in the forefront of their attention at any one time, but will quickly lose track if sections get larger. And with only four or at most five main headings to keep track of in each chapter readers should have a clear idea of its internal structure. If you have more than (say) seven sections then readers will definitely find it harder to keep track of how the whole chapter is structured. And main sections shorter than around 2000 words will often seem bitty or insubstantial.

So in a standard-length chapter of 10,000 words you need four main sections. The titles for these sections are called 'first order' headings, because they are the top organizers, the ones including most text within each chapter. You can show their importance to readers graphically in three ways: by numbering them (for instance, 3.1, 3.2, and so on); by using a large font

size and format that makes them stand out clearly from the surrounding text; and by locating them prominently, for instance on an otherwise blank line of their own and centred on the page. For the smaller subsections inside each main part of the chapter you will also need a set of 'second order' headings. You can signal them as less important than first-order headings, but more important than ordinary text, by: using an intermediate-sized font; using a less prominent font format; locating them less conspicuously (for instance on an otherwise blank line, but placed at the left-hand margin); and by not numbering them. In some cases you may also need some 'third order' subheadings, which are really only groupings of paragraphs. They are signalled by using a less prominent font and emphasis than the second-order headings; of course with no numbers; and located so that they are less conspicuous (for instance, at the left-hand margin, but with a main text paragraph starting adjacent to it on the same line). Overall, the size, emphasis and location of subheadings should be most prominent for first-order headings (which are the only numbered ones), less for second-order subheads, and less again for third-order subheads (when they are present). Of course, all headings should be more noticeable than the ordinary text. In this way readers are given a clear visual signal of where each section stands in the overall argument structure of the chapter.

It is worth trying to avoid regularly using four orders of subheading, which could be complex for readers to follow and hard for you to manage. It is also best to let the headings express the hierarchy of ideas, rather than to try frequently indenting text from the left-hand margin, as some organizer programs on word-processing packages will routinely do. Start each new paragraph which comes immediately after a subheading at the left-hand margin, and thereafter use a tab to make paragraph starts stand out. Short indented passages of text are used for lists of points, with bullets or dashes in front of them. They can also occasionally allow you to avoid introducing fourth-order subheadings, where it is convenient so to do. In this use, you can flexibly group together sets of paragraphs in an *ad hoc* way into indented passages, without burdening readers with any further elaboration of your subheadings system. (The only other reason for indenting passages of text should be for quotations longer

than 30 words. Run on smaller quotations in the text within single quotation marks, 'like this'.)

In addition to its component main sections each chapter will need a relatively brief, untitled section of lead-in text at the beginning, and a short section of lead-out text labelled 'Conclusions' at the end. Each of these smaller bits should be between 200 and around 1000 words only. Readers will universally expect that the text placed at the very beginning of each chapter is lead-in material, so you do not need to label it 'Introduction'. (Using this redundant subheading can often be a quick way to make your overall scheme of headings and sections start to malfunction badly: see below.) However, your lead-out materials will always need a heading to mark them out, preferably at second-order level so that readers will not expect to find here a longer section than they will actually get. Thus in outline my recommended complete schema of sections for a chapter (let's say Chapter 3) is:

<b>Introductory text</b> 200 to 1000 words	[no subhead]
<b>3.1 First main section</b> 2000 to 2500 words	[first-order heading]
<b>3.2 Second main section</b> 2000 to 2500 words	[first-order heading]
<b>3.3 Third main section</b> 2000 to 2500 words	[first-order heading]
<b>3.4 Fourth main section</b> 2000 to 2500 words	[first-order heading]
<b>Conclusions</b> 200 to 1000 words	[second-order subhead]

Since this pattern looks very straightforward, it may seem surprising that authors ever have difficulties with partitioning chapters. But in fact three mistakes are commonplace: under-organizing chapters; overorganizing them; and organizing different chapters in different ways.

(i) The simplest way of disorganizing a chapter is to *under-organize* it, perhaps including headings but only fake ones that do no useful work. This effect comes about because authors often create sections which are much longer or shorter than others, and then they assign the same order of headings to these dissimilar pieces of text, thereby mis-signalling readers and creating inappropriate expectations. Using first-order headings for the lead-in and lead-out materials virtually guarantees this outcome. It is very common to find a chapter (let's say, chapter 4) organized like this:

4.1	Introduction 300 words	[first-order heading]
4.2	First main section 1500 words	[first-order heading]
4.3	Second main section 12,000 words	[first-order heading]
4.4	Conclusions 500 words	[first-order heading]

Several things have gone wrong here. Titling the lead-in and lead-out materials as if they were main sections will generate expectations amongst readers that these are substantial bits of text when they are not. The middle two main sections are real ones, but they are completely unbalanced. Section 4.3 is eight times longer than section 4.2 (as well as being 40 times longer than section 4.1 and 24 times longer than section 4.4). So when readers encounter a first-order heading here they have no idea what to expect. It might be a section as short as 300 words or as long as 12,000 words. These headings will look well worked out on the thesis contents page, but in fact they do not effectively chunk up or organize the chapter at all. Virtually all the text (85 per cent) is actually in section 4.3, which at this length will be impossible for readers to follow or for the author to organize effectively.

(ii) It is also possible to *overorganize* a chapter by having *too many* levels of headings; making them too similar in their font size, appearance, and location; and then overnumbering them. For instance, if you split up a 10,000-word chapter into

12 sections, and have three or four second-order subheadings in each section, plus a scattering of third-order subheads as well, then readers will encounter 40 headings in total, effectively one every 250 words, or two per page. If the headings look alike (using similar fonts and occupying the same positions on the page) then confusion is guaranteed.

Text that has been overfragmented in this way often comes with a complicated numbering system that is supposed to provide guidance for readers. All modern word-processing packages have 'outliner' facilities which allow you to automatically create a numbered set of paragraphs in many different formats, often with varying levels of indentation as well. These features are mainly designed for use in short reports. The outlining facility can also be useful for making conventional notes when ploughing through a very hierarchic textbook or a similar source. After using this facility for these purposes in their earlier studies, quite a lot of doctoral students also adopt it for authoring large amounts of text. But applied over a very long text like a doctorate an outliner approach can often be counter-productive and seem like overkill.

In many technical or more mathematical disciplines the number sequence commonly adopted might look like this:

5.1	First-order heading
5.1.1	Second-order heading
5.1.2	Another second-order heading
5.1.2.1	Third-order subheading
5.1.2.2	Another third-order subheading

Alternatively in humanities subjects the same effect is often achieved by mixed-together different letter and number sequences such as this:

5.A	First-order heading
5.A.i	Second-order heading
5.A.ii	Another second-order heading
5.A.ii.a	Third-order subheading
5.A.ii.a	Another third-order subheading

In both these examples the number sequence is overdone and looks ugly and hard to follow. Extending it to fourth-order subheadings includes five or more numbers (such as 5.1.2.1.3, which occurs in some cases): this step sends a very clear signal to readers that you care little or nothing about the accessibility of your text. Readers will find it difficult to tell whereabouts they are in such an overcomplex hierarchy of headings, especially where the headings at different levels look very similar (as in my examples above). Adopting such a schema cannot give cohesion to an argument that has become much too fragmented. Nor can it impart genuine order and hierarchy when an author has not clarified her ideas sufficiently to organize her text in a more considerate manner.

It may also be that authors who adopt complex numbering schemas are actively encouraged by the availability of this device to chop their argument up into ever smaller pieces. Typically they may overdevelop an 'analytic' argument so as to create a 'fruit cocktail' effect, discussed above (on p. 70). They place so much reliance upon the chaining of numbers or symbols at the start of each subsection that their basic intellectual approach alters. They start making too many distinctions, in a kind of 'logic-chopping' manner. For this reason my personal practice has always been to recommend people to number only the main sections of chapters (such as 3.1 or 3.2); and to avoid using headings with more numbers in them (like 3.1.2 or still worse 3.1.2.1). Using numbered headings only for chapter main sections but not for smaller subsections seems to work best for the vast majority of humanities and social sciences PhD theses.

Take a flexible approach to this rule of thumb, however. In the humanities especially, you may want to try and do without *any* numbered sections, if other professional writings in your discipline have a very literary or understated feel. Here you would rely only on the differing font sizes, emphasis and location of various orders of headings to give a clear sense of their hierarchy to readers. At the other end of the spectrum, if your discipline has a strong 'technical writing' style, as some areas of the social sciences do, you may wish to use numbered second-order headings, for subsections within the main chapter sections (that is, numbers like 3.2.2). But it is wise to hold the line here and not to introduce four- or five-number headings

(like 3.1.2.3 or 3.2.3.2.3) for smaller subsections, which will tend to encourage you to use overfragmented modes of exposition. It is also worth remembering that across most disciplines it will be much easier to get thesis material published as a journal paper (or even as a book), the less it seems like a report and the more accessible the text appears. Converting an overnumbered chapter into a paper is not a trivial task. If you have relied on the numbering scheme to give coherence, then you may have to redo all the links from one section to another, and much of the internal signposting in the chapter from scratch, if it is to work as a paper.

(iii) The final common problem with headings occurs when thesis authors do not use the same system of headings across all chapters, but employ different systems at various points. Most inconsistency problems occur because students write up their chapters one at a time, often beginning with a typical literature review which goes over length and becomes difficult to organize. As they write later chapters so they change their ideas about sections and headings, and start using different schemas, without going back to their earlier work and redoing the headings in the new format. Whatever scheme of headings you arrive at, it must be applied to give the same 'look and feel' throughout.

However, this requirement is quite consistent with the need for your scheme to be flexibly handled, in a way that responds to the nature of each different chapter and section, rather than being implemented in a mechanical or robotic-looking fashion. The system of headings stays the same throughout the main text, but some chapters may not need to use all the elements of the schema. For instance, you might use only first- and second-order headings in shorter chapters, with brief sections. But then you can introduce third-order headings in bigger chapters which have longer sections or which handle more complex material.

Just as a constantly updated rolling synopsis is a useful planning and revising tool, keeping you in touch with what the central argument of your research is really about, so it can be very helpful to maintain an 'extended contents page' showing the current sequence of materials in your thesis. This page may never be included in the final thesis, or used by anyone but

you. Instead its role is to help your planning and your orientation thinking by displaying a synoptic view of how your thesis is organized down to your lowest order of headings and sections. Some authors find it helpful for their extended contents page to include headings and subheads and any numbering used, in the same font and layout as they are shown in the chapters, which may spread the material out over several A4 sheets. Others like to use a more condensed format for the extended contents page, showing differences of emphasis, but in more compressed ways. By keeping the extended contents page on at most a couple of sheets of paper this approach may give an easier overview of the structure of your material.

## Devising headings and subheadings

The best way to inform your reader is to tell them what they are likely to want to know – no more and no less.

Robert J. Sternberg<sup>4</sup>

Good headings should accurately characterize your text. In a very few words they should give readers a helpful advance idea of what is to come in each section or subsection, and wherever possible what your substantive argument will be. Devising effective headings is a difficult art that needs sustained attention from authors. You can tell that the task is complex because in the business world there are highly paid professionals who do nothing else, people like advertising copywriters, newspaper or magazine sub-editors, and Web-site designers. Intellectuals tend to make fun of many of these groups and to see their outputs as non-serious. But the job they do is not as easy as it looks.

Consider the following problem. It is 1989 and the Communist Party of Czechoslovakia has renounced its previous 'leading role in the organs of the state', bringing to an end over 40 years of one-party rule and state socialism, and opening the way for democratization and a transition to a capitalist economy. You are working as a sub-editor for a right-wing British tabloid newspaper, the *Sun*, whose daily audience of 4.3 million

readers is mainly preoccupied with soap opera stars, footballers and the nude pin-up girls on page 3 of the paper. None the less, your editor has decided to lead on the historic Czechoslovakia story to please the right-wing proprietor. You are told to devise a front-page headline, to take up two-thirds of the page, but to use *no more than three words*, and four syllables (given *Sun* readers' limited attention span and linguistic competences). How are you going to get the essence of the story across within these limitations? This is a genuine question, and I would encourage you to get pen and paper now and try to come up with your own answer. In the notes for this chapter I have printed the brilliant solution that the *Sun* actually went with.<sup>5</sup>

The paper's achievement in this case was to give the essence of the whole story in its headline. Of course, tabloid newspapers have to try harder to grab readers' attention than most writers of doctorates. As a thesis author you can allow somewhat more words and many more syllables into your headings than the *Sun*. But the basic goal, of putting the message in the shop window, is just as appropriate for doctoral work. Taking it to the limit here, one approach much used in fairly short business and government reports is to use narrative headings and subheadings, which give a mini-précis of what each section or subsection covers. This style has a lot to commend it. Yet it is rarely used in PhD dissertations, mainly because it could get very wearing if repeated over a long text. Headings and subheadings in doctorates, and in journals and books, are normally much shorter, ranging from one or two words at minimum up to seven or eight words at maximum. Headings for main sections only might be a bit longer if they have two parts separated by a colon. However, subheadings should always stay quite snappy (on one line, without parts). None of these limitations is inconsistent with trying to get as much of the text's key message as possible into the heading or subheading.

There are four common general failings in how PhD and other academic authors title their chapters and sections:

(i) *Non-substantive headings* do little or nothing to cue readers about the line of argument you are making. People often choose headings which consist only of vacuous verbiage or are very formalistic. Some are process-orientated or refer only to the methodological operations you carried out, rather than to

your findings. Some are completely vague. Others tell readers a little about what topic is being covered, but give no clue about what the author wants to say about the topic, what position is being argued, or what the 'bottom-line' or conclusion of the argument may be. This problem is far and away the leading defect with headings in academic theses and publications, especially when authors are using an analytic pattern of explanation. Poor headings often feed into mismanaging readers' expectations, because authors choose very grand or sweeping subheadings to caption small subsections, feeding a sense of disappointment amongst readers. To pick up cases in your own work, look through your extended contents page and test each of your headings for genuine content. Replace those which are formalistic or process-orientated with something more specific and substantive.

(ii) *Interrogative headings* consist solely of questions and end with a question-mark. Some very well-organized students quite late on in their studies have shown me PhD outlines which consist entirely of interrogative headings, sometimes as many as 15 per chapter, with an alleged 'plan' for the thesis as a whole defined by upwards of 150 questions. This approach often looks precise and informative at the planning stage, reflecting specialized knowledge on the author's part. But interrogative questions create only an illusion of professional expertise, for one critical reason. Questions are not answers. It is always much easier to formulate a set of interesting questions about a subject than it is to produce well-evidenced, coherent and plausibly argued answers to them. Most expert readers will be thoroughly familiar already with the kinds of questions one can ask around your thesis topic. They are primarily reading your work to find out what substantive solutions you have come up with. And here a series of interrogative headings obscures things as effectively as vacuous headings, and can be every bit as formalistic. Again check your extended contents page and if you use interrogative headings (ending in ?), replace all of them with 'answer' headings that convey instead your substantive argument.

(iii) *Inaccurate headings*, which actively mislead readers about the content of their accompanying section, occur all the time. They represent a fundamental failure of the key authorial role, to effectively manage readers' expectations. The heading

says that a chapter or section will do A, but instead it does something different, perhaps something close to the author's intentions like C or D, or perhaps something much further away like M or N. This problem can arise in many ways. Authors often set out to do something with a detailed plan, but their text actually turns out to have an inner direction of its own and they then have difficulty in recognizing the fact. Perhaps authors promise readers to evaluate a decision but in the end they do something more modest instead, such as describing the process of reaching that decision. Perhaps they hope initially to make some form of intellectual breakthrough and end up with something more mundane. Often an author's initial headings link so poorly or loosely to what has actually been accomplished in a piece of text that she cannot see that the section is being radically misdescribed, that readers will expect one thing from the heading and get something different from the section text itself.

Combating most of these common problems in finished pieces of work is partly bound up with how far you edit, revise and replan your text, a topic discussed in detail in Chapter 6. But in the planning stages (before you have written out your ideas), it is also important to make sure that your headings describing sections and chapters are as accurate as possible. Look at your extended contents page and check that the fit between headings and what you plan for each section is a close one. Headings should capture the flavour of your substantive argument, but without overselling or overclaiming. The headings and the planned text should be commensurately scaled, and the heading should create only expectations that your text is actually going to meet.

(iv) *Repetitive headings* occur when anxious PhD students keep incanting words from the title of their doctorate in their chapter titles and section headings. Again this is a quick way to confuse and mislead readers, because different headings may tend to blur into each other and chapters and sections will lose a distinctive feel or identity. It is particularly inadvisable to reuse theoretical or thematic concepts taken from your whole thesis title in many different chapter or section headings. You do not achieve linkage by saying mantra words over and over, but by forging a closely connected working argument, whose development can be schematically traced in your headings.

Other instances of repetition may not confuse readers, but instead just make your headings longer and more boring than they need to be. For example, suppose the thesis title makes clear that the author is focusing on Korean post-war musical culture. It would be completely otiose to have later chapter or section headings repeat that the country reference is Korea or that the general time period is post-war. Similarly if a thesis focuses on a particular author or body of work it is unnecessary to have the chapter headings repeat that. Instead they should move on, taking the thesis frame of reference as given and providing more details of what that particular chapter or section is about. It is straightforward to check your extended contents page and make sure that chapter and section headings effectively partner with the thesis title itself, without repeating it.

Repetitive or overly similar headings often arise in the first place because students submit chapters to their supervisors or review committees as separate bits of work on widely spaced occasions. Hence they subconsciously may try to cram more of the thesis self-description into the opening chapter title than is needed. To avoid this problem, get into the habit of always putting your current overall thesis title and the latest version of your short contents page as the frontispiece for each chapter you submit. Your supervisors, advisers or departmental assessors will also be grateful to be given a clear view of where your current piece of work fits within the thesis as a whole. PhD students often blithely assume that their supervisors have a godlike ability to automatically retain a clear view of their overall thesis architecture from previous discussions, normally several weeks earlier. In fact supervisors inherently focus on your thesis a lot less than you do. They have other projects of their own to keep in view, and other PhD students to supervise. So they can only give concentrated attention to your work whenever you submit new chapters. Supervisors often find it very difficult to separate out the layers of different past discussions or to follow all the twists and turns of your thesis planning ideas and changes. Hence they will always appreciate being discreetly reminded of your overall title and current chapter plan.

## Handling starts and finishes

Creations realized at the price of a great deal of work must in spite of the truth appear easy and effortless ... The great rule is to take much trouble to produce things that seem to have cost none.

*Michelangelo Buonarroti* 6

A central task for any author is to manage readers' expectations. But authors are often not fully aware of the number of different ways in which they create expectations. Once you have produced a piece of text, and you are familiar with its every nuance and wrinkle, you may assume that readers will be equally detailed in their approach. It is all too easy to picture readers as scanning your text carefully in the exact sequence that you wrote it, judiciously assigning weight to this factor or that argument, and carefully creating a balanced picture of what is said. But 'real life' readers, those who are not the fictional products of our authorial imaginations, do not operate like that. Instead they treat the text harshly, garnering first impressions quickly from obvious signs and stigmata, and then often coding up what they later read in detail to fit in with that initial frame of reference.

Although readers are famously diverse in their reactions, it is not hard to explain how their first impressions are mostly sourced, or to identify which elements of the text are most productive of expectations. Headings, subheadings and the sectioning of the text are very important, as the two previous sections make clear. Well-organized authors also signal to readers what a chapter or a section will do. They make promises: 'I will show that ...', 'The analysis demonstrates that ...'. These explicit hostages to fortune clearly need careful phrasing. But in addition you will often generate expectations more implicitly. Suppose you assign two-thirds of one chapter's text to aspect P, a fifth to aspect Q, and an eighth to aspect R. Readers will inevitably conclude that in your view P is more important or more interesting than Q, which in turn is more important or interesting than R. And if your literature review waxes lyrical on the defects of previous work, then readers expect that your analysis will do better, will transcend these earlier limitations.



And if you wheel an elaborate theoretical apparatus onstage at great length, or delineate a typology, or introduce your own neologisms – then readers will expect that these elements will justify themselves, will do useful work or create new insights or predictions that could not have materialized without them. How your text uses terminology, the concepts and vocabulary it deploys, and the style cues that you signal as author – all these will be used by readers to try and classify you and your text, to understand where you are coming from, where your scholarly tribal affiliations really lie. If these cues do not fit with your self-classification in the professional scene, or what you later say and do, then readers will receive incompatible messages – and code them as confused authorial purposes. Diagrams, charts and tables are also key attention points. Along with headings these are the items that readers will most quickly identify on a first scan through a piece of text. And like headings these attention points should ideally be independently understandable, because readers will commonly try to make sense of what they say on a first scan, without ploughing into accompanying text in detail (see Chapter 7 below).

It is unrealistic for authors to respond to these points by deploring the laziness or the lack of application or disorderliness of readers, their inability to unwrap your text in the same sequence that you have written it. And it would be naïve to imagine that examiners, however conscientious, will behave in a radically different manner. None of us read academic work like a good novel, ploughing through in one straight line from A to Z. Educated, professional audiences do not suspend disbelief. From the word go, from the first encounter with your arguments, academic readers will get on with criticizing and categorizing your text, trying to place you as an author, trying to find short-cuts to unravel your intent, determined to economize on the time they spend grappling with your thought. And they are right to do so, for this is a rational approach to allocating scarce resources of time and attention.

The most crucial parts of a chapter for generating readers' expectations, for setting up mental frameworks, for getting readers off on the right foot or the wrong foot, are the beginnings and ends of chapters and of sections. And, of course, these are also usually the most difficult passages to write. So here you can ease your difficulties a good deal by having a well-defined checklist or repertoire of things to include and strategies to try. I review: key

elements for setting out on a chapter; beginning and finishing a section; and concluding the chapter as a whole.

### Starting a chapter

Writing down the first few pages of a chapter can take far more time than completing much longer sections of the main body of the text. Partly this is the normal intimidating effect of a blank page or a blank screen, a problem built into the writing process at all times (see Chapter 6). But the problem gains extra intensity here because all authors know implicitly that beginnings are important in conditioning how readers view their work, as well as influencing how their writing will progress and the detailed directions it will take once they are launched into text production. Getting a satisfactory start to a chapter will often be a two-stage process. At the very beginning you need to write quickly a 'working' start, just a piece of lead-in text that gets you going, that helps you start the writing out of your ideas for the chapter. Later, when you have all or much of the text in being, you will probably need to go back and carefully reshape your start to frame what you have actually done.

At either of these stages, however, you must always include four elements in the following sequence:

- a chapter title;
- some form of 'high impact' start element, designed to particularly engage readers' attention;
- a piece of framing text which moves from the start element to some discursive comments on the chapter's main substantive themes, leading up to;
- a set of signposts to readers about the sequence and topic focus of the chapter's main sections (that is, those parts which have first-order headings).

Because of the special importance of starts in conditioning readers' expectations and the author's later progress, I analyse each of these requirements in detail.

A *chapter title* may seem obvious, but it is actually very common to find doctoral students submitting chapters to their supervisors without any title at all. This move makes it harder for supervisors to give useful feedback. It also means that the author has been writing the chapter all the way through without



a clear focusing element to keep her on track. Chapter titles need to be carefully chosen, but this is not a reason to postpone choosing one until the chapter is complete. Choose a working title from the very beginning, which you can then re-evaluate when you have finished. Chapter titles can be somewhat longer than the headings used for sections inside chapters – for instance, it is acceptable to have a two-part heading with a colon in the middle, as I do in some chapters of this book. Remember that chapter titles operate inside the overall thesis title, and so they should not repeat elements of it directly.

A *high impact start* serves to attract readers' attention, to get them immediately engaged with the new chapter. It should set your new slab of text apart from what has gone before, and give it a distinctive 'feel' and character from the outset. In a 'big book' thesis it is very important that each chapter does a particular job which is clearly signalled to readers, and which is different from its neighbours. The chapters need to build up across the whole thesis in a cumulative way, adding new elements of the analysis. They must not seem to readers to repeat, or to go round in circles, or to wander without an obvious pattern across the possible landscape of your topic.

Start paragraphs must be conceived, written and normally rewritten with special care. The opening element (either a sentence, or a set of sentences, or a whole paragraph) should focus on some interesting general aspect or problem that the chapter particularly addresses. Later elements (again sentences or paragraphs) can come down to earth somewhat, feeding into the framing text (see below) which is specific in indicating what the chapter is about. However, the requirements to be interesting and to write with special care pull in different directions here. Most PhD students write their theses too defensively, and hence end up with *safe* but very low-impact starts. Three of the most popular false starts are:

I	'In the previous chapter, I argued that X and Y and Z. [Author may enlarge on this for several sentences, even a whole paragraph.] But there are also other issues of A or B which will be tackled here ...'
II	'In this chapter, I will discuss [repeat the chapter title at more length], in particular the issues of A and B.'
III	'The concept of A [a word mentioned in the chapter title] has been defined by Jones (1989) as "xxx" and by Smith (1998) as "yyy" ...'

In all these cases the capital letters in italics such as A or X stand for specific concepts or arguments in the thesis. False start I is deeply problematic because it makes readers focus not on the new chapter, but on its predecessor. This mis-signalling is almost bound to make them feel that the current chapter only repeats or extends in some small way what has gone before, a very demotivating beginning indeed. In a new chapter, always begin afresh. Never, ever, begin a chapter by looking back, by trying to make retrospective linkages between chapters. These links must instead always be made prospectively, at the very end of the conclusions of the previous chapter (see below). False start II does not actively mis-signal what the new chapter is about. But by only elaborating and repeating the chapter title it will look boring and low energy for readers. If key chapter title words are incanted exactly, often many times in the first few sentences, this start will also seem badly written. False start III is again very low energy, ploughing off immediately into definitions, normally quite boring for professional readers who will have seen this concept many times before. By linking these definitions to other authors, of course, this start also makes your work look derivative and unoriginal from the outset.

The key ways of getting to a better and genuinely high impact start vary a lot, depending on your discipline and type of thesis. Three common choices are: including quotations; introducing a strong example or other striking piece of empirical information; and setting out a paradox or intellectual puzzle.

Strong, memorable *quotations* can often be helpful in getting you over the hurdle of beginning from a blank sheet. In Johanne Goethe's words: 'It is just when ideas are lacking that a phrase is most welcome'.<sup>7</sup> You can integrate the quote into the opening sentence of your chapter. Or a whole-sentence quote can be printed as an epigraph, as at the beginning of chapters and sections in this book. (An epigraph is like a motto or subtitle, placed immediately after the title and above the main text.) If the quote is in the first line or first sentence of your main text then you will have to immediately discuss the theme or issue it raises. But if the quote is an epigraph then it implicitly characterizes the whole chapter (or section) and does not have to be discussed straightaway.

Do not select boring, mundane or anodyne quotes as epigraphs or opening sentence material, especially from contemporary authors working in the same field as you. Useful starting quotes really need to be something like epigrams (witty or striking thoughts cogently expressed in a short space), or particularly thought-provoking or fundamental reflections for your themes (if you pick a longer quotation). A beginning quote from a contemporary professional author working in exactly your field can make your work look derivative. So try not to cite such people. Instead pick much more general quotes. Classical or canonical or long-dead authors in your field (who may safely be quoted without looking derivative) are a good option. Contemporary non-professional authors (novelists, playwrights, journalists) make a good impression, and in some disciplines other modern sources (magazines, newspapers, music CDs or TV programmes like *The Simpsons*) are also appropriate. You can also use contemporary professional authors working in radically different fields from your own but making a relevant point for your work. Looking for more general quotes can run the danger of your falling for clichés or very tired, familiar aphorisms (such as those found in most dictionaries of quotations). Reasonably well-read readers may well see such quotes as routine: they can be no help to you. General purpose sources (Shakespeare, the Bible, major philosophers and so on) are helpful only if the quotes you use are apt and unusual. If you think that quotations may work for you, keep a sharp eye out for interesting observations as you read (both in general literature and professional sources), and record any possibilities in a PC file as soon you encounter them. That way you can pick and choose from a large selection, and are more likely to find one that is really effective and appropriate in a given context.

A striking example, incident, event, conjunction, narrative or other piece of empirical information can also be an effective start, crystallizing and perhaps dramatizing a theme which the chapter will explain or develop at length. By presenting the chapter focus in a very concrete way, or an element that leads into it, such a start can achieve an impact which a dry recital of theories or ideas cannot. For instance, Michel Foucault's opening pages for his philosophical book *Discipline and Punish* starts with a detailed description of the gruesome logistics of a nineteenth-century

public execution.<sup>8</sup> A similar effect can be created by using very key summary statistics or data as the 'attractor' element, especially where this information can be presented in a dramatic or novel way. The trick here is to handle a few key numbers in text (not in a table), concentrate on especially telling numbers, and lose all unnecessary detail in the data cited (see Chapter 7 for how to present numerical information in text). It helps if the point of the data is to show up a clear contrast or a not-widely-appreciated aspect of the chapter's theme.

The final way of achieving a high impact start is to focus on a *problem or paradox*, a puzzle which has no obvious explanation, usually achieved by bringing proposition A and proposition B into a conjunction, and exposing a tension between them. An effective chapter start in this mould will operate like the overall thesis question (discussed in Chapter 1 above), only this time defining a core focus of the chapter. Later main sections of the chapter must then deliver an effective answer to the problem or a solution of the paradox.

*Framing text* comes after the high impact start, and domesticates it, making the links and the transition from the arresting start material to the more prosaic or mainstream themes of the chapter. The object of the framing text is to 'warm up' readers to the chapter topic, perhaps indicating previous schools of thought about it, or the interpretation offered by earlier studies. The framing text may also handle any 'lead-in' material which it is necessary for readers to encounter before the main sections start, although this should be kept to a minimum length. General framing text must amount to at least one substantial paragraph, but it should not extend beyond three or perhaps four pages. If you have very substantial amounts of lead-in stuff to get across (for example, a lengthy historical or geographical background for a case study) then make that into the first main section of the chapter. All your framing material should set up and show off the rationale for the main sections of the chapter. You should not dive off unannounced into substantive exposition. The framing text should lead up to the signposts which end the (untitled) introduction.

The *signposts* provide a minimal indication of the sequence of main sections to come in the chapter. When you drive down a highway, the signposts say 'London' or 'New York' to show

where you are going. But they do not provide any detailed prefiguring of what you can find in these places. A signpost is not a guidebook. For the same reason, signposts in your text need to be kept fairly terse and under control. Readers must be given a very clear idea of how many sections there are in the chapter, and what sequence they come up in. You can include a phrase or two, perhaps a whole sentence, to very briefly characterize the subtopics considered in each section. But you must not blurt out what you will say in later sections or give a condensed summary of the chapter argument to come. If you do succumb to the temptation to write a mini-guidebook to future sections you will probably state your argument in too crude or vulgar a way now, and create an unwelcome sense of repetition for readers later on.

Signposts can be implemented in a more explicit or a more latent fashion. Explicit signposts should preferably use textual ways of conveying the sequence ('First, I consider...'; 'Second, I examine...'). It is best to avoid referring to the section numbers directly ('Section 3.1 discusses...') because this approach can make your signposting look too mechanical. It may then seem to readers as if you are just duplicating the headings themselves. More latent ways of signposting are briefer, simply signalling a sequence of subjects to come in the chapter, without linking them precisely to particular numbered sections.

### *Starting and finishing a section*

The beginning of each of the main sections of the chapter also needs to be carefully written. Main sections generally should be numbered (2.1, 2.2, etc.) and have a short heading, probably around four to eight words. Section headings should be short and punchy. (The only exception concerns a 'narrative subheading' strategy where the headings are full-sentence descriptions that précis the section contents.) Do not use colons or partitions in subsection headings, which would make them too cumbersome. It is important not to repeat either the thesis title or the chapter title, both of which automatically frame what the section is about. Again, it is best to avoid interrogative headings. Instead try to get some of your storyline or substantive argument into each section heading.

Next you will need no more than one or two paragraphs of lead-in material. Ideally this should start in a somewhat higher impact way than normal text. Again a quotation can be used, or a very short empirical example or a smaller intellectual puzzle (one that will be wholly resolved within this section). But a section start must always be accomplished much more speedily and simply than that for a whole chapter. In longer or more complex sections you might need to end the lead-in paragraph with some low-key signposts setting out the rough sequence of topics that will be handled (within this section alone). Within-section signposts should always be briefer and less formal than those for the chapter as a whole. If they are not, there is a risk that readers may get confused, especially at the start of the chapter where they will encounter chapter signposts for the main sections at the end of the introduction, and then come across within-section signposts for the first section perhaps only one or two paragraphs later. It is important to ensure that readers do not run into different 'first, second, third' lists close to each other, which might be confusing.

Concluding a section is also difficult and worth doing carefully. You will need a last paragraph for each section that terminates it in a way that looks logical, well organized, and cumulative. It is best to avoid 'telling them what you've told them' in a mechanical fashion. Instead, the section wrap-up paragraph should let you step back a little bit and draw out a brief central message from the section as a whole. This could be an interim conclusion, or a summary of what the section has said but perhaps looked at from a different angle. It is important that the concluding paragraph for a section stick solely to what has been done in that section, and not discuss anything else. However, in the last sentence or so, the concluding paragraph can make forward linkages to the next section, so that it too can have a well-designed, higher impact kind of start.

### *Finishing a chapter*

You should mark the end of the chapter by a Conclusions section which is at least two paragraphs long. It should have a heading displayed in a font which makes clear that it is not

a first-order section. The first paragraph (or part) of the Conclusions should gather up the key points previously pulled out in each of the final paragraphs for each section, and re-present them so as to draw together the end points of each section. It is worth writing the opening sentence of the Conclusions carefully, preferably in a general way which clearly breaks away from the ending of the last section and instead encourages readers to look back across the chapter as a whole and to assess what they have learnt.

The second paragraph (or second part) of the Conclusions should 'open out' to briefly consider one or two broader issues raised. It should always end by establishing a forward link of some kind to the next chapter. With a descriptive sequence of chapters the link will normally be easy to make – for instance, in a historical or narrative sequence, what happened next? And in a 'guidebook' pattern, what links A to B? Where the chapters discuss a sequence of analytic or argumentative topics the link across will usually take the form of pointing to some open issues raised by this chapter, one of which the next chapter will address. Sometimes there are more tricky transitions, when a series of connected chapters ends and you have to link forward to a new grouping of chapters. In these circumstances you may want to leave a couple of blank lines to indicate that the conclusions for this chapter alone have finished, and that some more general comments follow. Then write a separate paragraph or two just of linking text, drawing the connected chapters together and possibly referring back to your opening chapter plan and the sequence outlined there.

### *Conclusions*

In the UK's difficult and lengthy driving test there is a much-dreaded element called the 'emergency stop'. At the beginning of the test your examiner tells you that at a certain random point she will tap on the dashboard of the car with her folder, as a signal that you must bring the car to a halt as quickly as you can, under control and safely. Then the test starts and you drive off, usually quite quickly forgetting about this whole idea under the stresses and strains of negotiating traffic. Later on, as

you are driving down some less populated section of road you suddenly notice your examiner apparently having a fit and lashing at the dashboard with her folder. As belated recognition dawns, you respond by bringing your car to a screeching stop amidst a copious cloud of burnt rubber from the tyres. For authors of doctoral theses (and indeed other professional works) it is a good idea to think of an analogous emergency stop test for your text.

Suppose that at some random, unannounced point I take the text away from someone who is reading your chapter. I ask her to explain (without looking at it again) whereabouts she is in the chapter, and what it is all about. If the text is adequately and appropriately organized then the reader should be able to respond:

The chapter is about the four themes W, X, Y and Z and it has three sections. The first was about W (specifically subtopics  $w_1$ ,  $w_2$  and  $w_3$ ). When the text was taken away I was in the middle of the second section covering X, having already absorbed subtopics  $x_1$  and  $x_2$ . I believe that three more subtopics  $x_3$ ,  $x_4$  and  $x_5$  would be handled later on in that section. I have a clear but general idea of the topics yet to come in the bit of the chapter I haven't yet read, namely that this third section will cover Y and Z together, and in a briefer way than the treatment of W and X.

If our mythical reader cannot respond as precisely as this, then the chapter is too weakly structured. The worst case result for an underorganized chapter would be if the reader responds to the emergency stop test by saying:

I have no real clue what the chapter as a whole is about, because the title is very vague or formalistic. From what the author says at the start perhaps the focus is on some X and W themes in some way? The chapter just started out on a magical mystery tour, and has so many [or so few] headings that I cannot really say how it is subdivided. I can only tell you roughly where I have been up to the point where the text was taken away. And I have little idea of what was to come in the rest of the section where I was

stopped, and no idea at all what remains to be discussed in later sections. Every other page I turn throws up a new element or a new direction in an unpredictable manner.

While it is important always to adequately organize your text, how you chunk up your chapters must also depend a great deal on the material that you are handling. The advice in this chapter should not be read as a series of remedies to be mechanically applied to produce chapters which are all the same. Although chapters should generally average 10,000 words in length, with main sections every 2500 words, that does not mean that every chapter should have the same four main sections as every other. It is important to adjust your structures sensitively to the material you are handling, rather than to produce robotic-looking work. An excessively mechanical application of these (or any other) rules could mean that you subdivide and signpost text more than you need to, producing fake subsectioning and a text that is very boring for readers to plough through.

So you need to be flexible, tuning and adjusting the principles set out here so as to accommodate different lengths of chapters and sections, and different kinds of material across them. Chapters smaller than 10,000 words may need only two or three sections, while longer ones might need perhaps five sections or at most six sections (but not more than this). Main sections in long chapters may need to be well organized in subsections that are explicitly signposted, producing perhaps twelve or more first- and second-order subheads in all.

The text box below shows a flexibly applied structure for a middle-sized chapter (let's say, chapter 2), with each of the headings shown in its appropriate font, appearance and location. There are three main sections, plus a short (untitled) introduction and a brief conclusions bit. The box also notes where start and finish elements need to be more carefully written. In this plan section 2.1 has two subsections (each with second-order subheads), but section 2.3 is shorter and does not use any subsections. And although the larger piece of text in section 2.2 is subdivided, it is differently handled because of the nature of the material there, using three lighter-touch groupings of paragraphs denoted by only third-order subheads. Figure 4.1 on p. 102 shows

the same structural information as the text box below, but in a more diagrammatic form. It illustrates the general point that having a clearly recognizable and standard set of headings across the thesis as a whole is perfectly compatible with having chapter structures which flexibly adapt to the demands of organizing different kinds of text.

CHAPTER 2: TITLE	
Opening paragraphs – from 1 to 5 Last paragraph signposts the section structure	
2.1: SECTION HEADING Opening 1 or 2 paragraphs signpost subsections <i>Subsection heading</i> Opening paragraph, main body, closing paragraph <i>Subsection heading</i> Opening paragraph, main body, closing paragraph	1st order 2nd order 2nd order
2.2: SECTION HEADING Lead-in paragraphs signpost groupings of paragraphs <i>Grouped paragraphs heading</i> leads into text, with wrap paragraph at the end <i>Grouped paragraphs heading</i> leads into text, with wrap paragraph at the end <i>Grouped paragraphs heading</i> leads into text, with wrap paragraph at the end	1st order 3rd order 3rd order 3rd order
2.3: SECTION HEADING Opening paragraph, main body of text, closing paragraph	1st order
CONCLUSIONS First paragraph (or part) summarizes across sections Closing paragraph (or part) points forward to the next chapter	2nd order

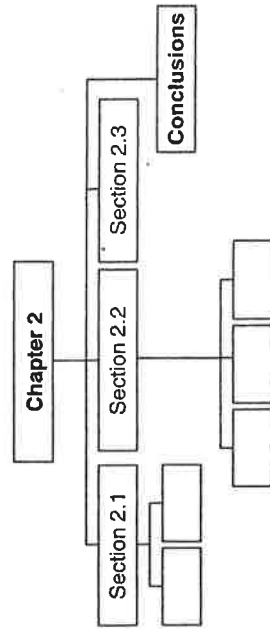


Figure 4.1 The tree structure of a chapter

Implementing effective chapter structures is closely bound up with writing and producing text more generally. But to have a clear idea of what you are doing and some rules of thumb of the kind set out here is a great advantage when starting out on the writing process. It should generate more initial ideas for you to try out. In the next chapter I carry the discussion down to an even more detailed level of writing, looking at two issues which often prove troublesome for doctoral students – writing in a good style, and including simple and efficient scholarly references.

Poorer writers have fewer readers.

*Robert J. Sternberg*<sup>1</sup>

An author with a well-organized piece of text must still pass two further hurdles before gaining credibility or approval in academic professional circles. The first is a test of style. Does the author communicate fluently, convincingly and appealingly in the professional manner appropriate for her discipline? Quite where success or failure should be determined here is difficult to specify in any general way. Evaluations of good or bad writing style are notoriously subjective. Much ink has been spilt on good style for novelists and creative writers (see *Further Reading* on p. 287 for some style manuals). But this literature offers little help to authors of doctoral theses or other large professional bits of text, like academic books. However, it is still possible to pull together some generally useful advice about conflicting style pressures, and some sensible ways of proceeding at a paragraph-by-paragraph, or sentence-by-sentence level, as I try to do in the first part of this chapter.

The second hurdle is a test of scholarship, more important perhaps in a PhD thesis than in any other piece of academic writing. Does the author acknowledge sources for her arguments or evidence? Does she chart her intellectual influences comprehensively and in an appropriate format? Obtrusive referencing is often one of the most obvious hallmarks of academic text, something that sets it apart from everything else. As a result PhD students often overdo referencing, and