

# **How to write a scientific text**

## **Lecture Notes**

**Rolf Johansson**  
[rolfj@infra.kth.se](mailto:rolfj@infra.kth.se)  
**Associate Professor**  
Department of Infrastructure  
Urban Studies / Built Environment Analysis  
Royal Institute of Technology, Stockholm

September 2003

## WRITING

### Literature and journalism

The oldest tradition in writing is, of course, literature. Literature has ancient roots. But literature is distinct from the use of language within the field of science. In the humanities, history is close to literature. In ancient times history actually *was* literature: writing about past events was not done with the purpose of trying to understand what had actually happened; rather, the purpose of historical texts was normally moral. History was not established as an academic discipline until the late 19<sup>th</sup> century.

Journalism is a practice which is independent of the sciences, and which is influenced by both literature and historical writing. A journalist records what has actually happened and presents a text that may be more or less literary. In the 1950s and 1960s journalism was influenced greatly by literature, and many journalists presented non-fictional stories in a literary manner. The journalist Tom Wolfe called this movement *the new journalism* (Wolfe & Johnson 1973).

The new journalism developed into a deeper engagement with social and political issues and some journalist consequently developed more investigative techniques, like those used by scientists. Investigative journalism was born. A famous example is Bernstein and Woodward's case study of the Watergate affair (Bernstein & Woodward 1974).

Investigative journalism and action research within the social sciences are related to each other in so far as they have influenced one another. Action research originated in the late 1940s in Europe and the USA. In North America action research developed from the qualitative case study tradition of the Chicago school of sociology. Action research bridges the gap between social theory and the resolution of actual social problems. The action researcher wants to change reality by *doing* research, and does not regard change as something that might come afterwards as a result of research.<sup>1</sup>

### Writing in the natural sciences

When the natural sciences were established during the scientific revolution, writing became realist and descriptive. The IMRAD format has developed within the past 110 years and is the best choice for papers reporting laboratory studies. Actually, the IMRAD format was developed in order to ensure the reproducibility of experiments; something which had become a fundamental principle in the philosophy of science in the late 19<sup>th</sup> century.

The first scientific journal appeared in 1665. Currently some 70,000 scientific journals are published throughout the world. On principle, scientific journals in scientific fields accept only *scientific* papers. A scientific paper is based on original research that has not been published before. Another kind of paper is the review

---

<sup>1</sup> On action research see chapter five in Martyn Descombe, *The Good Research Guide*.

paper. A review paper summarises, analyses, evaluates or synthesises information that has already been published.

In the IMRAD format the text is structured in the following way:

**I**ntroduction: What question was studied and why?

**M**ethods: How was the problem studied?

**R**esults: What were the findings?

**a**nd

**D**iscussion: What do these findings mean?

A typical report structured according to the IMRAD-format would consist of the following parts:

- Title: on title page with the author's name, the name of the academic institution with which the author is associated, and the year of publication. If the report is in a series with TRITA or ISBN numbers, these should be on the title, or front, page.
- Abstract and/or Summary
- Acknowledgements
- List of tables/Figures
- Table of Contents
- Introduction
- Method
- Results
- Discussion
- Conclusions
- Recommendations (optional)
- References
- Appendices (optional)

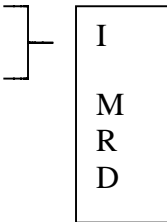
A good **title** uses the fewest possible words that adequately describe the contents of the paper/report.

The title should include:

- The subject of the report
- The type of study (comparison, experiment, survey, case study, etc.)
- The scope (details of the study's limitations)

Avoid abbreviations in the title. Only abbreviations and symbols that are more familiar than the words they stand for, such as DNA or pH, should be placed in titles.

The abstract or summary normally contains:

- Background
  - Purpose and scope
  - Methods
  - Results
  - Conclusions
- 

As you can see, the structure is the same as for the whole work (IMRaD).

**Abstract** and **summary** sometimes mean the same thing. In academic writing an abstract is more common. The length of an abstract is generally between 100 and 200 words, and a summary is more extensive (one to three pages).

In a report the **acknowledgements** come after the abstract or summary, but in scientific papers the acknowledgements are most often placed at the end, just before the references. The acknowledgements may contain:

- Acknowledgement for any significant technical help that you received
- Acknowledgement for financial support
- Thanks to key people who have played an important part in your work
- Thanks of a more personal nature

Avoid very extensive acknowledgements.

Try to fit the **Table of Contents** into one page to provide an overview. If you have many levels of headings, low level subheadings do not necessarily have to be included in the table of contents.

The **Introduction** normally contains:

- Nature and scope of the problem: What is the problem and why is it important to study?
- Literature review: What has already been done? Review of the pertinent literature.
- Methods: What methods have been used and why?
- Results: State the principal results.
- Conclusions: State the principal conclusions.

As you can see this is again the IMRaD structure. And it is also quite similar to the abstract.

The **Methods** section should give full details of data collection, experimental design, sampling techniques, and so on. In a case study it is important to elaborate on the rationale for selection of the case to study. In the natural sciences this section is often called *Materials and Methods*. In the social sciences it is common to introduce a section called *Theory and Methods*, sometimes divided in two sections: *Theoretical Framework* and *Methods*.

The Methods section is normally written in the past tense.

In the **Results** section the reader is told what your findings were. It is not enough to present your findings in a table or a graph, you need to interpret them for your reader. Figures and tables must be numbered and labelled and referred to in the text.

If you have done a case study this part of your report will tend to be quite extensive. Case studies require a detailed description of the case.

The **Discussion/Conclusion** section should discuss the results: *not* recapitulate them. But there is normally a *short* summary of the main results. Discuss principles, relationships, and generalisations shown by the result.

The main body of the section is normally organised according to some kind of logical system: for instance, past-to-present, general-to-specific, theoretical-to-practical. The discussion might be written in a more personal manner than the rest of the report. It could contain reflections on the learning process and shortcomings of the inquiry. It is also a good idea to mention possible future work (although this could be placed in a separate Recommendations section instead).

In the **Reference** section all references must be listed. The reference system must:

- Give full details (author or authors, year of publication, title and publisher)
- Be consistent

Be sure to have all the references in the list and no “extra” references.

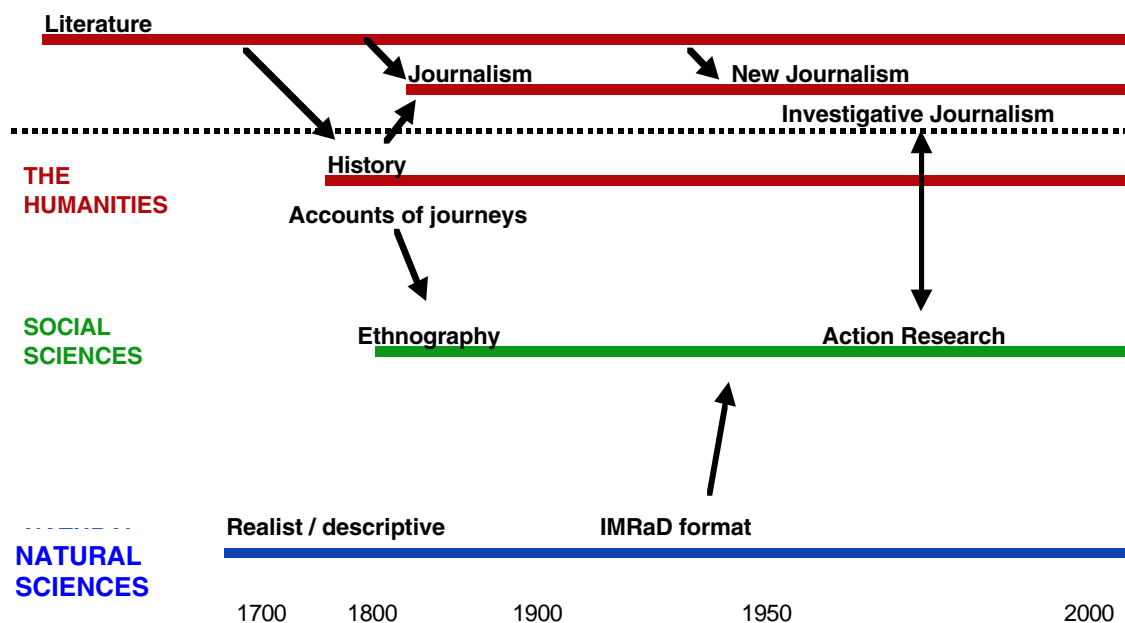
In the **Appendices** you may include detailed tables, graphs or documents too long to include in the report itself. If you have used a questionnaire, it is normally placed in the appendices.

## Writing in the social sciences

The social sciences emerged in the field between the humanities and the natural sciences. Writing within the social sciences has subsequently been influenced from both directions. In the early social sciences, such as anthropology, influences from the humanities were dominant. In the period between 1940 and 1970, the social sciences emulated natural sciences to a great extent - specifically in the fields of sociology and psychology - and the IMRAD format became the dominant format of papers. It is still used very frequently.

During the last twenty years qualitative approaches have again become more common in the social sciences. Case study research has developed rapidly, and again, writing has been influenced by the humanities. As already mentioned, action research, within the social sciences, has a close relationship to investigative journalism.

## Traditions in writing



## Writing in a qualitative research tradition

The ethnographer Harry Wolcott (1990) advises the qualitative researcher to make a “plan” for his or her work. This plan has three components: a statement of the purpose of the study, an outline, and a story.

*A statement of the purpose* of the study should be written down and be used to focus it. Wolcott claims that “[the] major problem to face in qualitative inquiry is not to get data, but to get rid of it”. A statement of the purpose of the study is a help in this process. The purpose is not carved in stone, though, revisions should always be considered.

Secondly, one should write a detailed *outline* of the text. This may have the form of an expanded table of contents. The descriptive background in a qualitative study often has a tendency to grow at the expense of the actual empirical inquiry. The written outline helps to give the right proportions to each chapter.

The third ingredient of the plan is not written. You have to determine what kind of *story* you are going to tell. Van Maanen (1988) claims that there are three different modes of telling a story in ethnography. An ethnography is a written representation of a culture, or aspects of a culture. In ethnography, fieldwork, through participant observation, is the method used to collect data, and usually it means living with and living like the persons who are studied. According to van Maanen there are three different possible ways of speaking to the reader in a text.

In a *realist* tale a dispassionate third person voice is used. The author is not visible. The text has a descriptive character and not much is said about methods of inquiry. The structure is often chronological or biographical, and provides a rather direct matter-of-fact portrait.

In a *confessional* tale the text is focused on the researcher. The author is visible and the story is written in first person. It is a researcher's view of coming to know the case and learning from mistakes. Methods are discussed through frank and fallible description.

The *impressionistic* tale has a novelistic character. The tale is personalised and story-like. It has a dramatic form and uses dialogue in order to give the impression that one is there. It is the execution of fieldwork that is presented rather than the subject—as in a confessional tale—or what has been observed—as in a realist tale. Characters are given names, faces, motives and things to do.

These three different modes of telling a story may very well be combined.

### **The structure of a text**

A paragraph, a chapter, and an essay as a whole must have a connecting line of thought: a structure. In the social sciences and the humanities many different structures are common, and there is not one dominant structure, as there is in the natural sciences. Different structures are often combined. Examples of structures used are:

- IMRaD
- Thematic
- Theory-building
- Comparative
- Chronological
- Emphatic

(Yin 1994, Jarrick & Josephson 1988).

The IMRAD structure is a linear-analytic structure. The sequence of subtopics begins with an introduction to the issue or problem being studied and a review of what has been done so far. Then the method with which to approach the problem, the findings, and finally the conclusions and implications which are drawn from the findings are presented.

In a thematic structure, the topic is subdivided into different components, as with the IMRAD structure. The difference is that the structure is not sequenced; the sequence of sections or chapters is not critical. A thematic structure is common in descriptive studies.

In a theory-building structure, some theory-building logic is used to organise the text. This may be a cause and effect logic. In this case the effect is often the point of departure, and then the cause is discussed.

A comparative structure is dialectic. Two opposite positions or cases are compared.

The chronological structure is the simplest type of structure. When a chronological structure is applied, it is easy to give disproportionate attention to the early events: early history and background becomes too extensive. One way to avoid this is to draft the text backwards, including only important early events.

The empathic structure could be called journalistic: initially, the outcome of the study is presented, then the explanation of this outcome is developed.

### **Theses**

Master's theses are normally written as monographs: that is, one work.

Licentiate theses and doctoral theses may be monographs or review theses. A review thesis is a review of already published papers by the author, with the papers appended.

### Tables

Tables are normally arranged with horizontal lines but no vertical lines. The title is positioned above the table.

Table 1:1 A bad example

VAR	Var	cat	X	Y
3,000	1430	green	16	3,470
1,000	3028	blue	3	1,940
5,000	4135	braun	521	2,450
4,000	3307	blue	2	7,610
3,000	7003	grey	40	3,750

Table 1:1 A recommended table design

Var.	Var.	Category	X	Y
3	143	green	16	3,47
1	303	blue	3	1,94
5	414	braun	521	2,45
4	331	blue	2	7,61
3	700	grey	40	3,75

(Backman 1998)

### Figures

A figure's title is positioned under the figure. A bar chart is often more significant in grey.

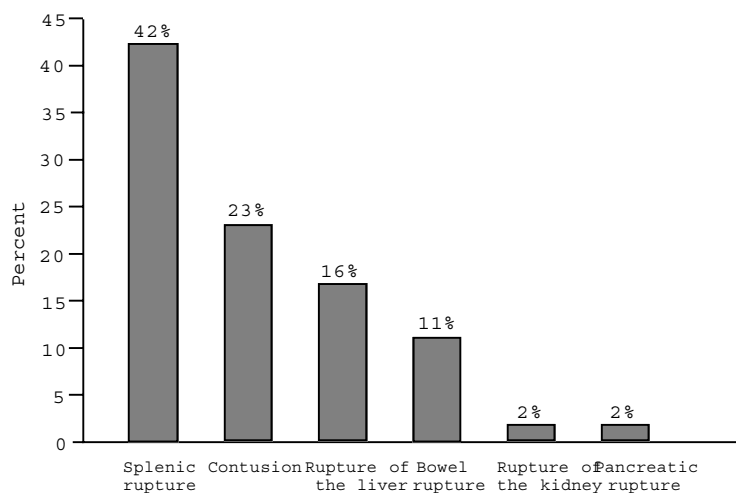


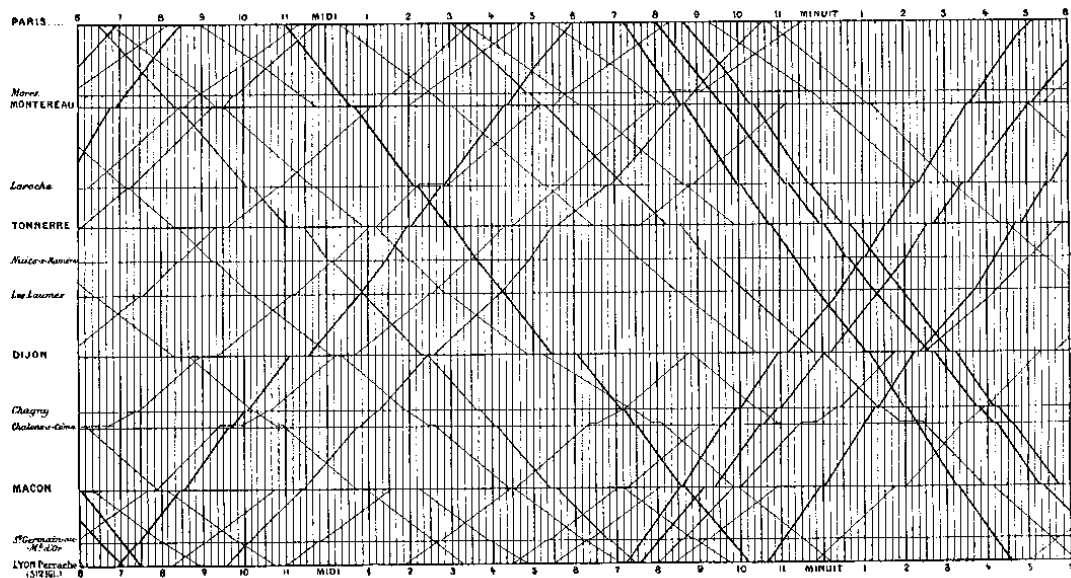
Figure 4 Intra-abdominal injuries associated with diaphragmatic rupture due to blunt trauma.

(Gustavii 2000)



The second example is a graphical train timetable, displayed using a method attributed to the French engineer Ibry. It is the timetable for Paris to Lyon in the 1880s. Arrivals and departures from stations are located along the horizontal lines. The distances between the stations on the chart are in proportion to the actual distances between them. The slope of the line indicates the speed of the train. Two trains pass each other in opposite direction where two lines intersect.

The grid in the classic Marcy train schedule is very active:



The narrative graphic of space and time in the next example was designed by the French engineer Charles Joseph Minard (1781–1870). It shows Napoleon's campaign in Russia and consists of both a map and time-series. Beginning at the Polish-Russian border, the size of the army was 422,000 men, in Moscow 100,000 men were left, and finally, when the army reached Poland again, only 10,000 men remained.

Six variables are plotted in Minard's map:

- The size of the army
- Its location (two dimensions)
- Direction of the movement
- Temperature on various dates during the retreat (two dimensions)



**Main sources and recommended further reading:**

Day (1998) and Gustavii (2000).

**References**

- Backman, Jan. (1998). *Rapporter och uppsatser*. Lund: Studentlitteratur.
- Day, Robert A. (1998). *How to Write and Publish a Scientific Paper*. Cambridge, UK: Cambridge University Press.
- Denscombe, Martyn. (1998). *The Good Research Guide—or small-scale social research projects*. Buckingham and Philadelphia: Open University Press.
- Gustavii, Björn. (2000). *How to Write and Illustrate a Scientific Paper*. Lund: Studentlitteratur.
- Jarrick, Arne, & Josephson, Olle. (1988). *Från tanke till text. En språkhandbok för uppsatsskrivande studenter*. Lund: Studentlitteratur.
- Van Maanen, John. (1988). *Tales of the Field. On writing Ethnography*. Chicago: The University of Chicago Press.
- Tufte, Edward R. (1983). *The Visual Display of Quantitative Information*. Cheshire, Connecticut: Graphics Press.
- Tufte, Edward R. (1990). *Envisioning Information*. Cheshire, Connecticut: Graphics Press.
- Walcott, Harry. (1990). *Writing up qualitative research*. Newbury Park, CA: Sage.
- Wolfe, Tom, & Johnson, E. W. (Eds.). (1973). *The New Journalism*. New York: Harper & Row.
- Yin, Robert (1984/1994). *Case Study Research: Design and Methods*. (2<sup>nd</sup> ed.). Thousand Oaks, California: Sage. (First edition published in 1984).

## REFERENCES

There are three different basic reference systems:

1. **Name and Year System**, also called the **Harvard** system. This was used for the first time in 1881 by a zoologist at Harvard University. Today it is the most common reference system within the natural sciences. It is common in the social sciences, but is rarely used in the humanities. The references are unnumbered. This is convenient for the author, since references can be added or deleted easily (Backman 1998, Day 1998, Gustavii 2000). On this page, the Harvard system is used as an example.
2. **Alphabet–Number System**. Also called the **Vancouver** System. This system was devised by a group of editors of biomedical journals at a meeting in Vancouver in 1978. The Vancouver system is used in biomedicine and in medicine. You might also find it in some fields of natural sciences such as mathematics (Day 1998, Gustavii 2000).
3. **Citation Order System**, known as the **Oxford** System. This is most common in the humanities. There are different versions of this system. Details on how to apply the system can be found in *The Chicago Manual of Style* (1993) and *Manual for Writers of Term Papers, Theses, and Dissertations* (Turabin 1996). References are given in footnotes or endnotes (Backman 1998; Day, 1998).
4. **Hybrid**. In Social sciences it is possible to find a mixed Name and Year/Citation Order System. Here the advantages from both systems are combined: the Oxford system enables one to make comments to the text, and the Harvard system has the advantage of giving both author and year in a concentrated manner.

### References

- Backman, J. (1998). *Rapporter och uppsatser*. Lund: Studentlitteratur.
- The Chicago Manual of Style* (14th ed.). (1993). Chicago: The University of Chicago Press.
- Day, R., A. (1998). *How to Write and Publish a Scientific Paper* (5th ed.). Cambridge, UK: Cambridge University Press.
- Gustavii, B. (2000). *How to Write and Illustrate a Scientific Paper*. Lund: Studentlitteratur.
- Turabian, K. (1996). *A Manual for Writers of Termpapers, Theses, and Dissertations* (6th ed.). Chicago: The University of Chicago Press.

## **Harvard System**

### **References to one author in text**

In an early textbook on case study methodology (Yin 1984), it is ... . Yin also argues ...

Robert Stake (1994) has yet another approach ...

In 1984, Yin published his book on case study methodology ...

### **References to more than one author in text**

#### **Two authors:**

Smith and Jones (1998)

Ragin & Becker (1992) discuss the nature of the case ...

#### **Three authors or more:**

##### **First occasion:**

Smith, Jones, and McGillicuddy (1998).

Albin, Botta, Crispin, Day, and Ericson (1995) revealed in their investigation ...

The following occasions:

Smith et al. (1998).

Albin et al. (1995) argued ...

### **References to many works from the same author**

In a number of reports (Ericson, 1984, 1987, 1990, 1992a, 1992b) ...

## References to many authors

The full range of experimental science also includes those situations in which the experimenter cannot manipulate behaviour (see Blalock, 1961; Campbell & Stanley, 1966; Cook & Campbell, 1979), but in which the logic of experimental design may still be applied.

## Quotations

Quotations in text:

One aim is making concepts more precise as "... evaluation does not attempt to reduce complexity, but rather to conceptualize it" (Friedman, Zimring, & Zube, 1978:3).

Quotations from secondary sources:

Another student, Nel Anderson, revealed that the single instruction he ever remembered hearing from Park was simply: "Write down what you see and hear; you know, like a newspaper reporter" (quoted in Kirk and Miller, 1986:40).

If the quoted text is long, quotations are indicated by typography.

Somehow, the skills for doing good case studies have not yet been defined, and as a result,

Most people feel that they can prepare a case study, and nearly all of us believe we can understand one. Since neither view is well founded, the case study receives a good deal of approbation it does not deserve. (Hoaglin, Light, McPeck, Mosteller, & Stoto, 1982, p.134).

Doing a case study is ...

Alternative for the reference to pages:

(Hoaglin, Light, McPeck, Mosteller, & Stoto, 1982:134).

## Writing the list of references

If an author appears alone and also together with others, the book for which the author is the sole author comes first in the list. If there are more than one author of a book, always write the names of the authors in the same order as they appear in the book.

Backman, J. (1997).  
Backman, J., & Eklund, S. (1995).

If an author has written several books together with different other authors, they are listed alphabetically according to the second author.

Patel, R., & Davidson, B. (1994).  
Patel, R., & Tebelius, U. (1987).

If two authors have written several books together, they are listed chronologically.

Corbin, J., & Strauss, A. (1988).  
Corbin, J., & Strauss, A. (1990).

If two authors have the same family name, they are listed alphabetically according to their first name.

Andersson, A. L. (1980).  
Andersson, B. E. (1979).

If the author is not a person, but an organization, an institution, an authority, or something similar, its name should be given in the reference list.

Central Intelligence Agency. (1998).  
Criminal Investigation Department. (1997).

If the same authors have several publications from the same year, they are listed alphabetically according to the titles.

Guba, E., & Lincoln, Y. S. (1988a). *The contentances of ...*  
Guba, E., & Lincoln, Y. S. (1988b). *Do inquiry paradigms ...*

## **Journals**

The heading of the article is written in normal text and the name of the journal in italics. The volume is in italics, pages in normal.

Mathes, P. G., Howard, J. K., Allen, S., & Fuchs, D. (1998). Peer-assisted learning strategies for first-grade readers. *Reading Research Quarterly*, 33, 62—94.

## **Journals paginated by number**

The number of the journal is given in brackets.

Adams, M. J., & Bruck, M. (1995). Resolving the great debate. *American Educator*, 19, (2), 7—20.

## **Journals in press**

Backman, J., & Holmberg, B. (in press). A theoretical basis for research on distance learning. *Journal of Distance Education*.

## **Journals without division into volumes**

Nilsson, L. –G. (1998). Stockholm år 2000: Världskongress i psykologi. *Psykolog Tidningen*, nr 1, 8—9.

## **Daily press, signed articles**

Riis, U. (1996, January 13). The Triumph of Art. *Washington Post*, p. A4.

## **Daily press, unsigned article**

Tax reforms (1998, April 19). *Chicago Tribune*, p. 1.

## **Books, one author.**

Give the name of the publisher and the city where the publisher has its head office, not the city where the book is printed.

Dyer, C. (1995). *Beginning research in psychology*. Cambridge, MA: Blackwell.

**Books, revised and new editions**

American Psychological Association. (1997). *Journals in psychology. A resource listing for authors* (5th ed.). Washington, DC: Author.

**Books, anthologies**

Fielding, N. G., & Lee, R. M. (Eds.). (1991). *Using computers in qualitative research*. London: Sage.

**Chapter in an anthology**

Heise, D. R. (1991). Event structure analysis: a qualitative model of quantitative research. In N. G. Fielding & R. M. Lee (Eds.), *Using computers in qualitative research* (pp. 136—163). London: Sage.

**Book in a series**

Rydén, M., Kardela, H., Nordlander, J., & Odenstedt, B. (Eds.). (1997). *From runs to romance* (Umeå Studies in the Humanities, 140). Uppsala. Almqvist & Wiksell.

**Encyclopedias, dictionaries**

**In the text the title might be written in short:** (*Collins dictionary*, 1993).

*Collins dictionary and thesaurus*. (1993). London: Collins.

**Books, translated**

Luria, A. R. (1969). *The mind of a mnemonist* (L. Solotaroff, Trans.). New York: Avon Books. (Original work published in 1965).

**Books, published by an authority or organization**

Central Intelligence Agency. *How to interpret fingerprints*. Washington: CIA.

Or:

*How to interpret fingerprints*. Central Intelligence Agency. Washington: CIA.

**Theses**

Broman, N., O. (1993). *Means to Measure the Aesthetic Properties of Wood*. (Doctoral Thesis, Umeå University).

**Research report from an institute or organization**

Reiser, B. J., Black, J. B., & Lehnert, W. G. (1982). *Thematic knowledge structures in the understanding and generation of narratives* (Tech. Rep. No. 16). Yale: Yale University, Cognitive Science Program.

**Unpublished manuscripts**

Van Dijk, T. A. (1981). *Textual structures of news in the press*. Unpublished manuscript, University of Amsterdam, Department of General Literary Studies.

**Unpublished manuscripts, presented at a conference**

Van Dijk, T. A. (1981). *Textual structures of news in the press*. Paper presented to the Annual Meeting of the British Educational Research Association, London, England.

**Book reviews**

Ackerman, P. L. (1997). What's intelligence got to do with it [Review of the book *Will we be smart enough?* A cognitive analysis of the coming workforce.] *Contemporary Psychology*, 42, 662—695.

**Proceedings**

Lehnert, W. G., Black, J. B., & Reiser, B. J. (1981). Summarizing narratives. In *Proceedings of the Seventh International Joint Conference on Artificial Intelligence* (pp. 184—189). Vancouver, BC.

**Web documents**

Bryant, P. (1999). *Biodiversity and conservation*. Retrieved October 4, 2004, from <http://darwin.bio.uci.edu~sustain/bio65/Titlepage.htm>

## Oxford system

In text:

They fell, in fact, within the terms of a document of 1316 which refers to murals to be executed within the Palazzo Pubblico and explains that the interiors:

... should please the eye, bring joy to the heart and satisfy every one's senses; [it is] to the glory of the whole community that the leaders and rulers of the commune should enjoy surroundings which are fine, beautiful and honourable.<sup>2</sup>

The frescoes were also intended to be didactic for this was the primary object of all medieval painting and, indeed, its major justification as the Siense painters themselves explained in the preamble of their guild statutes: they are “by the grace of God, expositors of sacred writ to the ignorant who know not how to read”.

The reference is given in a footnote or in an endnote. The author's first name is given first, then the family name. In the reference list, authors are listed alphabetically according to family name. The reference in the footnote in this example is written like this in the reference list (Often called a Bibliography in the humanities):

Milanesi, G., *Documenti per la Storia dell'Arte Senese* (Siena, 1856).

---

<sup>2</sup> Giovanni Milanesi, ed., *Documenti per la Storia dell'Arte Senese* (Siena, 1854), 160–1.

## Alphabet-Number System

In text:

Pretyrosine is quantitatively converted to phenylalanine under these conditions (13).

The role of the carotid sinus in the regulation of respiration was discovered by Heymans (13).

Streptomycin was first used in the treatment of tuberculosis in 1945 (13).

The reference list is numbered and alphabetical:

1. Day, R. A. 1998. How to write and publish a scientific paper. 5th ed. Phoenix: Oryx Press.
2. Huth, E. J. 1986. Guidelines on authorship of medical papers. *Ann. Intern Med.* **104**:269—274.
3. Sproul, J., H. Klaaren, and F. Mannarino. 1993. Surgical treatment of Freiberg's infraction in athletes. *Am. J. Sports Med.* **21**:381—384.

## Hybrid

Sometimes the Harvard system of writing references is combined with footnotes.

In text (van Maanen 1988):

Ethnography as a written product, then, has a degree of independence (how culture is portrayed) from the fieldwork on which it is based (how culture is known). Writing an ethnography is officework or deskwork, not fieldwork (Marcus, 1980)<sup>3</sup>.

---

<sup>3</sup> Not so very long ago, it seems, fieldworkers had a reputation for being humdrum, prosaic, pallid, altogether pedestrian, and not at all prone to flights of analytic fancy or angst (Sharrock and Andersson, 1980). Today, as we shall see, fieldworkers are as prone to self-doubt as anyone else and willing to say so. Much of his doubt centers on the question of just what (if anything) constitutes an adequate cultural description. In anthropology, for example, pitched battles are fought on this issue between and among members of any number of theory groups—cultural materialism (Harris, 1979); ethnoscience (Goodenough, 1971); functionalism (M. Douglas, 1966); various forms of structuralism (Sahlins, 1976; Levi-Strauss, 1966), symbolic anthropology (Leach, 1976), and so on. Similar controversies rage on across several sociologies (Giddens, 1979; Swidler, 1986). Issues revolve partly on the role the native's understanding is to play in cultural accounts and partly on how it is to be displayed. Some claim it is absolutely essential (and decry their apparent inability to be both native and non-native at the same time). Others are...

## Some remarks on typography

### Quotation marks

In different languages quotation marks look different. If you for instance write a text in English on a computer set for Swedish in the preferences, the word processing program might automatically use Swedish quotation marks.

This is how quotation marks are written in some languages:

Language	Quotation	Quotation within quotation
Swedish	”ord” »ord«	’ord’ ’ord’
Danish	»ord«	»ord«
Norwegian	«ord»	«ord»
English	“word”	‘word’
German	„Wort“ »Wort«	,Wort‘ ,Wort<
French	« mot »	« mot »
Spanish	“palabra”	‘palabra’
Italian	«parola»	«parola»

## Hyphen and dash

Besides the hyphen, there are two different dashes on a computer. (On a Macintosh it is possible to get an n dash if you press *alternative* and *hyphen*. For m dash, press *shift*, *alternative*, and *hyphen*.)

Hyphen	-
n dash	—
m dash	—

Dashes are different in different languages:

In English, use the **m dash** with no spaces either side of it:

There was nothing about bikes—and, more important, about bike thieves—that Schwering didn't know.

In Swedish, use an **n dash** with a space before and after:

När jag var tolv och ett halvt år tvingade jag mig att gå in och tala med innehavaren, mr Peterson – ”Slaktare” Peterson som den gamle gentlemanen kallades – och jag talade om för honom att jag hade suttit och tittat på medan han arbetade och gärna skulle vilja bli som han.