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3 Finding and formulating your topic

CHAPTER CONCEPTS

● MISCONCEPTIONS ABOUT TOPICS ● WHAT IS A TOPIC? ● TOPICS AS PUZZLES ● PUZZLES AS RIDDLES TO BE UNRIDDLED ● BASIC ADVICE ON RESEARCH TOPICS ● THE EARLIER THE BETTER ● GO FROM THE GENERAL TO THE PARTICULAR ● AVOID POLITICIZED TOPICS ● BE CAREFUL WITH PERSONAL ISSUES ● FIND THE LINE OF LEAST RESISTANCE BETWEEN A AND B ● AIRING YOUR TOPIC ● SOURCES FOR GENERATING IDEAS ● ANALYSING THE POSSIBILITIES OF A TOPIC ● THE INITIAL SEARCH AND REVIEW OF THE LITERATURE ● TOPIC QUESTIONS ● METHODOLOGY AND DATA QUESTIONS ● VALIDITY AND RELIABILITY QUESTIONS ● WHERE YOU SHOULD NOW BE ● USE REFERENCE AIDS ● RISKING A POOR CHOICE OF TOPIC ● FEATURES OF GOOD TOPICS ● USING YOUR SUPERVISOR ● FOCUSING IN ON A POTENTIAL RESEARCH TOPIC ● DEVELOPING RESEARCH QUESTIONS ● DEFINING CONCEPTS ● STATING THE AIMS AND PURPOSE OF YOUR RESEARCH ● WRITING OBJECTIVES FOR YOUR RESEARCH ● USING A HYPOTHESIS IN YOUR RESEARCH ● RESEARCH PROPOSITIONS ● SUMMARY OF THIS CHAPTER ● FURTHER READING

Your first rite of passage into the world of research is finding a topic for your dissertation. You can make the process difficult by ignoring the advice of your supervisors and this book or you can work through the tactics we suggest here and enjoy the challenge. The main problems some of our students seem to have in identifying potential topics are that they have misconceptions about what a masters research topic is. In this chapter we will look at some criteria to use when thinking about a topic, at sources for generating ideas for a topic and at ways to formulate your ideas into a topic capable of resulting in a masters dissertation. The stages and processes of this are shown in Figure 3.1. The main purpose of this chapter is to address the following kinds of questions:

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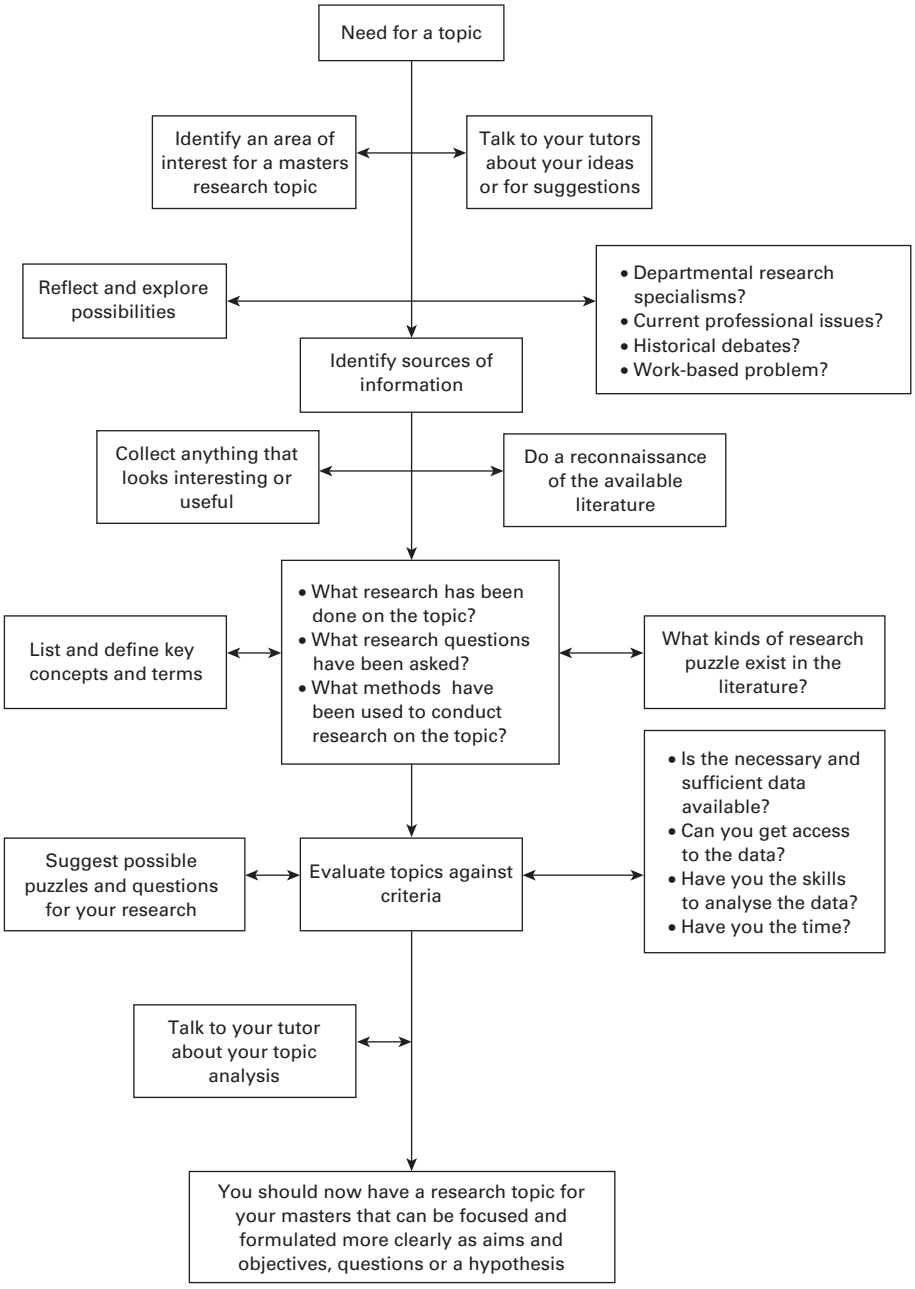

FIGURE 3.1 FINDING A PROPER TOPIC

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1 **What kinds of topic are suitable for masters level research?**

2 **What are research aims and objectives? How should they be written?**

3 **What is a hypothesis and proposition? Does all research need them?**

4 **How can a topic be justified?**

We end the chapter by looking at defining your research topic in terms of how to formulate good research questions and hypotheses and aims and objectives, but for now we begin with some misconceptions about masters research itself.

Misconceptions about topics

There is the misconception that masters research should be something that makes a difference to the world, something that has an impact on our views or understanding and therefore, in some way, makes a contribution to the stock of scientifically acquired knowledge. There is nothing wrong with wanting to do research that has an impact for the good of human kind, that advances, in whatever way and to whatever degree, the stock of knowledge and ways of understanding the world around us. But at masters level these goals should not be paramount or be the criteria for topic selection.

The generally held belief that masters level research is about discovery, change and knowledge generation needs to be placed to one side. This belief about the nature of masters research is, however, quite understandable. It follows the general view that research is about discovery and bettering the conditions of human kind. This view often has the associations of the 'scientist' in the lab surrounded by expensive-looking equipment, working long hours on a 'problem', facing setbacks, fighting bureaucracy but eventually being triumphant against the odds. Historically there have been such people and their endeavours have been the subject of cinema and television. It may be that such representations are in part responsible for this view of research. The only aspect of reality from this that you may encounter is the problem with bureaucracy. The rest is largely myth.

For now it is important to understand that masters level research is not primarily about discovery or making an original contribution to knowledge, though it may do this. If it does, this should normally be a secondary consideration to the primary function of your dissertation. This function is to demonstrate your skills and abilities to do research at masters level. Your topic is, in the main, a vehicle for you to display your skills and abilities as a researcher and to demonstrate that you have the qualities and attitudes required

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to be a potential member of the broader research community and to be considered capable of being a research assistant or going on to do doctoral research. It is the same for the work-based dissertation, but in addition you also have to demonstrate the ability to be a practitioner and researcher and be able to manage the issues this involves. The topic you choose should therefore have the features necessary for you to exhibit the skills, capabilities, attitudes and qualities which are subject to assessment.

What is a topic?

Topics suitable for masters level research come in a variety of shapes and formats. Finding a topic is, however, essentially about formulating a set of questions or hypotheses that require research of some kind in order that answers can be provided or statements put to the test. The range and types of question that can be asked and the kinds of hypotheses which can be stated mean that there are an infinite number of topics. Added to this is the point that not all research topics require the collection of primary data. Some can be based on the existing literature and in such cases the literature becomes the data. What counts as data or evidence also varies, but is often closely related to the way the topic has been formulated and the preferences made for how it is to be researched. The common denominator for all research topics is that they are puzzles in need of investigation.

TOPICS AS PUZZLES

A puzzle is something requiring, if possible, a solution. I say 'if possible' because not all puzzles can be solved, and many of those which appear to have been solved can be subject to modification or different solutions by other research. By puzzle I mean something generally or specifically not known and therefore requiring sensible questions to be asked that are capable of solving the puzzle or a part of it. There are different kinds of puzzles and the main ones can be seen by using words in the research questions such as 'when', 'why', 'how', 'who' and 'what'. For example, the following are some simple puzzles capable of being refined to provide a focused set of questions:

- **How are crime statistics related to crime?**
- **Why and how did Durkheim define suicide in the way he did?**
- **When and why did the romance novel become popular?**
- **What are the variables in television news selection?**
- **What are the key variables reproducing the cycle of deprivation?**

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We will shortly look at how to focus these general kinds of questions, but we will first look at the kinds of puzzles each exhibit. In Table 3.1, following Jennifer Mason's (1996) categorization of puzzles, we have identified five main types of intellectual puzzle which form the basis of research.

TABLE 3.1 DIFFERENT KINDS OF PUZZLE

Kinds of puzzle	Description	
Developmental puzzle	This is the *how much of Y exists or why did X develop?* Example: how and why did Durkheim define social order in the way he did? And what consequences have this had on the development of sociology?	Descriptive and illuminative research puzzles
Mechanical puzzle	This is the *how does X work*? Example: how are crime statistics compiled? And how is crime defined and how does this and the process of compiling the figures create the statistics for criminality?	
Correlational puzzle	This is the *what, if any, relationship is there between variable x and variable y?* You are attempting to identify if there is a relationship, association or no relationship between variables.	Correlational and explanatory research puzzles
Casual puzzle	This is the *why does (or strongly influences) x cause y?* Example: among the many events which occur daily, what variables influence the selection of stories for inclusion in the news? And what is seen (definitional work) by news selectors to count as newsworthy and why?	
Essence puzzle	This is the *why is X assumed?* Example: why is generality assumed to be the gaol of science? And what would the advantages be if this goal were put to one side to describe the essential features (essence) of phenomena rather than trying to explain them?	Ethnomethodological research puzzles

Source: Adapted from Mason, 1996.

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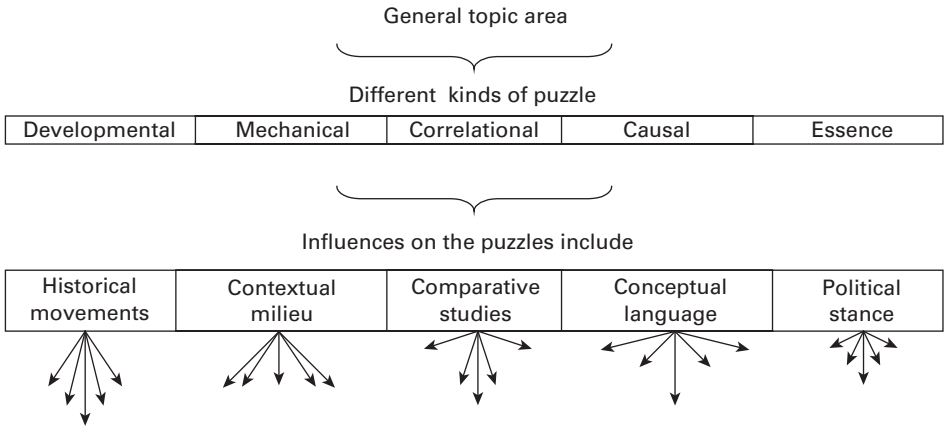

FIGURE 3.2 TOPIC PUZZLES AND INFLUENCES

We will look more closely at some real examples that illustrate the structure of these puzzles throughout this book. For now it is relevant to see how different kinds of puzzle give rise to many sub-puzzles due to the influence of history, context, comparison, concepts and political stance. In Figure 3.2 we can see the place of the different puzzles within the general scheme of a topic and I have attempted to indicate the different directions research may take as a result of these influences.

Figure 3.2 has been constructed from what Silverman (2000) suggests are the kinds of influences that can be used to sensitize you to various research issues. We have changed these a little and added 'conceptual language' and 'comparative studies' to his list, which are summarized in Table 3.2.

PUZZLES AS RIDDLES TO BE UNRIDDLED

One way of understanding puzzles is, according to Pertti Alasuutari (1995), to see them as riddles to be formulated and then to be unriddled – solved in some way. If we take this idea and synthesize it with Silverman's 'influences', then we have the basis for identifying a range of perspectives we may use when framing our topic. Hence, while I agree with Silverman, I would also recommend that these influences might be used to help you generate an understanding of a topic and then begin the processes of focusing in on a puzzle that has real researchability. Your focus may be on any one or a combination of the following:

TABLE 3.2 SENSITIVITIES INFLUENCING RESEARCH

Sensitivity	Amplification
Historical movements	The main elements of this are: (a) research is often closely related to intellectual movements and counter-movements of the time in which it was done, such as structural functionalism (1940s/50s), conflict structuralism (1960s/70s), symbolic interactionism (1960s), post-structuralism (1980s); and (b) the historical origins of research puzzles and developments in knowledge can usually be traced and their methodological assumptions identified as being, for example, foundationalist, positivist, anti-positivist.
Contextual milieu	The contextual elements which sometimes influence research are the social, economic, political, technological and legal variables deemed important at the time of the research. Within these are the policy movements which are receiving the most attention. These are often expressed in general phrases that imply a contrast or/and development from a previous state such as 'post-industrial society', 'information society' and 'knowledge economy'.
Comparative studies	'Poverty', 'mental illness', immigration' and 'sexuality' are categorizations used in many research studies, but have different uses based on different definitions, criteria and methodological approaches. From meta-theoretical studies to in-depth case studies, these kinds of categories result in different kinds of research depending on the purpose and preferences of the researcher. Hence, 'mental illness' is not a phenomenon able to be uniformly defined, but is dependent on context and historically-rooted definitions.
Conceptual language	Different perspectives in the social sciences, such as symbolic interactionism and post-modernism, have languages made up of concepts intended to describe and sensitize us to different kinds of social dynamics. Examples from the interactionist Erving Goffman include, 'stigmatization', 'presentation of the self', 'managing the self' and 'degradation ceremony'. This language is the discourse of the perspective and provides, like the discourse of other perspectives, a framework for understanding phenomena.
Political stance	A substantial amount of research is politically motivated and is aimed at revealing patterns of relationships such as 'inequality', 'discrimination', 'exploitation', and these are often seen as being a part of broader conceptual theories which attempt to explain 'inequality' as part of different forms of social organization, such as capitalism or patriarchy.

Source: Adapted from Silverman, 2000.

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- **the historical development and origins of a puzzle, revisiting the basic assumptions which were used and scrutinizing the data collected and interpretations made at the time, to identify alternative starting points and mis-interpretations of seminal works;**

- **the contextual milieu when the research on the puzzle was done, including cultural assumptions of the time, place and social group and on the use of various categorizations such 'political system' and contrasts categories used such as 'pre-industrial and industrial' and 'primitive and advanced', to identify the influences of cultural assumptions on classifications, research design and interpretations;**

- **comparative studies and findings from the same and different disciplines done at different times using different approaches, to compare and contrast in order to identify gaps and possibilities for the further development of a particular study;**

- **the concepts used to describe and categorize phenomena such as 'alienation', 'power' and 'control', analysing how these have been defined and operationalized in different studies, and how they have framed and restricted paradigmatic understanding of a topic, to identify other definitions and situations where they can be employed to understand social situations and dynamics; and**

- **the political and ethical biases in research to identify preconceived assumptions and their consequences, of the ways in which topics have been selected due to their usefulness in demonstrating the validity of assumptions, to critically evaluate such demonstrations and suggest alternative approaches which are less value-laden and biased.**

Sensitivities can be useful to place into context a problem you are considering. They can help you to start the process of scrutinizing the literature by asking questions such as: How are these concepts related?; What definitions have been proposed for this phenomenon?; and What standpoint has this research been done from?

Basic advice on research topics

There are a number of points we can make at this stage to help you select an appropriate topic for your masters dissertation. The prerequisite to this advice is that whatever topic is finally chosen, it should be capable of resulting in a complete dissertation

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in the time you have available. This may seem obvious, but many good ideas for a topic cannot be done in the normal period of time expected for a masters dissertation. Most topics will take a lot longer to research than most people initially estimate. A good rule of thumb is to estimate how long the research will take you, triple that estimate and then consult with your tutor who, you will find, will add more time on to it. Research is very time-consuming. So how do you find a topic capable of being done in six to nine months for a full-time student and 12 to 16 months for the part-time student? The six kinds of advice we offer you are:

1 The earlier you start the better.

2 Go from the general to the particular.

3 Avoid politicized topics.

4 Be careful with personal issues.

5 Find the line of least resistance between A and B.

6 Airing your topic.

THE EARLIER YOU START THE BETTER

When is the best time to start thinking about and looking for a suitable topic? The answer is the earlier the better. The sooner you start to think about and investigate possible topics for research, the sooner you will decide on one and can begin to develop your research proposal. The earlier you select a topic, the more time you will have to do the research. This means you may be able to undertake research on a topic that requires slightly longer than another, or one you can investigate in a little more depth or use data collection techniques that are more sophisticated. As soon as you start your masters course, begin to think about and discuss with your tutors ideas for topics.

GO FROM THE GENERAL TO THE PARTICULAR

Think of the task of identifying a topic as a process of refinement. This will mean going from the general area in which you would like to do research to the particular

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aspect that you can do research in. The general area can be something like, 'moral panics', 'construction of statistics', 'analysis of advertisements', 'history of science', 'experience of immigration' or whatever. These phrases are broad categories that can often be used to tell others, when they ask, what your research is about. They are the higher-level abstract designators that can be used to look for specific research questions which may have the potential for a masters dissertation.

If there is an area you have an interest in, then consult with your tutor and ask if they have any suggestions for specific research in that area. At the same time do some visualization of what a topic might look like in terms of what else can be done in the area and can form the basis for your research. This may mean reading some secondary sources on the area to get an overview of what has been done, what kinds of assumptions have been made and where the general interest in the area came from. Figure 3.3 shows what we mean by this using the example of 'moral panic'.

In this example we can see how the phrase 'moral panic' can be used to investigate its origins, previous uses and how it may be used to generate an idea for a topic. In particular it shows how we can begin to think about the necessary issue of the availability of sufficient data.

AVOID POLITICIZED TOPICS

What is your motivation for doing the research? Your primary motivation should be to acquire and develop your research skills and capabilities alongside the necessary attitude of reflection that will help you to demonstrate your research qualities. You should avoid topics that you want to use to demonstrate a political argument or forward a moral cause. As with personal issues, politicized causes as research topics are inherently problematic. They take with them motivations that have little to do with the research and more to do with providing evidence for the cause.

If you intend to do such research, be clear on your reasons and how you will ensure the validity and reliability of your research. For example, we recently had a student who wanted to investigate what are called 'holocaust denialists' arguments' on the Internet. These are individuals and groups who deny that the extermination of 6 million Jews (and others including gypsies, Catholics, homosexuals and trade unionists) in Nazi concentration camps ever took place. This is a topic fraught with emotion, politics and prejudices and because of this is a difficult one to research clearly in an objective manner.

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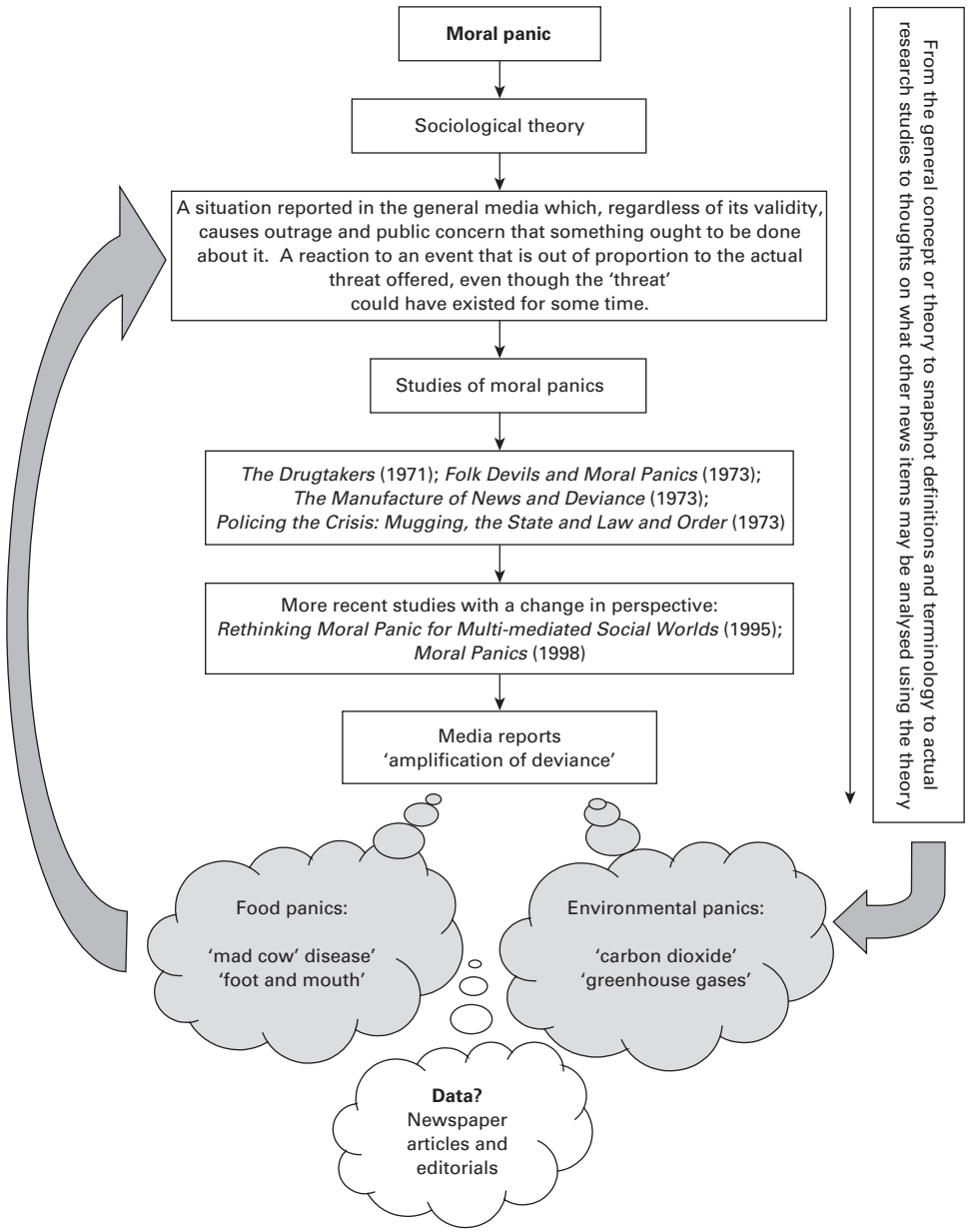

FIGURE 3.3 TOPIC ANALYSIS FROM THE GENERAL TO THE PARTICULAR

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These problems were compounded by the student having a Jewish heritage and therefore the research committee of the university preferred her not to research the topic. However, because of the importance of the topic she was allowed to go ahead but under strict guidance from her supervisor, who insisted she took the denialist arguments seriously and took as her research puzzle the construction of their argument and compared these with the counter-arguments against the denialists to find out how something that had been historically documented and taken for granted could be challenged. Her dissertation became an investigation into argumentation and evidence, carefully analysing and describing the argumentative structures and use of evidence from opposing sides. She therefore looked carefully at the validity and reliability of historical evidence as a research puzzle and did not use any emotive language in her conclusions or allow her own (understandable) feelings to be expressed. This is the kind of topic that may be important to investigate but is very difficult to do in practice. You may wish to reflect on how you would have done such a project and what reasons you could give for going ahead despite the problems.

BE CAREFUL WITH PERSONAL ISSUES

If there is an issue you feel strongly about and have an 'axe to grind', do not choose this as your research topic. For example, euthanasia or abortion are topics which are embedded with substantial moral debates and from a research perspective will involve serious consideration of ethical issues. With such topics it would be difficult to start your research without a set of preconceived beliefs and attitudes toward the main issues.

This does not mean you should avoid research that involves moral issues. Topics such as poverty, abuse, adoption and the like are issued based. But this has not prevented many good research studies being done to clarify the issues, definitions or processes or to identify possible causes and consequences. Standpoint research – as it is called – is often the basis for social policy research and therefore has an important place in the social sciences.

FIND THE LINE OF LEAST RESISTANCE BETWEEN A AND B

If we take it that the objective of masters research is to produce a dissertation of sufficient quality to be deemed 'masters level' and that the means to this is doing research, then the less complex the research to be done the more likely it is that the dissertation will be done on time and to the required standard. This means selecting

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a topic that can not only answer 'yes' to the following questions, but provides the simplest of routes to 'yes':

- **Is the data available?**
- **Can you get access to the data?**
- **Have you the skills to analyse the data?**

Data for providing answers to your puzzle must be available. This means the data – whatever this is – must be 'out there' and be of the necessary kind. The sources of your data must be identifiable at the outset. You should be able to say what data is needed for your puzzle and why it is needed. Second, you need to be able to get access to the data. If you need responses from senior managers in the health services, what would make you believe they would be willing to fill in a questionnaire for you or even spend time allowing you to interview them? Third, do you know how you will manage and then analyse your data? Knowing that the kinds of data you need can be obtained is not enough; you also need to know how you will use this data to answer your research questions and/or test your hypothesis. If your statistical knowledge and skills are basic, quantitative data requiring analytical statistical techniques may not be a practical consideration.

If your time restricts opportunities to go into the field, you may consider doing a topic that suits your situation. This means looking for a puzzle in a topic area that can be done using desk-based research. This could be the analysis of a debate in the social sciences, the testing of criteria used to evaluate an Internet-based information source, the study of extracts of conversation or a media production. You will still need to search and review the literature, design instruments for the collection of your data and identify suitable techniques to analyse it. This is not a simpler strategy for doing your research, but one among the many alternatives open to you.

AIRING YOUR TOPIC

Each discipline in the social sciences seems to have its own preferences on what constitutes an appropriate way to do research and this often influences the kinds of topic expected from masters students. Be prepared for some degree of disciplinary and departmental opposition from some of your tutors. If you are studying in a department known for its quantitative research, then expect your tutors to express this when

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evaluating your research suggestions. But do not be afraid to put forward a topic and methodology that differs from the norm. Many interesting pieces of research, at all levels, were initially seen as deviations from the expected. If you follow this track, of pushing at the boundaries, then be prepared confidently to justify your topic using sound argument and evidence.

Sources for generating ideas

There are many sources you can use to begin generating ideas for your research. This process may even begin before you go to university to do your masters degree, and in Chapter 1 we made some observations about this that are also relevant here. Do not expect a sudden creative vision that leads to your research topic. Bright ideas for a topic are usually the outcome of research and reflection. Typical sources for initial ideas include the following:

- **Taught modules you are doing on your course. Have you covered a topic that interested you, which you would like to look at in more detail?**
- **Has a tutor mentioned a research study that you found interesting, even puzzling, that you feel needs questioning?**
- **If you are doing your masters as part of a professional qualification, look in the profession's journal to see what the current issues and concerns are and if these have a research possibility.**
- **At work, if your research is to be work-based, what are the main issues, development needs and management problems that require some research?**
- **Have you listened to a visiting speaker to your department who talked about a project that may have other possibilities?**
- **Are you interested in particular phenomena that you cannot find much about in the library?**
- **Have you observed a pattern of behaviour you found interesting or perplexing and would like to find out more about?**
- **What projects are staff working on; do these interest you?**

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Analysing the possibilities of a topic

Once you have an idea for a topic and have discussed this with your tutor(s), you need to go to the library and investigate its possibilities. This means identifying sources of information, obtaining some literature and subjecting it to an initial scrutiny. The main stage in this part of the process is the initial search and review of the literature to identify research possibilities.

THE INITIAL SEARCH AND REVIEW OF THE LITERATURE

Use the library and not the Internet to plan an indicative search of the available literature. This is the literature that is in your library or available in electronic format – literature that can be obtained within a couple of days. In Chapter 6 we show you how to do a comprehensive search and review of the literature. If, however, you already have an advanced understanding of the topic area, then use the following books to ensure that you have the necessary skills for bringing your knowledge of the literature up to date:

- ***Doing a Literature Search: A Comprehensive Guide for the Social Sciences*** **(Hart, 2001).**

- ***Doing a Literature Review: Releasing the Social Science Imagination*** **(Hart, 1998).**

At this stage of your research you should be doing a reconnaissance of the library. Do not aim to define your main concepts or formulate clear research questions, but enjoy the freedom you have to explore the possibilities for your topic. This means looking to provide overviews that help you to have a basic understanding of two sets of questions. The first set is about the topic area itself and the second about the methods that have been used to do research into the topic area.

Topic questions

Once you begin to obtain some of the literature – books, articles and reports – subject it to a brief speed read. You are not looking to make copious notes on the details from individual books or articles, but to get an overview of the context of your topic. Look in your search for literature that provides initial answers to the following kinds of questions:

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- **What are the key texts and authors on the general topic area?**
- **What concepts and theories have been used on the topic?**
- **What is the history of the topic?**
- **What kinds of arguments are there about the topic?**

Even a rudimentary understanding of the origins and context of the topic will enable you to start thinking about the possibilities for your own research. It will provide you with research themes and issues which have been developed and debated by researchers in the topic area. With this knowledge as your frame of reference you can begin the work of looking for a topic that has a research focus. This may mean developing a piece of research that has already been done or analysing contributions to a debate about the topic.

Methodology and data questions

By looking at the research elements of studies you obtain, you are aiming to understand how the studies were done and, if possible, what kinds of methodological approaches (that is, quantitative or qualitative) and assumptions were used. The kinds of questions you need to be asking are:

- **Has anyone else done research on this topic?**
- **If so, how?**
- **What research questions did they ask?**
- **Did they use an hypothesis?**
- **What methodology and data collection tools did they use?**
- **What did they find?**

Do not worry if you find that someone else has done research on a topic you have in mind to do. It is often possible to deconstruct existing research, to critique it and find ways of developing it in ways different from the original. The social sciences have

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many examples of this process. For example, sociological research into the phenomenon of suicide has its origins in the seminal study by Emile Durkheim, but many others have been done since, each exhibiting a different approach. Some of these can be seen in Figure 3.4, which indicates the range of different approaches that have been used from Durkheim's original positivistic approach to interpretivist, ethnomethodological and conversation analysis.

Validity and reliability questions

Although most research in the social sciences is valid and honest, some of it has dubious foundations. As with all forms of research, including that done in the physical sciences, there is a degree of unsubstantiated generalization, political and ethical bias and, on rare occasions, fraud. The two classic cases of the latter are the work of Cyril Burt on intelligence (Beloff, 1980) and the work of Bruno Bettelheim (1976) on the psychology of fairytales. Both exemplify how a person can reach the top of their profession, receive numerous accolades yet, as in the case of Burt, base his work on non-existent research, while Bettelheim gained fame by plagiarizing the work of another.

Do not assume that because a piece of research has been published or has attracted attention that it is valid and provides a solid foundation for your research. This does not mean you use extreme scepticism, but exercise moderate scepticism when you come across something that is taken for granted as *knowledge* or *fact*. Remember to ask your tutors about the research you find in the literature, especially about what they know of its origins and how it fits into the broader context.

WHERE YOU SHOULD NOW BE

Your reconnaissance of the literature in the library should have given you sufficient information, such as the names of authors, words and phrases used to describe the topic, and an understanding of the structure of knowledge on the topic. In Table 3.3 the essential information and knowledge that you will obtain from your initial search and review of the literature is summarized.

While Table 3.3 shows you the range and kind of information you will gather during an initial search of the literature, Figure 3.5 shows a simplified map of the main questions, concepts, methodological assumptions and methodological approaches for the

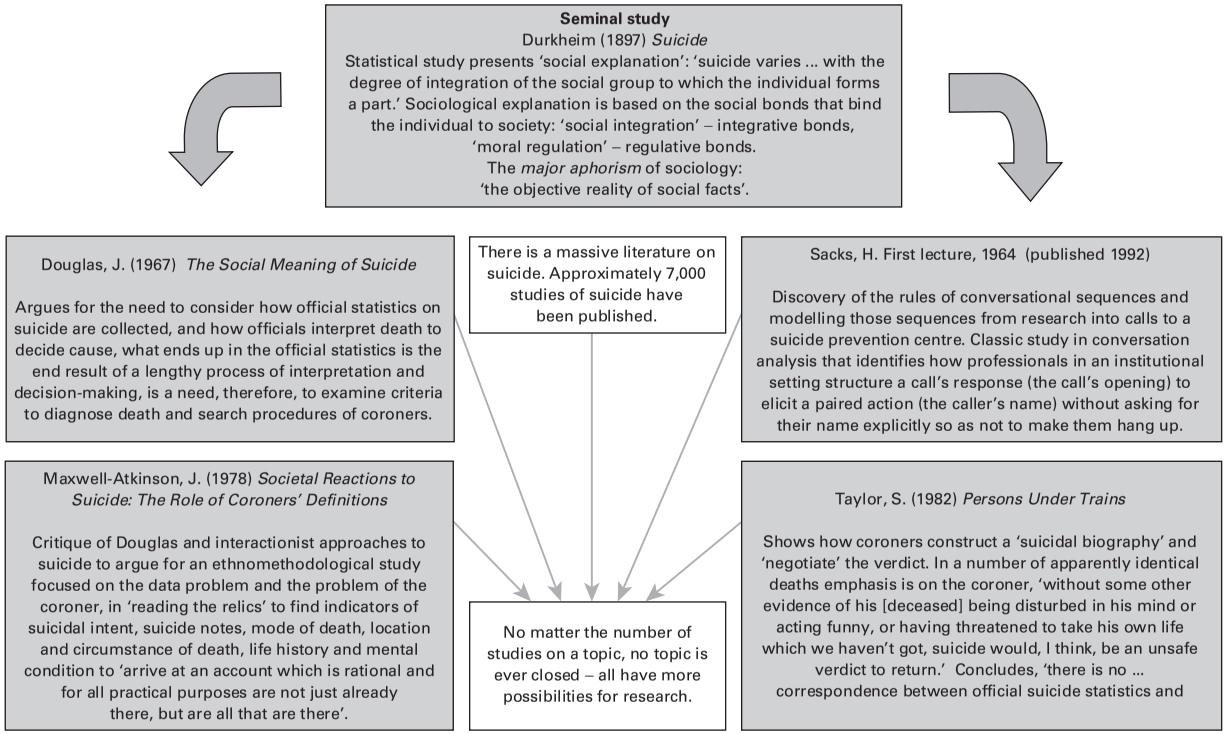

FIGURE 3.4 SOCIOLOGY AND SUICIDE: SAME GENERAL TOPIC, DIFFERENT WAYS OF RESEARCHING IT

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TABLE 3.3 OUTCOMES FROM AN INITIAL SEARCH AND REVIEW OF THE LITERATURE

Outcomes	Questions
An initial bibliography of texts on the topic. A list of the key authors on the topic.	What are the key texts and authors on the general topic area?
A list of the main concepts used in works on the topic. A list of the main theories used by individual and groups of authors to account for the topic.	What concepts and theories have been used on the topic?
The origins and seminal works that gave rise to and initially defined the topic.	What is the history of the topic?
The historical development of the topic in terms of arguments and debates over theories, concepts and data. This includes the different perspectives, standpoints and approaches which have been taken to frame and understand the topic.	What kinds of arguments are there about the topic?
An understanding of how others have designed their research to investigate an aspect of the topic.	Has anyone else done research on this topic? If so, how?
A list of research questions which have been asked and an understanding of what has been considered important within the topic for research.	What research questions did they ask?
Identification of hypotheses which have been constructed and tested and how they were tested using what kinds of evidence.	Did they use an hypothesis? If so, what type?
An initial understanding of the methodological assumptions which were used and preferences for particular methodological approaches (quantitative or qualitative). An understanding of the main data collection tools commonly used.	What methodology and data collection tools did they use?
Lists of key findings from the main research studies. These can be used to make comparisons and identify gaps and need for further developments of particular studies.	What did they find?

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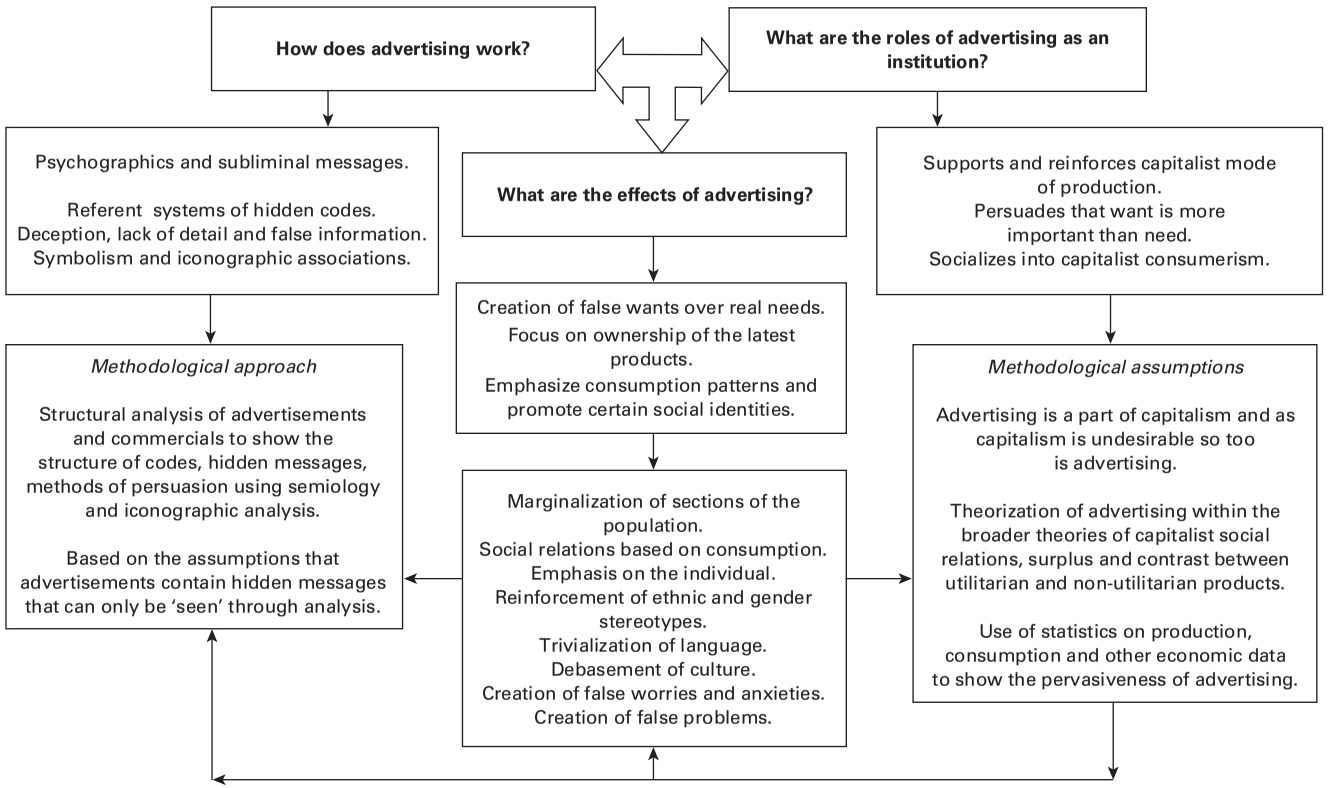

FIGURE 3.5 RESEARCH QUESTIONS, CONCEPTS AND DATA – THE EXAMPLE OF SOCIAL SCIENCE AND ADVERTISING

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social science treatment of advertising. Figure 3.5 is intended to demonstrate how you can use diagrammatic representations of a topic to summarize key concerns, the research questions that have been asked and also to begin the task of identifying the methodological assumptions used for research into a topic.

USE REFERENCE AIDS

It can be useful to have at hand a selection of reference tools. These may be social science dictionaries and encyclopaedias which will help you to find quickly short summaries and definitions of key concepts and theories. Useful reference sources which you will normally find in most academic libraries include the following and are often quicker to use than electronic sources you find on the Internet:

- ***The Blackwell Dictionary of Twentieth Century Social Thought*** **(Outherwaite and Bottomore, 1993).**
- ***The Social Science Encyclopaedia*** **(Kuper and Kuper, 1999).**

Your lists of words, phrases and definitions will be of use when you need to search and review the literature in more depth. This will be when you have decided on your specific research problem and have written your research proposal.

Risking a poor choice of topic

We outlined some of the misconceptions about masters topics at the beginning of this chapter; here we want to draw your attention to some of the ways in which students in the past have made some basic mistakes when selecting their research topic. The following are some of the ways in which you can engender a high level of risk into your research with the probability that it will fail.

Risky behaviours	Implications
♦ **Choose a topic in a hurry**	♦ **With no or little analysis of the practicalities of researching a topic you may face far too many unanticipated problems to deal with in the time**

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	you have available. Topic analysis will identify most of the issues and problems you are likely to face in your research — this is why you need thoroughly to analyse your topic before you start.
♦ Select the method before the topic	♦ Methods of data collection and analysis should be appropriate to the topic and not the other way round. You may be good at statistics or talking to people, but these should not be the first criteria for selecting a suitable research puzzle. The puzzle should be clearly formulated before you select data collection methods, otherwise you will be introducing a bias into your research equivalent to selecting a topic because it fits in with your political view of the world.
♦ Procrastinate for months over different topic ideas	♦ Doing little by dallying over possible topics wastes the valuable time you would otherwise be using to get on with your research. If you cannot make a decision, then take direction from your supervisor and stick to the decision they recommend.
♦ Generalize about your topic	♦ Vague and generalized ideas will lead to vague and problematic research. The broader the research idea, the more work it will involve to manage. The narrower your topic puzzle, the more likely it is that you will be able to identify precisely what you will need to do to finish your research in the time available.
♦ Ignore the basic criteria	♦ If you do not know what kinds of data are needed, then you will not know if you can get access to them or how to analyse them. Ensuring that you know the answers to these questions is equivalent to knowing where you are going before you set out on your research journey.

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♦ **Do not talk to your supervisors**	♦ **Silence from you may mean you have done nothing and are embarrassed to tell your supervisor or that you need no guidance. In the first case your supervisor will not be embarrassed because they are there to guide you and help you through your research blocks. In the second case, how do you know you are doing your research in the ways expected if you are not seeking and receiving regular feedback?**

Features of good topics

So far we have identified a number of features which, when combined, can result in a good topic for research and it may helpful to summarize these:

Criterion	Implications
♦ **Data availability**	♦ **The data you need to provide answers or solutions to your research problem must be available to you in sufficient quantity and quality. This means there must not be too much or too little data and it must be available using reliable collection techniques. Good topics have actual (secondary) or potential (primary) data available.**
♦ **Access to the data**	♦ **The data you need may be available, but not to you or in the way you need it. It may be commercially or personally sensitive data or even expensive if it has to be purchased. Good topics have data available which you can access with few problems.**
♦ **Time available**	♦ **No amount of enthusiasm can create the time you need for a research project. A good topic is one that has been clearly delimited and can be done in the limited time you have available.**

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♦ **Availability of resources**	♦ **Computing and software may be needed along with published materials, such as reports. If these are not readily available, then unnecessary risks will be encountered. Good topics tend to require few resources and those which are needed should be readily available.**
♦ **Capabilities and skills**	♦ **You may be impressed with a statistical technique or computer program, but if you do not have the necessary skills and understanding at the start of your project, then the time and energies needed to learn these may take too much away from the research itself for it to be successfully completed. Good topics are those that build and develop on capabilities, skills and knowledge that you already have.**
♦ **Symmetry of potential outcomes**	♦ **It can be uplifting to establish a link between variables and have a positive result from your research that shows a link and why one exists. It is equally valid to show that a link does not exist. Good topics have the capability of resulting in positive and negative results.**

Using your supervisor

A key to the success of many dissertations is the supervisor. Use your supervisor as much as possible throughout your dissertation research. They have the experience of supervising many previous students and therefore have a knowledge you do not have. They will be able to help you formulate your ideas on a topic, direct you to reading and may even suggest a topic they know can be done. By exploring a topic with your tutor you will be more likely to develop a positive and constructive relationship. Remember that along with another internal and an external examiner your supervisor will assess your dissertation, so it is important to develop a good working relationship as early as possible.

As a basis for your initial discussions take with you an outline, on a sheet of A4, of your idea for your research. This does not have to be typed or neat. A handwritten

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and roughly sketched-out idea will normally be better than something you have spent time and effort making look good. At this stage neatness is a luxury that is not needed and is a waste of time. It is your ideas that count, so focus your efforts on these and be prepared to share them with as many of your tutors as possible. What you can expect from your tutors is feedback to steer your idea in a direction that leads to a researchable topic. Do not worry too much if you receive guidance that seems to be conflicting. Different tutors will naturally have their own ideas as to what kind of research your topic idea suggests; often this is based on their own research interests and methodological biases. If possible, ask for a list of the research interests of your tutors and a list of dissertations they have previously supervised. These will give you an idea of their research orientations and biases and the kinds of topics they tend to supervise.

Try not to be hesitant in sharing your idea for a topic with a tutor – remember that they are on your side and are there to guide you. Once you have broken the ice with a topic, set up a schedule of tutorials to explore your idea, giving yourself enough time between each to follow up on the guidance you have been given. Even if you find that you did not have enough time to do everything, or even anything between tutorials, still keep to the schedule using the tutorial for a general discussion about your topic. Whatever you do, do not fail to turn up for a tutorial because you have not done much as this may annoy your tutor who, quite understandably, having invested effort on your behalf doesn't want their time wasted. Failure to attend a session can also be embarrassing when you next see your tutor and can lead to avoidance tactics by both and in extreme cases breakdown of the supervisory/student relationship.

Focusing in on a potential research topic

If choosing possible topics is the first step in your research, then developing one into a set of research questions, propositions, possibly a hypothesis, with a clear statement of purpose and objectives are the next steps. By developing these you will be defining what your research will be about, why it is needed and what kind of research it will be. In this section we will look at the process and relationships between research questions and different types and purposes of research. Details of methodological approaches and traditions we leave until Chapter 7, but even at this stage your research questions will give strong indications of these and help you in designing an overall strategy for your investigation. But before this some corrections to pre-existing assumptions may be useful. Across the different disciplines of the social sciences there

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are some differences of opinion on what constitutes a properly formulated 'research' problem. In a guide to doing a dissertation the following statement is made:

> A second criterion is that the question should suggest a relationship to be examined. This is a particularly important characteristic, because the purpose of doing research is to advance science. Because science is the study of relationships between variables, no relationship, no science. No science, no thesis or dissertation. It is that simple. (Cone and Foster, 1999: 35)

This is a rather stark view of what constitutes a research problem and a dissertation. You may remember some of the comments made in Chapter 1 about the need for clarity of understanding in the social sciences. This statement clearly has no appreciation of this attitude. My position, after years of experience supervising dissertations, is that this is only one view among many of how to express a research problem and what can count as valid, meaningful and useful research and research for a dissertation. I therefore take issue with these kinds of views of research because they exclude the possibility of alternatives and by doing so are dogmatic. While this is not the place to engage in discussion of what may or may not constitute 'science', my view is that a more inclusive approach should be taken and for the sake of progress in understanding our world – human and physical – I will use the word 'research' when looking at the formulation of research problems for a dissertation.

DEVELOPING RESEARCH QUESTIONS

What you may have done so far is to identify some broad topic area and undertaken an analysis of it through a preliminary search and review of the literature. You should have eliminated from your list of possible topics those which were too risky or failed to meet adequately the criteria of access to data and time to do the research. With the topic or topics you are still considering it is time to choose one and run with it by developing an aspect of it into a puzzle for your research. One of the first steps in this is looking to see what questions can be stated which are puzzles needing research in order to be addressed. Note I say 'addressed' and not 'answered'. This is because your research may find that there is no answer, in any definitive sense, to a question, but it can give an advancement in understanding and clarification, which in themselves are worthwhile outcomes.

Research questions are questions you intend to employ systematic research to investigate; they are what is to be investigated. They should embody the purpose and type

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of research necessary to unravel the puzzle they set for investigation. Remembering the different types of puzzle – the developmental, mechanical correlational, causal and essence puzzle – your questions should have a focus on one of these. Typically a puzzle will have a series of questions such as: How well does this program work? How can we measure 'well'? What can we compare it to? How do users and providers assess 'well'? The focus here is on evaluating the performance of a programme, say in education, health care or in the community. This means that some form of evaluative research design will be required involving descriptive statistical data, possibly from a survey/questionnaire, along with qualitative data, possibly from interviews. General questions are OK as the starting point, but will usually need refining to make them more precise, clear and focused. Clough and Nutbrown (2002) suggest using what they call the 'Goldilocks test' and 'Russian doll principle'. The Goldilocks test looks to assess research questions in terms of how big they are. Big questions are usually too big to be answered. This is because they either lack precision, needing to be broken down into smaller, more manageable questions, or are too vague, needing precision to make the concepts measurable. For example, 'What is consciousness?' is, as a piece of primary research, a big question for a masters dissertation. But rephrased as 'How has consciousness been defined and those definitions operationalized in research?' may be possible, once clarified by undertaking a critical review of the literature. Questions need to be the right size in terms of allowing a research design to investigate the problems they pose. Hence the Russian doll principle; larger questions need smaller ones and these need to fit together into a logical set.

Your questions will now need to be developed by looking to see what specific objectives will be needed to actualize each question and how each concept is to be defined to identify its major variables. Figure 3.6 shows the main elements you will need to work on to construct a clear and coherent definition of your research topic. Once you have your research questions, which of these you work on next is in practice not important. You will find that alterations to one mean you revisit another in an iterative process of going around tweaking one then another.

DEFINING CONCEPTS

Concepts are words such as 'effectiveness', 'efficiency', 'performance', 'poverty', 'truth', 'impact' and 'community'. Due to the nature of language and the ways in which meanings are a product of a word's use, concepts cannot be assumed to have a universal definition. When used in a research question, the way in which they are to be used needs to be defined. The literature on the topic is usually a good source of

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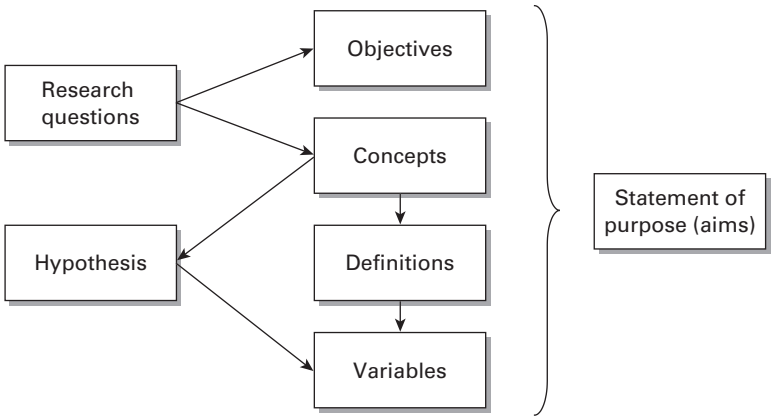

FIGURE 3.6 ELEMENTS IN DEFINING YOUR RESEARCH TOPIC

candidate definitions for this. Poverty, for example, can be defined in absolute (a person is in poverty because they have nothing) or relative terms (a person is in poverty because they lack what others take for granted) and even within these two general categories there are more specific definitions and arguments over whether such definitions are useful in measuring the concept. You can use the literature to examine and interrogate definitions used previously, categorizing these into what kind of definition they are. For example, you can look at definitions by example, by genus and differentia, by stipulation and operational analysis.

Whatever approach you use, remember that by defining your concepts you are entering into a research design that assumes it is possible to have a correspondence between words and things through the mediation of definition. We look at correspondence theory in much more detail in Chapter 7. But briefly, what this means is that you can measure the concept by defining variables assumed to correspond to the phenomenon. Poverty, for example, may be defined in terms of a range of indicators which state what a person does not possess (material things, social attributes, cultural capital and so on). The variables could then be defined in terms of such things as income level and value of assets, which would then be used to set a poverty line for the definition of poverty.

STATING THE AIMS AND PURPOSE OF YOUR RESEARCH

Another way of seeing the links between the different elements in defining your research project is shown in Figure 3.7. It provides an overview of where the problem

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statement (aims) fits into the process of research design (we look in more detail at research design in Chapter 10).

The process is, as we have indicated, not as clear-cut as shown in diagrams such as Figure 3.7. The process is largely iterative in that you will find yourself moving back and forth between writing aims and objectives, then recasting your problem statement and reading further into the literature on the methodological tradition and approach you have elected to base your research upon.

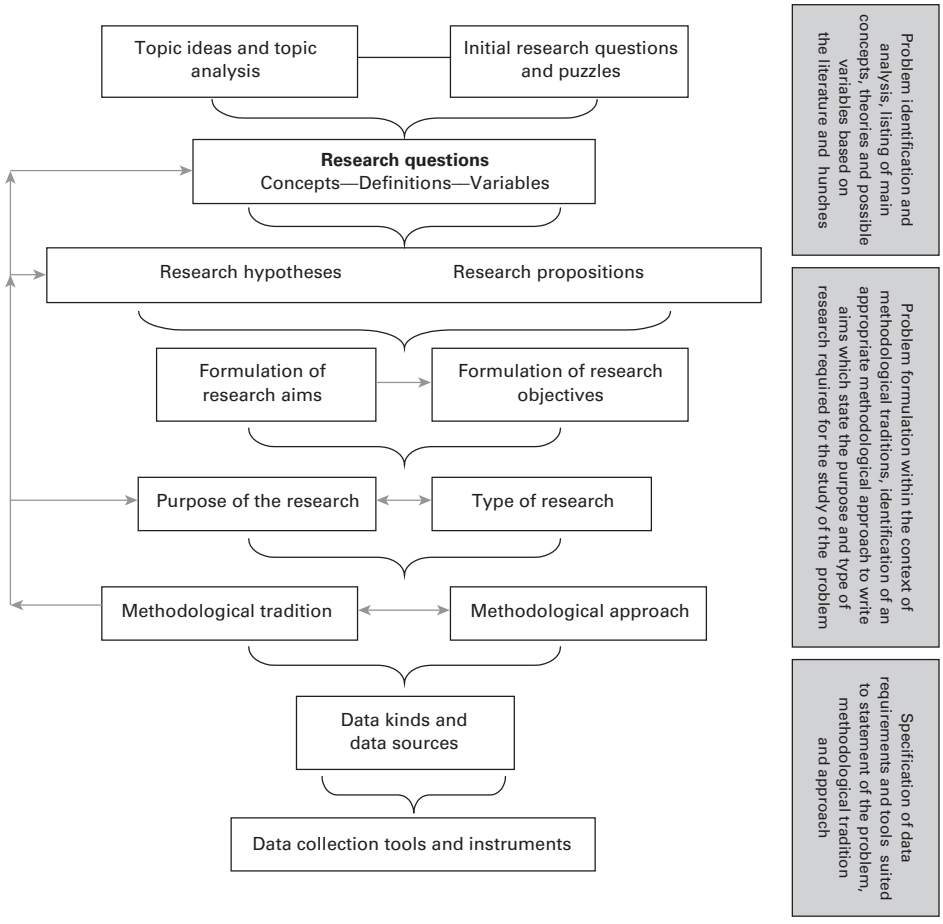

FIGURE 3.7 THE PLACE OF RESEARCH AIMS AND STATEMENTS IN RESEARCH DESIGN

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Many researchers often experience some level of anxiety and frustration when writing the aims and objectives for a research proposal. This may be because there is no consensus as to what aims are, what objectives are and how they relate to each other. There is also the problem that different institutions have different ideas about what an aim is and what an objective is, sometimes using different words for the same thing, such as goal in place of aim. In this section we offer a guide to help you understand the nature of research aims and objectives that will help you to formulate good aims and clear objectives. We can begin by looking at the purpose of aims.

A research aim is one or more statements used to express the general *intent* (purpose) and indication of the *orientation* (methodological nature) you have decided on for your research project. Your aim should also include a gloss of the topic, for example, 'motivation', and a broad typification of your units of analysis, for example, 'masters students'. By 'intent' we mean the purpose (function) you are proposing for your research, for example, to evaluate, find a solution, identify something or bring about a change to a situation by your research. One way of thinking about this is to say, 'This research intends to [examine], [explore], [inquire into], [investigate] or [study] … in order to [identify], [diagnose], [answer], [find out], or [understand] ...' some topic. By 'orientation' we mean the position you have elected to take regarding the nature of your research, for example, to base your research on a quantitative or qualitative description, analysis or experiment. It may be that you state the orientation of your research before your intent. For example, your aims may begin like the sample shown in Figure 3.8.

Although the aim shown in Figure 3.8 has the outcome to change the curriculum, this is not its primary intention. As a masters dissertation, the main intention is to demonstrate the ability to do research rather than effect change to a situation. Developing the curriculum to improve motivation is therefore a secondary consideration to recognizing that this is a proposal for a piece of formative evaluation that is focused on the questions, 'What do the students talk about as motivating them?' and 'How can we use this information to develop a curriculum that motivates?' Often such kinds of questions take the place of or complement a hypothesis.

If we look at the words and phrases which make up aims we can see that the intent and orientation of an aim are not mutually exclusive. In the example already introduced and shown again in Figure 3.9 we can see that there are a number of phrases

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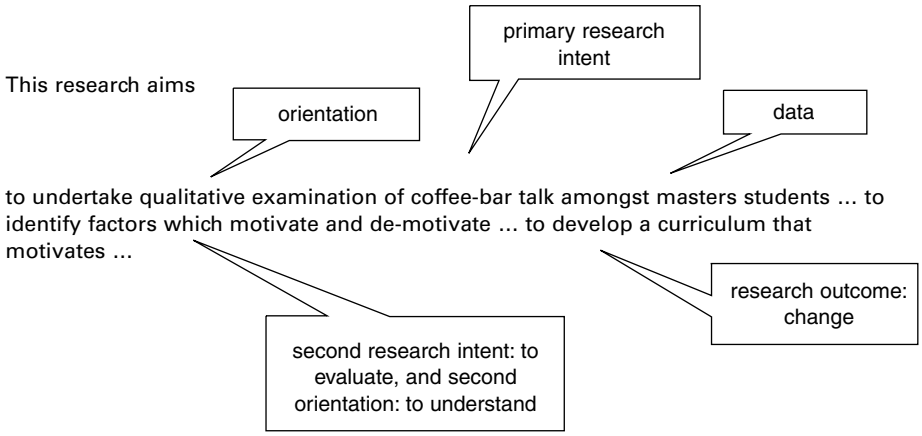

FIGURE 3.8 STRUCTURE OF STATEMENT OF RESEARCH AIMS

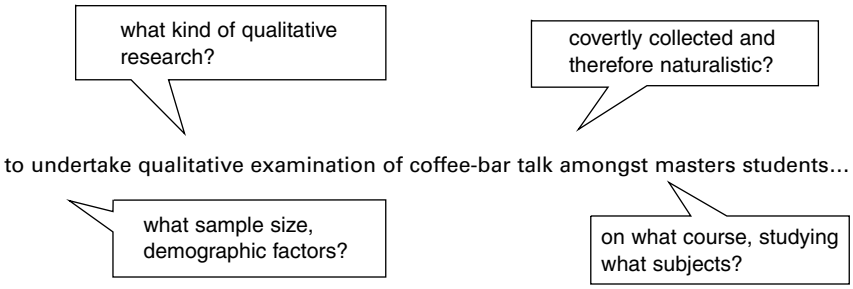

FIGURE 3.9 DELIBERATELY VAGUE PHRASES ALLOW FOR FURTHER EXPLANATION AT A LATER STAGE

which are intentionally vague because they can be explained in other parts of the proposal.

While the implicit references in an aim can be developed in other sections of the proposal, we can see in Table 3.4 the implications of using a specific word to indicate the orientation of the research. In the example the word 'examine' has been used and this implies that the research will be looking at coffee-bar conversations in detail to analyse them and identify from them talk about the elements of the course which motivate and de-motivate.

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TABLE 3.4 VOCABULARY OF TYPES OF RESEARCH

Term	Amplification
Investigate	'to inquire into thoroughly' 'examine systematically' 'a process of finding out' 'search for evidence'
Enquire	'seek information by questioning' 'seeking answers' 'make an investigation'
Examine	'look at or actively observe' 'inspect carefully for detail' 'scrutinize'
Explore	'seek the unknown' 'diagnose a problem'
Explain	'discover cause and effect' 'identify independent and dependent variables'
Study	'carefully consider' 'critically think about' 'seek to understand' 'contemplate or reflect about'

Your research aims can sometimes be used to state the purpose of your research; to provide the purpose statement. Here is an example:

> The purpose of this study is to identify which demographic factors (age, sex, ethnicity) correlate with which social lifestyle factors (social networks, number of sexual partners, employment, education, residence) to determine risk factors in young adult injection drug users (IDUs) currently or recently in rehabilitation.

This is the kind of statement that can also be your aim and form the main part of your problem statement. Fully to be a problem statement you would need to state the known prevalence of the problem, why it is a problem, and for whom. This would be a very brief synopsis of research and data from the literature.

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TABLE 3.5 USING RESEARCH TERMS TO DESIGN COHERENT RESEARCH

Using these … →	Examine	Explore	Inquire	Investigate	Study
identify and gather data … →	Data	Information	Facts	Answers	Principles
which is subjected to … →	Scrutiny	Criticism	Contemplation	Comparison	Evaluation
and may result in … →	Under standing	Relation ships	Explanation		Knowledge
which can be used to … →	Draw conclusions	Suggest solutions	Recommend actions	Make changes	Clarify debates

The words in Table 3.5 can be used in a number of ways depending on what you intend to do. You can use them singly or combine them. For example, you could state that your aim was to do an 'exploratory study', or 'critical study', or 'investigative inquiry'. You can also preface the orientation with a methodological one, such as 'quantitative examination'. There are many more words and phrases that can be used to formulate aims which embody the methodology of your research, including 'evaluate', 'identify', 'experiment', 'analyse', 'describe' and so on. As you can see from the matrix shown in Table 3.5, the vocabulary of research has different levels and dimensions. The point to remember is to ensure that whatever terms you use they should be logically related and used to formulate a coherent aim and set of objectives. We will now look at what we mean by aims being coherent.

We can see in Table 3.5 an example of how the different elements can be combined in different ways to achieve a desired outcome. There are two main points to note here. The first is that not all research has to result in a solution; understanding and the clarification of issues are as valid as any other outcomes for a research project. The second is that starting with a study of, say an academic debate, then contemplating the nature and origins of that debate, then scrutinizing any data and arguments used in the debate, then subjecting data and argument to critical evaluation and reflection may result in a new (possibly) clearer understanding of the debate. The research will, however, have been

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coherent in that its elements were deliberately chosen from amongst alternatives and logically combined in such a way as to be fit for the purpose of the research. It is this vocabulary that can be used to formulate the aims of a research project. In your aims you are stating the choices you have made and which you are proposing will form the basis of your approach to researching your topic. The aims you write in the early stages of your research will, of course, be subject to change as you refine the purpose of your research and the methodological tradition and approach you want to use. Finally, there are other pieces of information you can also include in your research aims, such as scope, dates (for example, between 1815–1883), the title of a publication (for example, *Great Expectations*), name of a person (for example, Charles Dickens), reference to a theory or position (for example, atavism), and an analytical framework, such as case study or comparative study, a hypothesis and your main research question.

WRITING OBJECTIVES FOR YOUR RESEARCH

The objectives of a research project (a proposal for your research) are the tasks required to actualize adequately the main elements of the research questions. There is sometimes, as we have said, some variation over what some people call aims and objectives. Objectives tend to be defined as the tasks you will need to do, in the rough order, to complete your research. Most research projects will need a search and review of the literature, construction and testing of data collection instruments, analysis of the data and a research report. Taking these as the major parts usually required, one way of casting your objectives is to look at your research questions and identify what tasks need to be done in terms of the dissertation structure in order to answer them. This way may result in the following set of objectives:

1 **To review the literature of public library use by students of basic adult education courses in order to identify which variables have been previously identified in terms of low-use patterns.**

2 **To interview a sample of students about their use and knowledge of what their local public library can provide related to their course and their patterns and reasons of use of the library service.**

3 **To survey a sample of adult education providers to find out what they know about what public libraries can provide for their students and what they know about their students' use of the library service.**

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4 To identify gaps in knowledge of what the public library can provide for students on basic adult education courses.

5 To make realistic recommendations on how libraries can make their resources known to providers and students of basic education courses and how they can mitigate some of the barriers to the use of those services for this group of people.

These objectives are from a study of public library use by students on basic adult education courses. They are numbered consecutively and give only the briefest of information on what will be done and what information will be the result. The main focus of the research question they are based on is why don't students on basic adult education courses make more use of the resources in public libraries to help themselves. Although the number of objectives do not always have to correspond to the same number of research questions, for both between five and seven are usually regarded as sufficient to express what you want to know and how you will go about finding out. The second main approach to objectives is to express them as outcomes; as products of different parts of your research. The following are from a study of information flow in the construction industry; an industry subject to many different statutory regulations and standards which are constantly changing. The example shows the main aims, problem statement and objectives.

> The aims of this study are to identify the ways in which quantity surveyors in the UK construction industry obtain and use information and to evaluate the role of special libraries in supplying relevant information. The major problems facing quantity surveyors are the amount of information necessary in the form of regulations, standards and specifications, changes to the information and application to different kinds of construction. To investigate information flow it will be necessary to:
>
> 1 Detail the flow of information in terms of its supply and availability to its use by a sample of quantity surveyors.
>
> 2 Examine previous research on information flow in the construction industry, identifying its function and cases of failure.
>
> 3 Describe and evaluate the role of special construction libraries in the information chain.

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4 Survey quantity surveyors on their knowledge and use of special libraries.

5 Compare the knowledge quantity surveyors have and their use of special libraries with other sources of information.

6 Suggest ways in which special construction libraries can be more effective in supplying information to quantity surveyors.

(Shoolberd, 2003: unpublished teaching notes)

After each objective it is legitimate practice to provide some explanation of what you are intending to achieve. This will help you to understand what will be involved in each objective and how they relate to each other and to your aims.

USING A HYPOTHESIS IN YOUR RESEARCH

Sometimes your research questions or the expectations of your supervisor may mean that you need to develop a hypothesis for your research. A hypothesis is an informed guess or hunch that a relationship may exist between two variables with one being the cause of the other. A hypothesis (H_1) is therefore a statement that asserts that a relationship exists between two or more variables, that *x* is caused by *y*, or that particular consequences (C) will follow if the hypothesis is valid, that *if* H_1 *then* C_1, C_2, C_3 and so on. For example, I know a little about motorcars and how they work and hence, sometimes, why they do not work. If I turn the key to start mine and nothing happens I can, on the basis of my existing knowledge, hypothesize a number of possible causes, but that the most likely is a flat battery. Stated as a hypothesis to be tested, this could be: cars with a flat battery will not start. As a consequence, if it is a flat battery then I also know that there will be a number of direct consequences, such as the radio will not work (and will have lost its memory of my favourite pre-set stations), the clock, being electric, will have stopped and the windows will not work. I could, if asked, provide more detail on why a flat battery causes the situation by taking the explanation to another level, say motorcar electrics. But I could not go much beyond this because I do not know enough about physics to talk about how a battery works at the level of atoms and electrons. There are, then, different levels of detail at which hypotheses can be used to give different possible explanations which have different levels of explanation. These differences are what Alan Garfinkel (1981) calls 'explanatory relativity'. This point is that a hypothesis should be appropriate to the level of detail required and that we remember it is not, as in our example talking about electrons, explaining the phenomenon but something about the consequences of the

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phenomenon. We are asking *why* will the motorcar not start, not *how* does a car battery work. The use of a hypothesis in research is more complex than in this example, but it illustrates the main principles of hypotheses such as:

- **they are tentative propositions based on existing knowledge (even a theory) and its use to explain a situation;**
- **they are limited to the situation at hand, but the knowledge they are based on is general;**
- **the validity of the hypothesis in this situation is not known, but contains the details of what variables are to be investigated to test the validity of the hypothesis; and**
- **if found to be the cause from which the consequences have logically followed, this is the evidence for confirming the hypothesis.**

Hypotheses therefore give direction to the investigation in terms of where to look, what to look at, what to test and as such have a deductive structure. This means that they can be expressed in terms of 'if', 'then'. Figure 3.10 shows the deductive structure along with the role of inductive inference.

In our motorcar example the hypothesis we used is called a *research hypothesis* because the problem it addresses is capable of being empirically investigated. Given the consequences, that electrical devices in the motorcar do not work, then our hypothesis is, on the basis of prior experiences, the most statistically probable. Hypotheses work well with physical events (or lack of) because they can be based on existing knowledge of the basic laws of physics. Sometimes, however, in physics, but more often with human actions, events are the outcome of chance. The chance of 50 per cent of millionaires owning a Rolls Royce is 50 per cent may or may not be statistically correct. It is measurable and if found to be the case only tells us there is a 50/50 chance of millionaire *y* owing a Rolls Royce motorcar *x*. Similarly, if we say that there will be no difference between the reading habits of an equal sample of left-handed boys and left-hand girls aged 13 years, we are saying there is no relationship between reading

> Analytical statistics, especially the Pearson-Product-moment correlation, plays a large part in the calculation of the data for hypothesis testing. For help with statistics, see Further Reading to this chapter.

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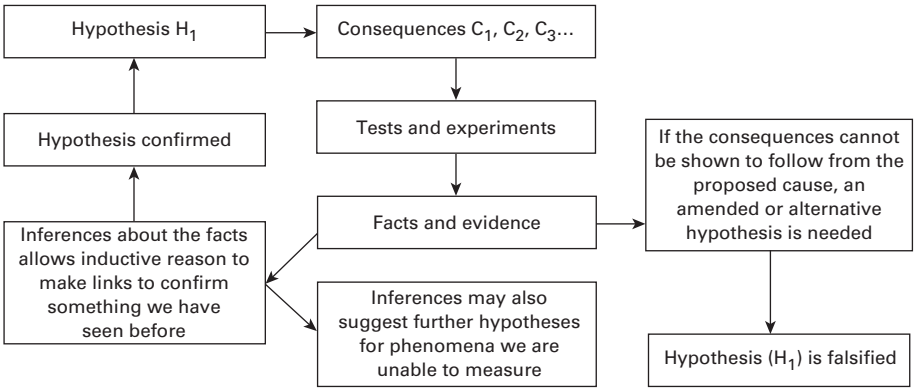

FIGURE 3.10 THE DEDUCTIVE STRUCTURE OF HYPOTHESES

habits and left-handedness. This type of statement is called the *null hypothesis* because it states there will be no difference statistically between the variables. We could measure the reading habits of the boys and girls and calculate the variance between the two sample groups, which would indicate (rather than strictly prove) whether the null hypothesis is acceptable or is to be rejected for an alternative research hypothesis. Note that we are using samples with the intent to generalize to a larger population and therefore need to know much more about sample selection techniques and the nature of generalization to use hypotheses. These are all parts of the research design which we will look at later in this book.

You should, as a mater of course, be thinking about samples and also about the elements of your hypothesis and research questions at this stage. This mainly involves looking to see how you can define your major concept (sometimes called constructs) and what indicators, variables and values you will use to operationalize it. For example, if you were looking at poverty and ill-health you may hypothesize that poverty is a major cause of poor health and mortality among low income families. Poverty, poor health and low income would all need careful consideration and recourse to the literature for definition, but for the sake of our example an initial design might look like the one shown in Table 3.6.

Outlines such as the one shown in Table 3.6 can be useful starting points for all types of research, not just those using a hypothesis. They help to clarify what kind of data will be needed in terms of their relevance, amount and detail and how they may be collected so as to be reliable and able to be compared.

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TABLE 3.6 OPERATIONALIZING THE HYPOTHESIS

Main concept cannot be directly measured	→	**Poverty**		
Category of persons (or phenomena) which indicates the existence of the concept	→	**Indicators**	→	Registrar General's classification of social class
Categories of activities (or things) which can be measured	→	**Variables**	→	Diet, smoking, alcohol consumption
The actual units (how much, how often) that can be measured	→	**Value**	→	Lung-cancer, heart disease, bronchitis rates

RESEARCH PROPOSITIONS

While hypotheses are usually associated with correlational and explanatory research, it is quite possible to use a form of hypothesis in other types of research and research approaches. For the sake of clarity and demarcation we will term these 'propositions' rather than hypotheses. A proposition is a phenomenon presented for consideration that wants to confirm or deny assumptions, methodology or methods used to define or apply the phenomenon. For example, we may propose that newly constructed university library buildings (say five) meet all the current building regulations but fail to meet the needs of students. We are proposing that there is a logical gap in the function of the building and could go on to propose why we believe this to be the case. Propositions are statements based on an argument which can be investigated through a similar research design to that shown in Table 3.6. Our example here may include definitions of a library, usage statistics of before (old library) and after (new library) to indicate usefulness as a concept, and questionnaire survey and interviews with users. This proposition could include the collection of a range of organizational statistics, quantitative responses and qualitative opinions. It would not result in any kind of strict correlation between the variables, but would fulfil the main purpose of raising a topic for critical discussion. My own research on the influences on library architecture uses such propositions combined with research questions (Hart, 1996). For example: What are the main conceptual influences on contemporary library design? How do these relate to the historic place and value of knowledge? How is the purpose of the library represented in its design? What role do librarians and users of libraries have in the design of libraries? Questions like

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these can form the basis of a propositional argument that has several related propositions, such as: contemporary library architecture represents information access rather than knowledge collection; they are designed using the concept of visibility, access and speed; the book is no longer valued because it is seen to represent elitism; hence the glass library building has replaced the stone one and computers have replaced books. This was investigated using images of recently built libraries.

SUMMARY OF THIS CHAPTER

This chapter has attempted to provide you with an overview of the initial stage of doing your masters dissertation. The focus has been on the general issues and techniques for finding a suitable topic for your research and how to define a topic in terms of questions which are research questions. These ways of defining a topic have only been touched on and you are advised to consult the literature, especially in the further readings to this chapter, and your tutors for detailed advice. But now that you know about defining a topic, some time needs to be given to considering methodological traditions and approaches before the research project is finally formulated into a definite design. These are issues that will be dealt with in Chapters 10 and 11. The key points made in this chapter include the following:

- The topic needs to be do-able in the time you have available. A do-able topic is one that has available data you can access and have the time to analyse.
- There are many different ways of framing a topic and most of these are as puzzles to be solved and the initial or indicative search and review of the literature is an important part of topic analysis.
- The earlier you start looking for a topic, the more time you will have to develop a clear puzzle and research design.
- Once you have some candidate topics, define them using research questions, hypotheses and propositions.

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Further reading

Alasuutari, P. (1995) *Researching Culture: Qualitative Method and Cultural Studies*. London: Sage. Chapter 11 introduces the idea of research being about unriddling.

Blaxter, L., Hughes, C. and Tight, M. (1996) *How to Research*. Buckingham: Open University Press. A good starting point with some simple to do exercises on topics.

Booth, W.C., Colomb, G.G. and Williamson, J.M. (1995) *The Craft of Research*. Chicago: University of Chicago Press. Has a section in Chapter 3 on moving from topics to research questions.

Clarke, G.M. (1992) *A Basic Course in Statistics*. 3rd edn. London: Edward Arnold. A solid introduction to statistical techniques relevant to hypothesis testing.

Dalen, Van, D.B. (1979) *Understanding Educational Research: An Introduction*. New York: McGraw-Hill. A thorough introduction to hypotheses and related statistical techniques.

Dees, R. (1997) *Starting Research: An Introduction to Academic Research and Dissertation Writing*. New York: Pinter. See Chapter 3 on planning a focus for your research.

Kumar, R. (1999) *Research Methodology: A Step-by-Step Guide for Beginners*. London: Sage. Chapter 4 gives advice on formulating a research topic including using hypotheses and Chapter 5 on variables.

Lester, J.D. (1993) *Writing Research Papers: A Complete Guide*. New York: HarperCollins. Has advice in Chapter 1 on finding a topic.

Silverman, D. (2000) *Doing Qualitative Research: A Practical Handbook*. London: Sage. See Chapter 5 'Selecting a topic' for advice on strategies to overcome some of the most common errors when looking for a topic and at qualitative hypotheses.

Trochim, B. (2002) *Research Methods Knowledge Base*. Address: http://trochim.human.cornell.edu/ An Internet resource that includes a lot of advice on hypotheses, samples and statistics.

Walliman, N. (2001) *Your Research Project: A Step-by-Step Guide for the First-time Researcher*. London: Sage. Chapter 5 discusses hypotheses, research questions and propositions.