10 Conclusion

This book started out with the assumption that you wished to carry out an experiment and had a problem which you wanted to turn into an experiment, but you did not know how to go about it. Well, hopefully, if you have worked through the book, you should now know something of how to go about it. However, one of the things which has not been discussed is where you get hold of the problems or issues to turn into experiments.

Ideas for experiments

It is not at all difficult to come up with ideas which could form the base for some kind of inquiry. Once you look at the world about you in this light then I would be surprised if you were not inundated with possibilities. Observe the behaviour of other people, of children, of animals, of yourself. Why do I find it difficult to remember the names of people I have just met, whereas my wife remembers everybody's name? Why does the cat make a strange noise on the kitchen windowsill when there is a squirrel or a magpie outside, and not when dogs, cats or other birds are there? It would be possible to work such questions up into an experiment. By careful observation you would pick out regularities and get ideas about what the variables might be. However, unless you are prepared to devote a considerable part of your life to this enterprise it is highly unlikely that you would, unaided, be able to develop worthwhile experiments.

Remember that, in experimentation, we select a very small number of variables, operationalized in a particular way. To get to the stage where you are able to do this sensibly calls for a lot of

preparatory investigation. Given time you could do this through exploratory studies (the experiment is not the only kind of study possible; see Robson, 1993 for coverage of other possibilities). However, although psychology is a young science, it does exist and it is foolish to ignore the work that has been done previously by others.

How does one make a start, then? Any general introductory text will give you some ideas of the way in which psychologists have carved up the field. From this, using your references, you should be able to move to more specialized books and on to journal articles. A large proportion of the 'meat' of psychology is in journal articles, and you need access to a library which subscribes to the main psychological journals.

Once you have a clear idea of the particular area you are interested in and some idea of the ways in which experiments in the area have been carried out and the theoretical frameworks in which they have been cast, it is a good strategy to switch the attack to the most recent work in the area. To do this, *Psychological Abstracts* is a valuable journal. If you look over the last two years for your particular topic you should discover several suitable references (one can sift through the abstracts very quickly). Looking up the references – and the references they cite – quickly gives one an idea of the main issues in the area. Academic libraries are now likely to have abstracting journals such as this on CD-ROM (on a compact disk similar to those used for music but which can be 'played' through a microcomputer – and which can store an amazing amount of information). Your library may also have other forms of computer search facilities. These techniques enable the searcher to go back in time – reference is made in articles to something previously published. However, it may well turn out that a search of this kind turns up a reference which is absolutely central to what you are interested in, and it is then very useful to know whether other researchers have followed it up.

This means going forward in time, and publications called *Citation Indices* enable this to be done. Here the index for a given year gives (amongst other things) the authors who, in their own articles, have cited a particular article.

The process is of course not simply one of checking up in the

literature to find out if someone has already performed the experiment that you are interested in. As you read about the approaches which researchers have used and the results they have obtained, your own approach will be altered. What we are describing is a continuous interaction between your own changing ideas and the ideas you encounter in your search of the literature. It may well be that, at the end of this process, you decide that the problem does not exist any more – that it is as satisfactorily explained now as it is likely to be for some time. It may be, however, that the experiments which you have read about seem to ignore something which you feel is vital. If so, go ahead and do not be afraid of breaking out of the framework within which people are working in the area. It may be that they are so involved in following a particular line that they 'can't see the wood for the trees'. They could be making unnecessary assumptions which you as a newcomer may well not share.

This kind of 'enquiry driven' approach is an excellent way of learning a great deal of psychology.

What to do if the techniques covered here cannot be used to answer the questions you are interested in

Do not despise the armoury of tests provided in this book. Very many problems can be attacked by considering the difference between pairs of means (*t*-tests) or of variances (variance-ratio tests). And if the normality and/or homogeneity of variance assumptions of the *t*-test cannot be justified, there are the non-parametric equivalents. Adding in Spearman's rho (or Pearson's r – see Appendix 2) when we are interested in correlation, and chi square where we have frequency data and want to test for association or goodness of fit, there are many more problems which can be tackled.

However, you may find cases where the problem can only be forced into a mould where one of these tests would be appropriate by altering it out of all recognition. This may mean that you will have to curb your impatience until you have a command of statistics which cover more complex designs. There are many second-level texts to help you with this (e.g. Wright and Fowler, 1986, which is keyed into the present text). Do remember, however, that there is no general rule that the design and carrying out of

experiments is a solitary activity. There is much to gain in collaborating with others in all the stages in the process. Nor should you be afraid of asking for advice from those more experienced than yourself.

What do I do next?

You could try doing an experiment. But beware – they can be addictive.

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