The first chapter ('Preliminary ideas and examples') discusses several examples that motivate the use of statistical methods. This chapter is followed by two chapters that discuss the standard techniques used in descriptive statistics ('Descriptive statistics: central tendency' and 'Descriptive statistics: variability').

The next two chapters provide an introduction into basic probability theory and discrete random variables ('Probability' and 'Probability distributions'). Two discrete distributions are discussed in detail in Chapters 6 and 7 ('The Binomial distribution' and 'The Poisson distribution'). A chapter ('The Normal distribution') that introduces continuous probability distributions and discusses the Normal distribution concludes this part of the book.

Basic statistical inference on sample means, confidence intervals and hypothesis testing is discussed in the following chapters ('The sampling distribution of the mean', 'Confidence intervals for the difference between two means', 'Confidence intervals for proportions' and 'Hypothesis testing'). Chapter 13 ('Simple regression') and 14 ('Simple correlation') introduce regression and correlation analysis. An introduction to classification and categorical data is given in Chapter 15 ('Categorical data and chi-square tests').

Chapters 16 through 24 discuss a variety of subjects pertaining to analysis of variance and related topics. The first three of these chapters ('One way analysis of variance', 'Two way analysis of variance' and 'Multiple comparison procedures and post hoc tests') discuss two simple ANOVA models and the usual procedures that are used for further analysis if a factor in an analysis of variance is found to be significant. The following chapter ('Experimental design') introduces several issues that should be considered when designing experiments and motivates more complicated ANOVA models which are then discussed in Chapters 20 through 23 ('Two factor factorial experiments', 'Latin square designs', 'One factor repeated measures designs' and 'Two factor repeated measures designs'). The connection between regression and analysis of variance and an introduction to multiple regression are given in Chapter 24 ('Regression and the analysis of variance').

The final three chapters in the book give an introduction to survey sampling ('Survey sampling methods') and nonparametric tests ('Nonparametric tests 1' and 'Nonparametric tests 2'). The book concludes with an appendix of statistical tables, an appendix containing answers to selected exercises, a list of references and an index.

Each chapter is of course divided into several sections. The general format is that at the beginning of each section the subject or method is discussed. This discussion is typically followed by a list of notes which summarize the most important assumptions, contain warnings about caveats of the method, point out possible extensions, etc. Finally one (or more) worked examples are given. Each chapter ends with a set of exercises.

I liked the succinct manner in which each topic is presented and discussed. I feel that another strength of this book is that it does not make any attempt to introduce computing. Thus it does not depend on any particular computing package and one may use the package with which the students (or oneself) are most familiar. The length of the book (and the fact that it is paperback) makes it, in my opinion, less intimidating than the $700+x$ pages hardcover books typically used in introductory statistical courses. Hence, I would hope that the students would actually study the book in parallel with the lectures. Overall, I think this book would be a good choice as a textbook; I am planning to adopt it in future.

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Statistically Speaking: A Dictionary of Quotations. Selected and arranged by C.C. Gaither & A.E. Cavazos-Gaither. Institute of Physics Publishing: Bristol. xii+420 pages. A$50 (paperback). ISBN 0-7503-0401-4

From Sophocles to Esar's Comic Dictionary, this book contains the most complete collection of statistical quotations ever assembled (1533 quotations from 633 authors). There are famous quota-

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tions: 'There are three kinds of lies: lies, damned lies, and statistics' (attributed to Disraeli by Mark Twain). There are profound quotations:

> My thesis ... is simply this: PROBABILITY DOES NOT EXIST. The abandonment of superstitious beliefs about ... Fairies and Witches was an essential step along the road to scientific thinking. Probability, too, if regarded as something endowed with some kind of objective existence, is no less a misleading conception, an illusory attempt to exteriorize or materialize our true probabilistic beliefs. (de Finetti).

There are funny quotations: 'If I had only one day left to live, I would live it in my statistics class — it would seem so much longer' (Unknown), and 'A statistician is a person who draws a mathematically precise line from an unwarranted assumption to a foregone conclusion' (Unknown). There are quotations as limericks:

> There was a statistician from Knossus
> Who had a nonnormal neurosis.
> With techniques of newness,
> He'd measure the skewness,
> And also the data's kurtosis.

The breadth of coverage is extraordinary — there are quotations from academic journals, newspapers, cartoons, novels, and most other forms of literature. The book will be useful in finding good quotations as well as in sourcing quotations. Who wrote 'The statistical method is of use only to those who have found it out.'? Or 'He uses statistics as a drunken man uses lamp-posts — for support rather than illumination'? You will find the answers in this book.

Of course, there are some good quotations which are not included. For example Florence Nightingale said 'To understand God's thoughts we must study statistics, for these are the measure of his purpose'. Edgar Allen Poe wrote 'Yet to calculate is not in itself to analyse'. Abraham Lincoln wrote 'If we could first know where we are and whither we are tending, we could better judge what to do and how to do it'. None of these gems are included, but the vast majority of my favourite statistical quotations are in the book, and many more besides.

Some of the quotations are hardly quotable: 'You will see something new. Two things. And I call them Thing One and Thing Two' (Dr Seuss, *The Cat in the Hat*). This comes from an excellent book which my children love. But it is hardly relevant to statistics, except perhaps as a comment on our sometimes less-than-imaginative nomenclature (Tukey excepted). But most quotations are interesting and relevant, some wonderful: 'The only useful function of a statistician is to make predictions, and thus to provide a basis for action' (Deming).

The only other book of its kind is Bibby (1983), although Bibby contains fewer quotations and includes some commentary.

The book is organized around subject groups. There are 59 groups beginning with Actuary, Analysis, Average, Bayesian, ..., and ending with Testing, Theory, Truth and Variability. Within each group the quotations are arranged alphabetically by author. The attributions are detailed where possible including full biographical information and page numbers. The authors claim to have carefully checked each quotation in its original source and have maintained the original wording, spelling, and punctuation.

There are two indexes, both disappointing. The subject-by-author index lists quotations by subject in more detail than the major groups around which the book is organized. However, the index is still rather limited and omits many obvious keywords. For example, there is no entry for 'lies' which would be the obvious place to look for the famous Disraeli quotation at the beginning of this review. (It appears under 'statistics' along with several pages of other quotations.)

The author-by-subject index lists quotations by author. The birth and death dates for authors are also given here. The authors listed are not always obvious. For example, the many wonderful statements of the fictional Sherlock Holmes are listed under Holmes instead of under the true author Arthur Conan Doyle. For quotations from other novels, the true author has been used. The author index also omits some entries. Only one entry for biblical quotations is given in the index, but I noticed at least four other pages which were not listed in the index. Other entries were in strange positions ('The Editors of *The American Statistician*' appears under T).

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Despite these shortcomings, the authors have produced a delightful book, full of interest, and one I am sure I will delve into often seeking quotations for my lectures or just for fun. It will be useful for all levels of readers and is highly recommended.

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