written and helps the reader to gain confidence in dealing with the whole subject of finite simple groups. Most libraries should have a copy and many algebraists will find it sufficiently useful and instructive to want to have their own copy. The standard of printing is high and the book is well-produced.

J. D. P. MELDRUM

Conway, J. B., *A course in functional analysis* (Graduate Texts in Mathematics 96, Springer-Verlag, 1985), xiv + 404 pp. DM 118.

For many years, the only general account of the basics of functional analysis could be found in the magnificent treatise *Linear Operators* by N. Dunford and J. T. Schwartz and, as a result, this work served both as the definitive source for the established researcher and as a text for beginning graduate students to cut their teeth on. Although "Dunford and Schwartz", as it is always affectionately referred to, remains the best reference—I recall being told of the apocryphal mathematician who needed three copies: one for the office, one for home and one for the car—at the same time, a number of less ambitious texts aimed more directly at the beginner have appeared in recent years. Conway's book is one of the latest of these and is to be recommended. As with many such books, it grew out of a year-long course given to graduate students over a number of years. The contents probably represent the union of the topics covered in these courses as they evolved and changed and so, by suitable selection, a number of different courses could be based on the book. Such courses would differ in detailed content, but all would have the same underlying theme, namely linear analysis.

When approaching the fundamentals of any subject, an author must choose whether to proceed from the particular to the general or vice versa. In the present text, the former approach is adopted. This inevitably leads to a certain amount of repetition, but this will probably be welcomed by the student reader and, as the author observed in the introduction, it is the way mathematics usually develops. The book starts with an account of Hilbert spaces and the basic associated operator theory (adjoints, projections, compact operators and so on) and then turns to Banach spaces (Hahn–Banach theorem, duality, the closed graph theorem and other applications of Baire's theorem etc.). A limited amount of locally convex space theory is included, primarily so that weak topologies can be discussed, and some basic Banach algebra theory is covered, to be applied in the approach to spectral theory. The remainder of the book is somewhat more specialized, reflecting the author's particular interests in Hilbert space operator theory. There is a good account of the basic properties of C^*-algebras and this is put to work in the analysis of normal operators. The book ends with chapters on unbounded operators and Fredholm theory.

Many applications and examples are included, together with references to further developments, so there is much to whet the appetite of the interested reader. There are also plenty of exercises at the end of each section. Some of these might be criticized as being a trifle on the dull side, though a few routine problems are probably helpful for the beginner, and there are a fair number of interesting ones to offset them. All in all, this is an excellent book which will prove invaluable to any graduate student wanting a groundwork in the principles of the subject.

T. A. GILLESPIE

Garling, D. J. H., *A course in Galois theory* (Cambridge University Press, 1986), pp. 167, cloth £22.50, paper £8.95.

As a course of study for undergraduates, Galois theory certainly has a lot going for it. Its clear purpose—finding the conditions for solubility of a polynomial equation using the usual arithmet-

https://doi.org/10.1017/S0013091500006684 Published online by Cambridge University Press