ful, and it would have been better to omit them altogether. Indeed, it is by now quite visible that cohomology theory is not very useful as a tool for either the structure theory of algebras or groups or for the representation theory. Cohomology theory is more appropriately regarded as a superstructure built upon representation theory and feeding on it.

Occasional lapses of style call for a word of warning to the novice, because they are features not suitable for emulation. Thus, on p. 209, there is introduced a notational convention based on the barbarous principle of confusing a function with one of its values. The resulting blurs on otherwise beautifully clear proofs recur on a number of subsequent pages. More startling is the discussion of polynomial functions on a vector space given on p. 266. This is evidently addressed to a beginner rather than to the reader who has followed so far. The underlying principle here is the preference of a complicated non-invariant definition over a simple invariant one. The introductory discussion on p. 295 is of a similar nature; here it seems that an effort was made to hide the nature of a tensor product.

For a peaceful conclusion, let it be said that, in gratitude for what this text offers, one is more than ready to forgive the author for his rare nostalgic returns to a primitive mathematical language. In essence, this book is a superbly well organized, clear and elegant exposition of Lie algebra theory, shaped by the hands of a master. It remedies what has been an exasperating deficiency in the mathematical literature for many years.

G. HOCHSCHILD

Lectures on the theory of functions of a complex variable, Vol. I. By Giovanni Sansone and Johan Gerretsen. P. Noordhoff Ltd., Groningen, 1960. 12+481 pp. Paper, $12.00. Cloth, $13.00.

In 1947 Professor Sansone published his *Lezioni nulla teoria delle funzioni di una variabile complesa* in two volumes of 359 and 564 pages respectively (reviewed in Bull. Amer. Math. Soc. **54** (1948)). The present volume is a completely new text, based on the Italian edition.

The chapter headings are:

1. Holomorphic functions. Power series as holomorphic functions. Elementary functions. (40 pages)

2. Cauchy's integral theorem and its corollaries. Expansion in Taylor series. (81 pages)

3. Regular and singular points. Residues. Zeros. (63 pages)

4. Weierstrass's factorization of integral functions. Cauchy's ex-

pansion in partial fractions. Mittag-Leffler's problem. (60 pages)

5. Elliptic functions. (73 pages)

6. Integral functions of finite order. (42 pages)

7. Dirichlet series, the zeta function of Riemann. The Laplace integral. (69 pages)

8. Summability of power series outside the circle of convergence. Sum formulas. Asymptotic series. (64 pages).

This first volume avoids the geometric point of view entirely. No mention is made of conformal mapping (more correctly: it is mentioned once on p. 5). This is all postponed to a second volume which will also treat multi-valued functions. Following Artin the proof of the Cauchy integral theorem is based on the notion of winding numbers. Elliptic functions are treated at length—but here again the geometric (and group-theoretic) point of view is avoided, and is promised for the second volume.

The book is very well written and the reader is led to many beautiful and classical results. The authors' viewpoint is classical: they wish "to present some masterpieces of mathematical thinking and to make these accessible to a rather wide circle of interested readers in not too pedantic a way." In the reviewer's opinion they have succeeded well in this.

ALLEN SHIELDS