aim of the subject is to determine values of characters in a block by using this connection. Each p-block B has associated to it a defect group D which is a subgroup of G of order a power of p and determined up to conjugacy. The remarkable results achieved in the case that D is cyclic constitute the high point of the theory and the motivation for much present research. Even more remarkable is the simple combinatorial idea which ties together all these results and all the characters, Brauer characters, decomposition numbers, Cartan invariants and modules in a very simple way: this is the Brauer tree which is a tree together with a planar embedding.

This cyclic theory is the subject matter of the final chapter of the book. Wisely, in this introductory treatment, the authors restrict themselves to the case where a Sylow p-subgroup P of G is of order p; thus, each p-block has defect group of order one or p. Unfortunately, the Brauer tree is not introduced and the reader will not get a complete understanding of the theory.

However, the results on characters are completely established. Recall that the character table of G is a matrix whose rows are indexed by the irreducible characters of G and whose columns are indexed by the conjugacy classes of G. The entry in the row of the character χ and column of the conjugacy class K is the value $\chi(k)$ of χ on an element k of K. In our case, suppose that the characters of degree not divisible by p are listed first and followed by all the characters of degree divisible by p. Similarly, list first the conjugacy classes of elements of order not divisible by p and then the ones of order divisible by p. In this way we get a partition of the character table of G into four submatrices. The main results are then as follows: the lower right submatrix is zero; the upper right submatrix, apart from some signs, is the same as the upper right submatrix of the character table of the subgroup $N(P)$, the normalizer of the Sylow p-subgroup P. This is a beautiful result, easy to understand and very useful in applications; but a whole theory is needed for its proof!

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Applied nonstandard analysis, by Martin Davis, Wiley, New York, London, Sydney, Toronto, 1977, xii + 181 pp., $16.95.

Introduction to the theory of infinitesimals, by K. D. Stroyan and W. A. J. Luxemburg, Academic Press, New York, San Francisco, London, 1976, xiii + 326 pp., $24.50.

Foundations of infinitesimal calculus, by H. Jerome Keisler, Prindle, Weber & Schmidt, Boston, 1976, ix + 214 pp.

Infinitesimal calculus used to be about infinitesimal numbers. A derivative was the quotient of two infinitesimals; an integral was the sum of infinitely many infinitesimals. Although discredited by the development of $\varepsilon - \delta$ analysis in the nineteenth century, the notion of infinitesimals has never entirely disappeared. Physicists continue to draw little vectors and label them