taken up in the exercises and historical notes. The notes are up to date. M. L. Wage's recent example of a normal space Z with $\operatorname{Ind} Z = 0$, $Z \times Z$ normal, and $\operatorname{Ind}(Z \times Z) > 0$ is mentioned as well as J. Walsh's infinite-dimensional compact metric space with no finite-dimensional subsets. (This is an improvement of D. Henderson's example which had no *closed* finite-dimensional subsets.)

From this book the student gets a good idea where dimension theory stands today. The lack of research questions indicates that this area may have passed its most fruitful period of research. The few remaining questions don't hold much prospect of giving us significantly new insights. New theorems and interesting examples will continue to appear, but it is unlikely that anything will arise to alter our basic perceptions of this theory. As with most theories which reach this state of maturity new ideas simply cannot find a place in the old theory. They must begin their life as a new theory and require a new classification.

Dimension theory is an excellent text giving us traditional dimension theory as it stands today. It presents all the essential features of interest to the general topologist without being compulsive. We have here a text that will probably be up to date for a considerable time.

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Representations of finite Chevalley groups, by Bhama Srinivasan, Lecture Notes in Math., vol. 764, Springer-Verlag, Berlin, Heidelberg, 1979, ix + 177 pp., $11.80.

The finite Chevalley groups are, roughly, the groups that arise when the real or complex parameters in a simple Lie group or, more generally, in a reductive one, are suitably replaced by the elements of a finite field. They include most of the finite simple groups, all except the alternating groups and the 26 "sporadic" groups, according to the classification which has just been completed. They thus occupy a central position in finite group theory. One of the important problems concerning them is the determination of their complex irreducible representations and characters. The first contribution here was made in 1896 by Frobenius **[1]** who determined the characters of the group $G = SL_2(k)$ over a finite field k. He first found the conjugacy classes of G, which is quite easy, and then built up the character table (a square matrix with rows indexed by conjugacy classes and columns by irreducible characters) by calculations not using much more than the orthogonality relations that this table was known to have. In 1907 Schur **[2]** redid Frobenius' work in a more conceptual way, obtaining many of the characters via concrete representations induced from one-dimensional representations of B, the group of upper-triangular matrices in G; but for those irreducible representations they cannot be obtained in this way, he, like Frobenius, could determine only the characters. This deficiency was soon noticed by others,