treatment of the concept of validity and of the completeness theorem for the first order logics extending the propositional logics considered in the book through a generalization of the famous algebraic proof of Rasiowa and Sikorski of the completeness theorem of classical first order logic and of the subsequent concept derived from that proof of the canonical realization of an elementary theory. The supplement does not touch upon the theory of cylindric and polyadic algebras nor does it tackle with algebraic means any part of model theory.

An excellent article by the same author summing up much of the material of the book and developing further the first order theory of multi-valued logic has appeared in *Studies in algebraic logic* referred to above.

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On measures of information and their characterizations, by J. Aczél and Z. Daróczy, Mathematics in Science and Engineering, vol. 115, Academic Press, New York, San Francisco, London, 1975, xii + 234 pp., $24.50.

The purpose of the authors cannot be stated more clearly than in the following lines of the preface (p. XI):

"We shall deal with measures of information (the most important ones being called entropies), their properties, and, reciprocally, with questions concerning which of these properties determine known measures of information, and which are the most general formulas satisfying reasonable requirements on practical measures of information. To the best of our knowledge, this is the first book investigating this subject in depth". In fact, from the 234 pages of the book, only 6 are devoted to simple applications to logical games (pp. 33–38) and 17 to optimal coding (pp. 42–50 and pp. 156–164).

But, as the authors write (p. 29) "the problem is to determine which properties to consider as natural and/or essential". From the beginning they make a choice, which implies consequences of paramount importance: the measure of the information yielded by one event A depends only upon the probability $P(A)$ of this event; due to this choice they restrict themselves to the foundations of the classical information theory, initiated in 1948 by Claude Shannon and Norbert Wiener. Of course this classical theory has proved to be very useful indeed in many branches of science, its greatest success being the foundation and development of communication theory: the fundamental hypothesis means that the amount of information given by a message depends only on its frequency; very unexpected messages give considerable information. But, as has been often pointed, no account of the semantic content of the message, could be taken in this way. Moreover there is a subjective aspect of information, which is entirely out of the scope of the classical theory: the same event does not yield the same amount of information to all the observers.

These rather obvious remarks show that the classical information theory