Chapter VII, *The binary symmetric channel*, deals with the case of two message symbols, two received signals such that $p(y_1|x_1) = p(y_2|x_2) = q > (1/2)$. This is the simplest nontrivial case and the idea is to find how the probability of incorrect reception goes to zero with the length of the block.

A comparison of Feinstein's book with the English translation of Khinchin's papers is in order. Both of these books represent an enormous advance in clean mathematical presentation of this material over previous books. Khinchin's book is excellent and readable. It is leisurely, while assuming more mathematical sophistication of the reader, including martingale convergence theorems, it is relatively self complete and does not require as much specialized material as does some of the recent periodical literature. The work is more motivated than is typical of presentations from this side of the Atlantic. Khinchin's work, as stated before, is historically important insofar as it provided the first complete critical survey of the subject, sorted out the open problems, and broke the barrier to serious treatment of the subject. It may be the more attractive to a mathematical reader.

Feinstein's book is addressed to an engineering audience. As such it is well motivated and unusually careful and mathematically clean. For example, while Khinchin slipped in his formulation of a discrete channel with memory, making his work wrong at one point (see K. Takano, *On the basic theorems of information theory*, Ann. Inst. Statist. Math. vol. 9 no. 2 (1957) pp. 53–77), Feinstein does not make this slip. Feinstein's work is more recent and the Remarks at the ends of chapters are devoted in part to valuable discussions of open questions, although publication of recent papers including one by Feinstein himself, make these comments outdated.

One minor negative comment. The author's habit, which follows some engineering practice, of using the same letter for each probability distribution and distinguishing among distributions by using different letters for the sample points, e.g. using $p(x)$ and $p(y)$ to denote input probability distribution and output probability distribution, can be confusing.

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Funkcje Rzeczywiste. By Roman Sikorski. (Monografie Matematyczne, vol. 35). Warsaw, Panstwowe Wydawnictwo Naukowe, 1958. 534 pp.

The introduction to this Monograph contains an account of the ideas and theorems of set theory and topology, necessary for the understanding of the subject treated in the book, which is divided