The purpose of the book under review is to arrive at the theory of the spinor genus by elementary methods, i.e. using matrix calculus and assuming some knowledge of elementary number theory. Whatever is needed from the arithmetic theory of quadratic forms is defined and proved. The development takes place in three main parts: local and global field equivalence, integral p-adic equivalence and the genus, and finally the spinor genus.

Chapters 1–3 give the Hasse-Minkowski theory of fractional equivalence. The fundamental result that a global form represents 0 if and only if it does so locally everywhere is proved by reduction theory and Dirichlet's theorem on primes in an arithmetic progression.

Chapters 4–5 discuss local integral theory and the genus. Included is an important theorem on the integers represented by an indefinite form in at least four variables.

Chapters 6–8 do the spinor genus. The difficult part here is to establish the relations between cls f, spn f, and gen f. Much time is also spent on rounding out the picture with additional results, some of them new.

The book suffers from an exasperating conceptual deficiency. Too often a formula or device is used to circumvent the introduction of an idea. Surely there is no longer any need to shy away from groups and vector spaces. And in a field that is so intimately concerned with questions of linearity, is it right to do so? Isn't it really better, and indeed simpler, to use p-adic numbers instead of families of congruences? We can sympathize with the author's efforts to keep out superfluous structure, but the criterion used in doing so should be conceptual, not just logical, necessity.

However, these are small matters. The important thing is that the author has contributed an ordered account of significant results in a field with a long history and a totally inadequate literature. The book will be read by people interested in quadratic forms, and it should provide an accessible reference for those who are interested in the applications.

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Fondements de la topologie générale. By Ákos Császár. Akadémiai Kiadó, Budapest, 1960. 231 pp. $6.00.

The author's goal is to treat uniform, proximity, and topological spaces from a common viewpoint. He accomplishes this by developing a very general theory of "syntopogenic structures" in which uniformities, proximities, and topologies emerge as particular cases. The idea is simple and interesting. A syntopogenic structure on a set E is a family of (partial) ordering relations on $P(E)$ satisfying certain natural conditions. The family defining a topology, for example,