In the sixties I tried without success to find such a theory, or to imbed the Morse-Tompkins-Shiffman result in a conceptual general setting. Tromba and Uhlenbeck may now have succeeded in initiating a development of calculus of variations in the large for more than one independent variable.

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Rings of quotients, by Bo Stenström, Die Grundlehren der mathematischen Wissenschaften in Einzeldarstellungen, Band 217, Springer-Verlag, New York, Heidelberg, Berlin, 1975, viii + 309 pp., $39.60.

Noncommutative ring theorists have long been tantalized by the method of localization used so easily and successfully by their commutative colleagues. It is unfortunate, yet typical, that results and techniques which are almost trivial for commutative rings turn out to be either false or impossible for noncommutative rings. Stenström's *Rings of quotients* records the attempts at developing a comprehensive, general technique of localization for noncommutative rings.

The study of quotient rings for noncommutative rings goes back to the early 1930s with the question in van der Waerden's first edition about whether noncommutative integral domains could be embedded in division rings. Ore, in 1931, found a criterion (the "Ore condition") for an integral domain to have a division ring of fractions: Given nonzero elements a and b, there exist nonzero c and d such that $ac = bd$. Independently, Wedderburn, in 1932, proved directly, by a similar procedure, that Euclidean domains have division rings of fractions.

The subject attracted little interest until the early fifties. There was, however, an important development due to Asano [**1**]. Asano's result was of less interest than his method, both of which will be described here. If R is a commutative ring and S a multiplicatively closed subset of non-zero-divisors,