P. Samuel, Anneaux Factoriels, edited by A. Micali.
Sociedade de Matematica de Sao Paulo, 1963. 102 pages. $3.00.

This delightful little book pursues unique factorization domains
with a singleness of purpose. Let A be any commutative integral
domain with unity and let B be (a) the polynomial ring over A,
(b) the ring of quotients of A with respect to a multiplicative subset
of A, (c) the M-adic completion of A with respect to an ideal M
of A, (d) the formal power series ring over A.   In most of these
cases the question is considered whether from the fact that A is
noetherian or a unique factorization domain one can deduce the same
property for B and conversely.   In addition to well-known classical
results one finds here a number of important theorems by Nagata,
Mori and Samuel.

The first five chapters are completely elementary and can be
read by an undergraduate honours student. In fact, the book is said
to comprise the lecture notes of a one-semester undergraduate course
at the University of Paris. The last (and longest) chapter utilizes
homological methods and culminates in the Auslander-Buchsbaum
theorem that every regular local ring is a unique factorization domain.

One will be forgiven for doubting that the material of this last
chapter was digested by undergraduates, even in Paris. At any rate,
the four hour examination, reproduced on page 98, does not seem to
refer to it.

On the whole, it is an intriguing idea to build an undergraduate
course on a single theme like the present one, letting general concepts
be introduced and illuminated as they are needed.

The booklet has some minor faults that can easily be remedied.
The notation for formal power series rings is found on page 3 without
explanation; maximal ideals are defined, but local rings seem to
appear suddenly on page 40 without definition; and, finally, the
spelling of many French words seems slightly suspect to this
untutored reviewer.

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M.A.A. Studies in Mathematics, Volume 2, Studies in Modern
Algebra. A.A. Albert, Editor. 1963. 190 pages.

This modest looking volume contains six articles, and is
supposed to present the broad aspects of modern algebraic thought.

The most exciting article is by C. W. Curtis. It traces the