Note. The following easy lemma practically reduces all problems concerning $A(R)$ to the corresponding problem for $A(T)$, and vice-versa:

A function f with support on $[\delta, 2\pi-\delta]$ belongs to $A(R)$ if and only if it belongs to $A(T)$.

(III) Nonspectral synthesis. The spectral synthesis hypothesis asserts that if $f, g \in A(G)$ (G a LCA group), and the zero-set of g contains that of f, then g lies in the closed ideal generated by f. It is false whenever G is not discrete (Malliavin (1959)). The author proves one case of Malliavin's theorem: for G equal to the "binary decimal group," $(Z_2)^\infty$ with the Tychonoff topology. This is probably not the case nearest to most reader's hearts! However, the construction is simpler than for $G=T$. [For $G=T$, one needs some lemma such as: As $N\to\infty$, the integral of the product $\int_0^{2\pi} f(t)g(Nt)dt$ approaches arbitrarily closely the product of the integrals $(\int_0^{2\pi} f)$ $(\int_0^{2\pi} g)$ (g being 2π-periodic, of course). For $G=(Z_2)^\infty$, Fubini's theorem does the whole trick.]

Thus it is remarkable that Malliavin's general theorem can be deduced from the "binary decimal" case. This is done by means of tensor products, an approach due to Varopoulos. What happens is that (G being given), a "very linearly independent" Cantor set $E \subset G$ is found, together with a many-to-one mapping ϕ of E onto $(Z_2)^\infty$, so that every non S (spectral synthesis) set in $(Z_2)^\infty$ is pulled back by ϕ onto a non S-set in G. Katznelson's book closes with an account of this recent and important theory.

J. IAN RICHARDS

An introduction to nonassociative algebras, by R. D. Schafer. Pure and Applied Mathematics, vol. 22, Academic Press, New York, 1966. x+166 pp. $7.95.

By ring or algebra is generally understood an associative ring or an associative algebra. This is a natural situation since, apart from a few books and expository articles dealing with a particular class of nonassociative algebras, this is the first book treating nonassociative algebras on a more general basis. These are algebras whose multiplication is not assumed to satisfy the associative law. It is easy to guess from our previous remark that a great part of the content of the book appears for the first time in book form, and those topics which have been already dealt with in other books are presented under a new light.

Besides organizing scattered material the author presents it in such a way that the reader can arrive at important theorems without