parabolic collectors would be of interest to physicists. The above remarks are more intended as suggestions for a future edition than as criticisms of the present treatment.

The style of the authors is clear, and the topics they cover are treated in sufficent detail to teach a graduate engineer how to construct analytical models and predict the performance of solar-energy thermal processes. The book illustrates this material with well chosen applications, particularly for the heating of buildings. This is an excellent volume, and it should be in the library of every engineer interested in solar-energy utilization.

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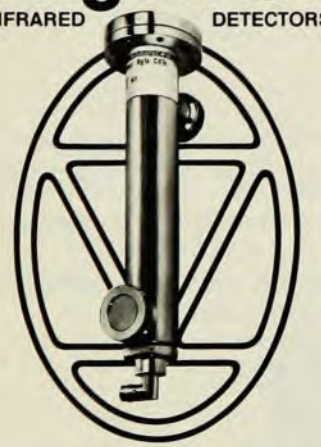
Homogeneous Relativistic Cosmologies

M. P. Ryan Jr, L. C. Shepley
321 pp. Princeton U. P., Princeton, N.J., 1975. $15.00 hardcover, $7.50 paperback

There are, broadly speaking, two types of theoretical cosmologists: those who do astrophysics on background Robertson–Walker geometries, which are spatially homogeneous (that is, all points in space are viewed as equivalent) and isotropic (all spatial directions equivalent), and those who work on more complex geometries, including the simplest (spatially homogeneous but anisotropic) non-Robertson–Walker geometries. The latter group, which has extensively studied such topics as the existence and nature of singularities and the observational constraints on permissible models, has operated over the last decade mainly in Great Britain, the US and the Soviet Union. In *Homogeneous Relativistic Cosmologies*, the authors review the work of the American school.

Michael Ryan Jr and Lawrence Shepley are active members of this school, and the book includes fairly full accounts of their own contributions to the study of generalizations of the closed and flat Robertson–Walker cases. Such a connected account is useful to workers in this field and will be of interest to researchers in physics and astronomy who seek some idea of recent developments.

The style is wordy, but readable and sometimes witty. Ryan and Shepley provide an extensive bibliography, but I dislike its chronological arrangement. Their flow charts of topics appear more useful to them than to readers.



The authors appear a little uncertain about their readership. For example, they define a topology, yet they use "homeomorphism" without explanation; there are several such inconsistencies. Some easy proofs are given and some hard ones omitted, without even outline indications, and there are a few minor errors. The book provides little account of the Russian and British work—to which I have contributed and about which I must therefore be prejudiced—even when I feel it to be essential to a balanced view. The section on mixing, for example, fails to mention the Russian contribution in this area. Thus I could not recommend this volume as a complete account of the subject.

In conclusion, then, this is a useful but disappointing book from two able workers.

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