3-dimensional case of invariant measures on planesets is not the best approach. Surely this topic is more naturally included with those of Chapter 5. How much better to begin with some interesting examples based on the work of Sylvester, Pólya-Szegö, and Pleijel, thus giving the reader a feel for the nice ideas to be treated in depth further on. Incidentally, of the various minor misprints, the misspelling of the name *Schläfli* seems the most eye-catching.

For the casual library reader who wishes to know more about the nature of Ambartzumian's work, we recommend first reading the author's introduction, and then moving to A. Baddeley's well-written Appendix A, which gives an overview of much of the material in the first six chapters of the text and, in addition, several related topics such as Hilbert's Problem IV. As one reads the text, the papers of Baddeley and K. Piefke referenced in Appendix A will also be of interest.

Ambartzumian has established a base camp in a little-explored area of geometry. From here a number of interesting problems can be seen from a new perspective. With luck a boom town could arise. At the very least this work is a significant contribution to the foundations of integral geometry.

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BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 10, Number 2, April 1984
© 1984 American Mathematical Society
0273-0979/84 $1.00 + $.25 per page

Stochasticity and partial order, doubly stochastic maps and unitary mixing, by Peter M. Alberti and Armin Uhlmann, Mathematics and its Applications, Vol. 9, D. Reidel Publishing Company, Dordrecht, Holland, 1982, 123 pp., $28.50. ISBN 0-9277-1350-2

Many interesting theorems in functional analysis have their origin in nontrivial finite dimensional results. The book under review provides an example of such a development. It starts with some classical results in convexity theory which go back to Birkhoff and Rado, and it ends up with theorems on C^*-algebras.