addressed, not least for its remarkably complete bibliography of the whole subject of reproducing kernels.

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Geometric inequalities, by Yu. D. Burago and V. A. Zalgaller. (Translated by A. B. Sossinsky), Springer-Verlag, Berlin, Heidelberg, New York, London, Paris, Tokyo, 1988, xiv + 331 pp., $97.00. ISBN 3-540-13615-0

This volume presents us with a masterful treatment of a subject that is not so easily treated. The basic difficulty is that "geometric inequalities" is not so much a subject as a collection of topics drawing from diverse fields and using a wide variety of methods. One can therefore not expect the kind of cohesiveness or of structural development that is possible in a single-topic book. At most one hopes for a broadly representative selection of theorems organized by approach or content, with a good accounting of each and ample references for following up in any given direction; and that is just what we get.

All the classical topics are found here: the isoperimetric inequality in its many guises, the Brunn-Minkowski inequality with its various consequences, area and volume bounds of different kinds. There are also many inequalities involving curvatures: Gauss, mean, Ricci, etc. The methods include those of differential geometry, geometric measure theory, and convex sets. In each of these areas, the book is right up to date, including the latest results to the time of writing.

In addition to these classical topics, there are some more modern ones. Chapter 3 includes an extended and illuminating discussion of various notions of area and measure, including the newer approaches dating from the 1960s: the *perimeter* of Caccioppoli and de Giorgi, *integral currents* of Federer and Fleming, Almgren's *varifolds*. Their relative merits and disadvantages are carefully and even-handedly pointed out. Chapter 6, on Riemannian manifolds, provides a complete proof of Margulis' Theorem giving a lower bound for the volume of a compact negatively curved manifold in terms of a lower bound on the curvature.