3. A. Dempster, *Upper and lower probabilities induced by a multivalued mapping*, Ann. Math. Statist. **38** (1967), 325–339. MR **34** #6817.

4. G. Shafer, *A theory of statistical evidence*, Foundations of Probability Theory, Statistical Inference, and Statistical Theories of Science (W. Harper and C. Hooker, Editors), Reidel, Dordrecht, Holland (to appear).

5. T. Fine, *Theories of probability*, Academic Press, New York, 1973, pp. 90–94.

6. A. Kolmogorov, *Foundations of the theory of probability*, 2nd ed., English transl., Chelsea, New York, 1956, p. 9. MR **18**, 155.

7. R. Carnap, *Logical foundations of probability*, 2nd ed., Univ. of Chicago Press, Chicago, 1962. MR **32** #2310.

8. I. J. Good, *Probability and the weighing of evidence*, Griffin, London, Hafner, New York, 1950. MR **12**, 837.

9. ———, *The probabilistic explication of information, evidence, surprise, causality, explanation, and utility*, Foundations of Statistical Inference (V. Godambe and D. Sprott, Editors), Holt, Rinehart, and Winston, Toronto, Canada, 1971, pp. 108–141. MR **51** #9280.

10. H. Kyburg, Jr., *Logical foundations of statistical inference*, Reidel, Dordrecht, Holland, 1974.

TERRENCE L. FINE

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Order and potential resolvent families of kernels, by Aurel Cornea and Gabriela Licea, Lecture Notes in Mathematics, no. 494, Springer-Verlag, Berlin, Heidelberg, New York, 1975, 154 pp., $7.40.

The first title of this book is *Order and potential*. If the nonspecialist reader opens it at any page, just looking for familiar words, he can be sure to see some mention of *order*, and has reasonable chances to find *potentials*, but may wonder whether the use of the latter word has anything to do with newtonian *potential*, harmonic functions and similar things. After all, the word potential has different connotations in different contexts (the military potential of the United States, the industrial potential of Europe) and the recurrent mention of a mysterious "domination principle" might lead to further political misinterpretations. So let me tell first what the subject of the book really is.

We must come back to the early history of the subject. Between 1945 and 1950, H. Cartan proved some fundamental results in classical potential theory, which were rapidly digested, generalized and improved by the French school of potential theory around M. Brelot, G. Choquet and J. Deny. The axiomatic trend had always been felt in potential theory (the use of the old word "principle" to mean "axiom" may be good evidence for it), and anyhow the years 1950 were those of the big axiomatic boom in mathematics. Hence it is entirely natural that the interest shifted from potential *theory* to potential *theories* defined by suitable axioms. Among the interesting features of classical potential theory, the so called *complete maximum principle* came to play a leading role. It can be easily stated and understood, as follows. Let u and v be two newtonian potentials of positive measures λ and μ, and let a be a positive constant. Assume that

(1) $a + u \geqslant v$ on the closed support F on the measure μ corresponding to v.

Then the same inequality takes place everywhere. This is almost obvious. In the open set F^c complement of F, the function $a + u - v$ is super-