24. A. Nagel and E. M. Stein, *A new class of pseudodifferential operators*, Proc. Nat. Acad. Sci. U.S.A. **75** (1978), 582–585.
25. L. Nirenberg, *Pseudo-differential operators*, Proc. Sympos. Pure Math., vol. 16, Amer. Math. Soc., Providence, R. I., 1970, pp. 147–168.
26. L. Nirenberg and F. Treves, *On local solvability of linear partial differential equations*. I, Comm. Pure Appl. Math. **23** (1970), 1–38; II, ibid., 459–509; correction, ibid. **24** (1971), 279–288.
27. R. Seeley, *Singular integrals on compact manifolds*, Amer. J. Math. **81** (1959), 658–690.
28. ______, *Refinement of the functional calculus of Calderón and Zygmund*, Proc. Akad. Wet. Ned. Ser. A **68** (1965), 521–531.
29. ______, *Elliptic singular integral equations*, Proc. Sympos. Pure Math., vol. 10, Amer. Math. Soc., Providence, R. I., 1967, pp. 308–315.
30. E. M. Stein, *Singular integrals and differentiability properties of functions*, Princeton Univ. Press, Princeton, N. J., 1970.
31. M. A. Šubin, *Pseudodifferential operators and spectral theory* "Nauka", Moscow, 1978. (Russian)
32. ______, *Pseudodifferential almost-periodic operators and von Neumann algebras*, Trans. Moscow Math. Soc. **1979**, no. 1 (35), 103–166.
33. M. Taylor, *Pseudo-differential operators*, Lecture Notes in Math., no. 416, Springer-Verlag, Berlin, 1974.
34. A. Unterberger, *Symboles associés aux champs de repères de la forme symplectique*, C. R. Acad. Sci. Paris Sér. A-B **285** (1977), A1005–A1008.
35. A. Unterberger and J. Bokobza, *Les opérateurs de Calderón-Zygmund précisés*, C. R. Acad. Sci. Paris Sér. A-B **260** (1965), A3265–A3267.
36. G. Weiss and S. Wainger, eds., *Harmonic analysis in Euclidean spaces*, Proc. Sympos. Pure Math., vol. 35, Amer. Math. Soc., Providence, R. I., 1978.

RICHARD BEALS

BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 3, Number 3, November 1980

0002-9904/80/0000-0517/$01.75

Bedienungsprozesse, by Gennadi P. Klimow, translated from the Russian by V. Schmidt, Birkhäuser Mathematische Reihe 68, Basel and Stuttgart, 1979, xi + 244 pp., $38.00.

Queues or waiting lines are among the richest sources of problems and examples in the theory of stochastic processes. The simplest queues serve well to illustrate the basic theory of Markov chains. The service systems, which are of research interest today, involve complex interactions of queues and are described in terms of typically multi-dimensional stochastic processes. Such descriptions hold, only if we are able to formalize the processes at all. Realistic queueing systems are formidable dynamic-stochastic systems indeed.

From isolated but distinguished contributions by Felix Pollaczek and A. Ya. Khinchin in the thirties and forties, the theory of queues emerged as a subdiscipline of probability theory during the years 1950–1960. Its growth since then has truly been astounding. I usually place the number of journal articles on queues at 7500 and know of some fifty books fully devoted to this subject. Both numbers probably underestimate the actual size of the literature. By those studying the job flows in telecommunication and manufacturing systems or inside computers or computer networks, the relevance of understanding the behavior of queues is taken for granted. In spite of this,