



Figure 1

As a special case ( $c = 0$ ) Equation (7) gives us a computationally efficient method for computing the LT of the waiting time in an  $M/M/1$  queue with random service.

University of North Carolina,  
Chapel Hill

Yours truly,  
VIDYADHAR G. KULKARNI

### References

- [1] ALEKSANDROV, A. M. (1974) A queueing system with repeated orders. *Engineering Cybernetics Rev.* **12**(3), 1–4.
- [2] CHOO, Q. H. AND CONOLLY, B. W. (1979) New results in the theory of repeated orders queueing systems. *J. Appl. Prob.* **16**, 631–640.
- [3] COOPER, R. B. (1981) *Introduction to Queueing Theory*, 2nd edn. North-Holland, Amsterdam.
- [4] FALIN, G. I. (1979) A single-line system with secondary orders. *Engineering Cybernetics Rev.* **17**(2), 76–83.

Dear Editor,

Falin (private communication) and Kulkarni [2] have independently pointed to an error in the waiting-time analysis given in [1]. They explain the common observation that the chance that an ‘orbiting’ customer, i.e., one who is making retrials for service, finds the service empty, depends on the number of customers in orbit when the retrial is made. This parallels the waiting time under random service in conventional queueing systems with a single stream of applications.

A corrected version of the analysis, and an interesting procedure for computing the distribution, is given in [2]. Falin has indicated that he too was working

on repeated-orders systems at the same time as Conolly and Choo, all presumably attracted by a desire to extend Aleksandrov's analysis (see references in [1]). It is a pity that there could not have been some collaboration. References to Falin's work are given in [2].

As to the erroneous analysis in [1], it is tempting to speculate as to the question it answers. A valid probability distribution is defined in Section 3, but what is the problem to which it relates?

Chelsea College, London

Yours sincerely,  
B. W. CONOLLY

### References

- [1] CHOO, Q. H. AND CONOLLY, B. W. (1979) New results in the theory of repeated orders queueing systems. *J. Appl. Prob.* **16**, 631–640.
- [2] KULKARNI, V. G. Letter to the editor. *J. Appl. Prob.* **19**, 901–904.