JOHN RIORDAN, *Stochastic Service Systems* (SIAM Series in Applied Mathematics). John Wiley and Sons, New York, 1962. $6.75, £2.8.3. x + 139 pp.

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One might say that this is "yet another book on queueing theory", but the author would very properly protest. He holds the rather curious view that the use of the adjective "queueing" implies "first come, first served", and with his prior interests in the field of telephony he is anxious to emphasize other orders of service, which he says are elsewhere rarely considered. This is in fact not quite true; in steel technology, for example, the use of the hot customer (= ingot) at the end of the line in preference to others who have waited longer (and so are now unsuitably cold) is not uncommon, although presumably in this example "last come, first served" would be combined with "defections among those waiting" (the cold customers will be taken away and re-heated).

A more serious reason for speaking of *stochastic service theory* rather than queueing theory is that this then includes the theory of loss-systems where there may be no queueing or waiting at all. I think in fact that the author has coined a happy phrase; 'stochastic service' is far more appropriate and intelligible than 'mass service' which is often used instead.

There are several very personal views expressed in the author's introductory chapter (Chapter 1) with which I found myself in disagreement, but I will just mention the only one which seems to me really unfortunate; the author's opening remarks are: "The problems responsible for the theory of stochastic service systems seem to have first arisen in the telephone business. As reported in R. I. Wilkinson, 1956b, a central problem for telephone engineers in the United States shortly after the turn of the present century was how to determine the number of telephone lines between central offices so as to give callers reasonable service. . . . Although there seem to be no similar reports from other parts of the world, it may be taken for granted that history as usual repeated itself." This will appear to some an inadequate appreciation of the role played by A. K. Erlang [3] in the development of this branch of applied probability theory. (It will be recalled that Erlang's first published paper on these matters is dated 1909.) I am convinced however that this is entirely the result of an unfortunate and unintentional use of words, for the author refers to Erlang constantly throughout the book with evident appreciation.

I found Chapter 2 ("Traffic Input and Service Distributions") the most interesting, possibly because of the contact with current work [1] on point-processes of all sorts. Here again some statements must be challenged. Thus the author says that he will not discuss inputs with non-independent inter-arrival times "because such processes have not yet arisen in practical studies of service systems"; oil-men and air-traffic engineers will wish that this were true (indeed