

## LETTERS TO THE EDITOR

Dear Editor,

On reading two papers in the recent issue of Volume 7 No. 3 of the *Journal of Applied Probability*, I found that the results contained in these had already been obtained in some previous work of mine. May I for the benefit of the authors, record the following comments:

HOOKE, JOHN A. (1970) On some limit theorems for the  $GI/G/1$  queue. *J. Appl. Prob.* **7**, 634–640.

*Comments.* The following information has been omitted in the above paper:

(a) Theorem 1 is the same as the first statement in Table I of [1], and is a particular case of Lemma 3 in [2].

(b) Theorem 2 is the same (except for a difference in notation) as Theorem 5 of [3].

(c) Theorem 4 follows directly from the relations (36) and (39) in [3].

[1] TAKÁCS, L. (1958) On a sojourn time problem. *Theor. Probability Appl.* **3**, 58–65.

[2] TAKÁCS, L. (1959) On a sojourn time problem in the theory of stochastic processes. *Trans. Amer. Math. Soc.* **93**, 531–540.

[3] TAKÁCS, L. (1964) Occupation time problems in the theory of queues. *Operat. Res.* **12**, 753–767.

IGLEHART, DONALD L. AND KENNEDY, DOUGLAS P. (1970) Weak convergence of the average of flag processes. *J. Appl. Prob.* **7**, 747–753.

*Comments.* The processes which the authors introduce as ‘flag processes’ have already been studied in the past under the name of ‘secondary stochastic processes generated by a recurrent process’. See [4]. The applications which the authors mention are not new either. For counters see [5], for queues see [6], and for shot noise see [7].

[4] TAKÁCS, L. (1956) On secondary stochastic processes generated by recurrent processes. *Acta Math. Acad. Sci. Hung.* **7**, 17–29.

[5] TAKÁCS, L. (1957) On some probability problems concerning the theory of counters. *Acta Math. Acad. Sci. Hung.* **8**, 128–138.

[6] TAKÁCS, L. (1958) On a coincidence problem concerning telephone traffic. *Acta Math. Acad. Sci. Hung.* **9**, 47–81.

[7] TAKÁCS, L. (1955) On stochastic processes connected with certain physical recording apparatuses. *Acta Math. Acad. Sci. Hung.* **6**, 363–380.

I very much hope that these details will prove helpful to the authors of the two papers.

Yours sincerely,

L. TAKÁCS

Dear Editor,

Thank you very much for forwarding to me Professor Takács' remarks concerning my paper "On some limit theorems for the  $GI/G/1$  queue" which appeared in Volume 7 No. 3 of the *Journal of Applied Probability*. It is indeed true that this paper duplicates some previous work of Professor Takács, and I regret not having been aware of this fact earlier.

I feel it is most appropriate that Professor Takács' comments be published. In addition, it appears to me that one further comment might be helpful to the readers. The papers which Professor Takács cites all make heavy use of an interesting theorem of R. L. Dobrushin ("Lemma on the limit of compound random functions", *Uspehi Mat. Nauk.* **10**, 1955, 157–159, in Russian). Since this reference is rather an inaccessible one, its availability through the Takács papers might be made known. I leave it to you to decide the usefulness of such an additional comment.

Finally, I would appreciate it if you would convey my thanks and apologies to Professor Takács.

Yours sincerely,

JOHN A. HOOKE