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LETTERS TO THE EDITOR

WHAT IS A TWO-SEX POPULATION PROCESS?

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The recent letter of Gani and Tin (1984), like the early paper of Goodman (1953), uses the term 'two-sex' applied to a population process of two types of the special kind where reproduction is modelled as occurring only through one type of individual ('female'). Asmussen's (1980) review paper stressed a distinction of terminology by reserving the term 'two-sex' for processes where reproduction occurs via genuine sex interaction. Whereas Goodman's two-type process with an embedded one-type process is relatively tractable for closed-form computations, as Gani and Tin noted, the best that can be done for the simplest two-sex models involves limit theorems and approximations (see e.g. Asmussen and Hering (1983)).

References

ASMUSSEN, S. (1980) On some two-sex population models. Ann. Prob. 8, 727–744. ASMUSSEN, S. AND HERING, H. (1983) Branching Processes. Birkhauser, Cambridge, Ma. GANI, J. AND TIN, PYKE (1984) Immigration in the two-sex population process. Adv. Appl. Prob.

16, 687-689.

GOODMAN, L. A. (1953) Population growth of the sexes, Biometrics 9, 212-225.

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