CORRECTION NOTE AND ACKNOWLEDGMENT OF PRIORITY

CORRECTION TO “SOME THEORETICAL ASPECTS OF DIFFUSION THEORY IN POPULATION GENETICS”

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I thank Mr. W. Ewens for pointing out that Equation (6.16) p. 955 in the above paper (Ann. Math. Statist. 33 (1962) 939–957) is incorrect. In any case, the result can be written in the more interesting form

\[ U(p) = P_0(p, \infty) \int_0^p f_0(x) \, dx + P_1(p, \infty) \int_p^1 f_1(x) \, dx, \]

where \( P_0(p, \infty) \) and \( P_1(p, \infty) = 1 - P_0(p, \infty) \) are the absorption probabilities (6.12), and where

\[ f_0(x) = 4a^{-1}x^{-1}(1 - x)^{-1} \exp\left\{2sa^{-1}(d + 1)x - dx^2\right\} \int_0^x \exp\{-2sa^{-1}(d + 1)y - dy^2\} \, dy, \]

\[ f_1(x) = 4a^{-1}x^{-1}(1 - x)^{-1} \exp\left\{2sa^{-1}(d + 1)x - dx^2\right\} \int_x^1 \exp\{-2sa^{-1}(d + 1)y - dy^2\} \, dy. \]

It may be noted that \( f_0(x), f_1(x) \) are special cases of the “stationary solution” (6.2).

Equation (6.17) and the following discussion remains unchanged.

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Theorem 2 of the authors’ paper “Comparison of Least Squares and Minimum Variance Estimates of Regression Parameters”, Ann. Math. Statist. 33 (1962) 462–470, is a special case of Equation (3.5) of G. S. Watson, “Serial Correlation in Regression Analysis I”, Biometrika 42 (1955) 327–341. Also, the fact that least squares and minimum variance estimates are equally efficient when the regression vectors are eigenvectors of the noise covariance matrix is apparently known and is referred to by Watson. The authors regret having overlooked Professor Watson’s outstanding prior contribution.

\(^1\) Now at Monash University.