

ERRATUM

J.R. Willis – “A discussion of Crack-Forking in anti-plane strain deformation” – *Int. J. Fracture*, 11 (1975) 489.

Having recently revived my interest in crack-forking, I regret to have to announce that I have noticed an algebraic slip which led to a serious error in my paper. Equation (25) should read

$$G = \frac{\tau^2 a \pi}{4\mu} \sin^2 \chi \left[\frac{1-m}{1+m} \right]^m,$$

which agrees with the given expression when $m = 0$. The correct result shows, however, that G is identical to the energy release rate for a small further extension of an already kinked crack, when it is still small enough to be dominated by the original “ K/\sqrt{r} ” singularity associated with the unkinked crack. It is, in fact, obvious that this should be the case because a dimensional argument (which I should have thought of) shows that the local stress concentration at the tip of a small fork is independent of its length; this is shown explicitly by Eqn. (3) of Bilby and Cardew [1]. Hence, had my analysis been correct, I should have obtained precisely the same result as was obtained by Smith [2] on the basis of computing the local stress intensity factor and this, in turn, would have shown my analysis to be redundant.

[1] B.A. Bilby and G.E. Cardew, *International Journal of Fracture*, 11 (1975), 708.

[2] E. Smith, *International Journal of Fracture*, 9 (1973) 181.