

Edwards' final chapter contains a brief proof of Fisher's Fundamental Theorem, based on his much longer discussion in *Biological Reviews* (Edwards, 1994). As it is now understood, the theorem concerns a partial change in fitness — the change in 'the breeding value in fitness'. This is the change in that component in fitness which each allele carries to the next generation, not the total change in mean fitness. In this restricted sense, the theorem is exact. Although Hardy–Weinberg frequencies are not assumed, the proof does depend on allelic frequencies being passed unchanged through the mating system to the next generation. This would only be true if matings between genotypes do not vary in fertility, for example in random mating. It could also hold for some very restrictive cases of assortative mating in which matings are strictly monogamous and equal in fertility. But whenever matings are polygynous or vary in fertility the change in gene frequency due to natural selection will then be changed again by sexual selection. If so, the proof of the Fundamental Theorem fails.

Edwards gives a simple and clear proof of the theorem and what it asserts. Anybody — that is to say almost everybody — who has been baffled by Fisher's chapter on the Fundamental Theorem in *The Genetical Theory of Selection* should now be able to understand what Fisher was trying to say.

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