

This analysis shows that plants with more starting capital (larger seeds) or an earlier start on life (early germination date) attain larger final size, in accord with data from other plant species (Harper (1977)). Without a procedure such as Wu's resampling approach, formal analysis would have been far more difficult.

Estimation of natural selection gradients is a straightforward problem in multiple regression, but significance testing is complicated by constraints on transformations necessary for preservation of genetic interpretation and the relationship to population genetic theory. Resampling techniques provide a useful solution to this problem that is accessible to many biological practitioners.

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Professor Wu's paper raises many interesting points, only a few of which are touched upon in these comments.

If the bootstrap mentality is that the bootstrap sample bears approximately the same relationship to the empirical distribution of the data that the data bear to the distribution from which they were drawn, and if, in addition, the bootstrap process is to sample  $(x, y)$  pairs of residuals as if they were iid, then the deterministic predictor regression model studied here is not one for which bootstrap ideas ought to work well. Since the  $x_i$ 's of (2.1) may be stratified, perhaps any resampling plan should reflect this stratification. In particular,