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Editorial

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A Response to Mooi, Williams and Gill*

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We thank the editor of this special series in allowing us a short response to Mooi, Williams and Gill (2011). The space allocated for this rebuttal is small, so we address only the basic points, organized by their major headings.

Algorithms and Character Selection as Authority

Mooi et al. again suggest that finding trees under various universally-used optimality criteria is "authority." We reject this argument. Their alternative of picking "good" characters that happen to evolve at a certain rate is equally authoritarian (indeed, it is easy to characterize just about any method as "authoritarian" because, well, it's a method; the only thing fully immune from the charge of "authoritarianism" is doing nothing). To explain: the usual manner in which characters are selected for morphological analysis follows three basic steps. (1) Characters that display random variation or as much variation within taxa as between taxa in an analysis are typically discarded. (2) Characters that show no variation between taxa in the study are discarded. (3) Characters that do not meet the above criteria but which are shared between two to N-1 taxa in the study are analyzed. This amounts to a rate model of evolution. We don't see any particular problem with adopting such models, but investigators should recognize them as models with their own optimality criteria. We might term it the "screen data for usefulness model." Mooi et al. argue in favor of a particular brand of this model, Three-Taxon Analysis (3ta), in which characters that change only once (i.e., without reversals) are chosen. We explain below why taking this course would be restrictive and misguided.

Outgroup Comparisons

Mooi et al.,, in their reply, assert—but do not demonstrate—that outgroups are used ineffectively. Their assertion that "Choice of outgroup is made moot by optimization methods in any event, as all variation (apomorphic, symplesiomorphic and homoplastic) is employed to construct trees" is made without reference to any supporting data. In fact, examination of the data and algorithms clearly shows that only synapomorphies are employed to construct trees in parsimony. Of course, some of these synapomorphies may come in the form of "reversals" and some will

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