

The dangers of writing a paper in WORD

No, we had not been sampling from Dave Penny's extensive single malt collection; nor experimenting with mind-altering chemicals. The hieroglyphics shown resulted from a change of font (from symbol) *after* the galley proof stage. Here is part of the "proof" of a theorem in our 1995 book chapter: Penny *et al.* The role of models in reconstructing evolutionary trees. pp. 211-230. 1995 In *Models in Phylogeny reconstruction* (Oxford University Press, eds. R.W. Scotland, D.J. Siebert, and D.M. Williams).

$$\text{Set } p(e) = \begin{cases} 0.5 - \pm, & \text{if } e \nabla S \\ 0, & \text{if } e \Delta S \end{cases}$$

for $\pm > 0$ and denote the associated family of transition matrices $F_i(\pm)$. Then, as $\pm \rightarrow 0+$

$$P[\wedge_i, | T, F_i(\pm)] \rightarrow 2^{-k}$$

thus establishing (6). Combining this with (5) gives (2). Now, from equation (1), we have

$$\begin{aligned} \sup_{\{F_i\}} L &= \lambda \sup_{F_i} \{P[\wedge_i | T, F_i]\} \\ &= \lambda \sup_{F_i} 2^{-l(\wedge_i, T)} \\ &= 2^{-\lambda \sup_{F_i} l(\wedge_i, T)} \end{aligned}$$

and so we know the tree(s) which maximizes L is the tree(s) which minimizes

$$\sup_{F_i} l(\wedge_i, T)$$