

## ***Interactive comment on “Evidence of old soil carbon in grass biosilica particles” by P. E. Reyerson et al.***

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I will not comment on the methodology and organisation of this paper as I can see that one of the referees has already done so. My comment concerns Figure 1. I think it is now very clear that small amounts of carbon can be taken up from the soil, and that some of this might eventually be transported to the shoot, probably in the form of amino acids. What is much less clear to me is why we should expect the carbon coming up from the soil to be concentrated in the phytoliths once it got there. I know of no mechanism that would bring that about. The only possibility would be if amino acids in the xylem could be shown to form strong complexes with Si, and that has not been demonstrated. Surely a concentration mechanism would be a requirement if "old carbon" was to influence dating? I wrote in more detail about this recently (Hodson,

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2015). At the very least I would like to hear how the authors envisage the concentration of old carbon in phytoliths happening.

Hodson, M.J.: The development of phytoliths in plants and its influence on their chemistry and isotopic composition. Implications for palaeoecology and archaeology. *J. Archaeol. Sci.* (in press, 2015) doi:10.1016/j.jas.2015.09.002

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Interactive comment on Biogeosciences Discuss., 12, 15369, 2015.

**BGD**

12, C7593–C7594, 2015

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