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Interactive comment on “Multiple knickpoints in an alluvial river generated by a single instantaneous drop in base level: experimental investigation” by A. Cantelli and T. Muto

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I personally thank Prof. B. McElroy for the positive feedback and I do hope this paper will receive the same comments from our community. Main comment from Prof. B. McElroy is the applicability of this work in the field due to the fact that our experiments shows multiple knickpoints in a supercritical regime and sea level drop are largely connected with subcritical flow present in alluvial rivers. Prof. B. McElroy is absolutely right and we will include these comments in the discussion. Prof. McElroy’s comment made me think widely to this particular point and I think it is quite common to find examples where this process can be trigger by, for example, fault exposure or where a river incise

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a valley and create a local drop in level with the confluent creek merging the river. Also as proposed by Prof. McElroy the deep-water environment can find many applications of this process. In a more engineering application, this work can be linked with dam removal where an important question is related to the morphology consequences to dam removal and how and if the final new equilibrium profile can be reached. An expansion of the final discussion will include all this points in order to expand the scope of the paper to a wide range of applications. The discussion in the final version of the paper will try to address all the proposed points. Best regards Alessandro Cantelli

Interactive comment on Earth Surf. Dynam. Discuss., 1, 483, 2013.

ESurfD

1, C464–C465, 2013

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