

Interactive comment on “On the Milankovitch sensitivity of the Quaternary deep-sea record” by W. H. Berger

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Dear Dr. Fleitmann, Here is the revision of the article on Milankovitch Theory that I promised to write when Denis-Didier (then co-editor of CP) suggested I do so, in Vienna. (“On the Milankovitch Sensitivity of the Deep-Sea Record”). It is still a Milankovitch-focused essay with a personal flavor, as I thought I was to deliver after talking to Dr. Rousseau. In producing the revised version, I have made extensive use of the comments by the two reviewers. They obviously spent much time on my article, and made useful comments. Ref. #1 wanted clarification, which is readily provided. Ref #2, clearly very knowledgeable about the subject, identified various problems that are actually noted in the paper – again a call for better exposition. This same reviewer also

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shows some enthusiasm for contributions by Huybers, an enthusiasm I do not share. At this juncture, I prefer staying with traditional Milankovitch Theory, alternatives being poorly documented and somewhat superfluous, since M theory does work (as admitted by the very critical astrophysicist Richard Muller in his book on the subject). Your call for “major revision,” while correctly reflecting the doubts and suggestions of Ref #2, does not resonate with me, therefore. While this final version of my paper is clearly revised, it presents the original theses unchanged, and it does not discuss the ideas of Huybers or other theorists (although now mentioning them). I have incorporated the references suggested by Ref #2, after looking at them, and some others. Thus the paper now has an even longer list of references than before, and may be considered even more “up-to-date.” I also replaced Figure 1 (a photograph of the terminus of a Spitsbergen glacier) with something more esoteric (involving Fourier analysis, derivatives, and logarithms). The problem of being “up-to-date,” as seen by Ref #2, seems to be linked to discussing the right references. In this context, it is worth remembering that anything written about the theory of Continental Drift between 1930 and 1960 was unfailingly of marginal significance. Thus, a stance of being “up-to-date” rather than going back to original sources was self-defeating then, within a time span of three decades. I admit that the experience influences my thinking on paleoclimate discussions. Caveat emptor. In any case, I have tried to clarify everything that seemed even remotely obscure, regarding goals, procedures, and results. I hope the article now meets your approval. Two versions of the article are attached to this message: one that makes the changes obvious (additions in red font, deletions marked by ~~strikeout~~) and the final copy for publication (for the latter I have checked all references for completeness of citations). I am also sending the original for the new Figure 1 (by separate email), a new graph that the Copernicus Office does not have (the other figures are unchanged). I am cc'ing Ms Natascha Toepfer, who has been most helpful in the past. With best regards, and thanks for your efforts, Wolf Berger