A Useful Time Machine

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Dear Review Committee,

We regret your continued decision to reject our proposal. Even though you have told us your decision is now final, we humbly ask your indulgence for one last appeal. We believe you have misinterpreted a crucial part of our proposal.

You maintain that our 'Time Machine' project 'has no potential for applications'(p. 581)[1] and has 'no practical value' (p. 583). You ultimately base this claim on that fact that "If in order to travel to the past one has to have been there already, and if one can only do what has already been done, then *à quoi bon l'effort*? Why should we invest in a 'Time Machine' at all?"(p. 583). Your argument however is a misinterpretation of our own comments that 'According to our project it is logically possible to visit the past but not to modify the past .... This does not mean that the time traveller will be ineffectual during her stay in the past, of course; it simply means that what she is going to do is something that she has already done'(p. 582). We regret the awkward and easily misleading locution of the last sentence, but such are the perils of talking about time travel. Regardless, please consider our clarification.

Certainly if we were proposing that the time traveller *be* five years old again, we would be proposing something not worth the effort—our proposed time traveller has already turned five and cannot do so again. But we are not proposing that the time traveller do things that have already occurred in her own personal past, but rather in her personal future. The time traveller has not yet, from her personal temporal perspective, travelled back to, say, the library at Alexandria in 100 BCE. When she does travel back to 100 BCE to obtain scans of the books in the library before its destruction, she will be older than she is now. When she returns she will be still older (and we hope wiser, i.e. in possession of valuable information to which neither you nor we currently have access).

But is it true that as of 2002 AD the time traveller has already visited Alexandria in 100 BCE? It could well be. But whether or not it is true depends upon whether it is *also* true that our project will be suc-

[1] All page references are to Roberto Casati and Achille C. Varzi, 'That Useless Time Machine', *Philosophy* **76** (2001), 581–583.

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cessfully funded and completed. Because time travel into the past involves reverse causation, certain past events, such as the time traveller visiting 100 BCE, will be dependent upon certain future events, such as the successful funding and completion of our project. Hence, if it is not true that our project is both funded and completed, then it is not true that our time traveller has as of 2002 already visited 100 BCE.

But suppose we were to learn now, before the funding and completion took place, that our time traveller had indeed been present at the library in Alexandria in 100 BCE. Would this imply that there was no reason to expend the effort to fund our project? After all, if the travel has 'already' happened, why bother funding the project? Firstly, such an argument does not imply that a 'Time Machine' would have no practical application, but rather expresses the futile hope that one could in fact get the practical benefits (if the time travel is successful, we obtain the desired information) without expending the effort at all. Secondly, the hope is futile, for if we learn right now that our time traveller had been present at the library in 100 BCE, we would then know, assuming no other possible funding source, that you *will* expend the effort to fund our project. To deny this last is to make the impossible suggestion that even though your support is truly a *causal* antecedent of the successful trip, there is now no need for you to actually expend the effort to provide funding.

Hence, the effort is far from pointless, for the project will only succeed through your and our efforts. And success will generate, not only all the practical applications we outlined in our first letter (p. 581), but, in addition, a host of information gathering applications such as more accurate historical research, lost item location identification, legal testimony verification, etc. Even if, as we (and you) acknowledged, no one could now prevent Oswald from killing Kennedy (p. 582), wouldn't it be worth verifying that Oswald was the lone killer of Kennedy? Also, the information gathering need not be restricted to the past. For example, information concerning the prices of various stocks ten years from now would be extremely valuable to a suitably cautious and prudent investor. Surely you cannot object to our information gathering in the future on the grounds that 'it will already have been done.' And just think, the information we obtain could be what allows you to obtain at very low prices those stocks that in the future will be extremely valuable and allows your esteemed committee to dramatically increase your support of worthy scientific endeavours.

Again, we ask you to reconsider your original decision.

Respectfully yours,

The 'Time Machine' Research Group

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