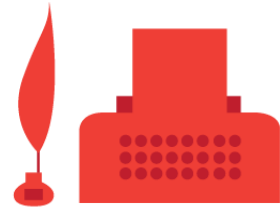# UNDERGRADUATE RESEARCH IN PHILOSOPHY: A TIME TRAVEL CASE STUDY

John W. Carroll

ABSTRACT This article describes what has been an unusual opportunity for undergraduate students to do philosophical research; it is work that has already resulted in the publication of a book entitled, A Time Travel Dialogue. The project has been distinctive for its being collaborative, for its being prolonged, and for its extraordinary on-line and print dissemination. The hope is that reflection on the development of this research will prompt others to cultivate new research opportunities for undergraduates.

Undergraduate students are excited by the prospect of original research, especially the kind that results in publication. The higher the goals for dissemination of the work, the more excited students become. Same goes for professors. The hurdle for all students in all disciplines is that cutting-edge research is difficult even for the professionals. Involving undergraduates to this level of research is rare in philosophy where rejection rates are among the highest in academia and where sole-authored works are the norm.

Academic organizations do provide outlets for philosophical student research. There are philosophy conferences restricted to undergraduate research. Locally, there is the Southern Appalachian Undergraduate Philosophy Conference,[1] a conference hosted annually by UNC, Asheville. Other conferences, ones not restricted to only undergraduate submissions, are increasingly encouraging undergraduates to participate. For example, the North Carolina Philosophical Society (NCPS)[2] has a conference each year, and since 2002 has offered a prize for the best undergraduate paper. These opportunities are wonderful. They are regularly pursued by students at NC State. Indeed, in 2013, Nathan Dahlberg, an honors student in philosophy, won the NCPS undergraduate, best-essay prize. As was the case with Nathan, this sort of research often emerges either from an exceptional term paper or from an honor thesis.

Here I provide a case study of an unusual project that has given students a rather different experience. It is distinctive for its being collaborative, for its being prolonged, and for its extraordinary on-line and print dissemination. I have used this project to engage undergraduate students with philosophical research, most of them while they were taking their first and only course in philosophy.

Some history: In the early 1990s, while teaching at New York University, I began adding more and more philosophical papers on time travel to my metaphysics courses. It gave me a fun way to teach a number of traditional metaphysical issues including issues about fatalism, identity-over-time and causation. These papers included David Lewis's, "The Paradoxes of Time Travel" and Michael Dummett's, "Bringing about the Past." In some of these classes, I also used John Perry's *Dialogue on Personal Identity and Immortality*,

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a short, excellent introduction to some metaphysical questions about life, death, mind, and self. It occurred to me back then that someone, maybe *me*, should write a dialogue parallel to Perry's, but about the paradoxes of time travel. My idea was that a physicist would come face to face with laboratory evidence of time travel to the past, just as Perry's character Gretchen Weirob comes face to face with critical decisions about her own survival and death.

I talked about my idea with undergraduate students while teaching at Rhode Island College in the spring of 1995. We had some discussions about how it might go but not much was done by way of actual writing. Nevertheless, I am sure these talks were helpful to me in thinking about the framework for the dialogue. I moved to NC State that summer, but it was not until 1999 or so, after having attended a conference on cooperative learning, that I got a crazy idea in my head. It was to give my metaphysics students a "jigsaw" cooperative learning experience that would have *them* write the Perry-esque dialogue.

I took the plunge in the spring of 2000. I divided my PHI 330 *Metaphysics* class into four groups of five or six students. Every group was given a different prompt and was responsible for writing one short chapter corresponding to a day of experiments in a physics lab. Once those chapters were completed, the students were reassigned so that every new group had at least one person from each of the original groups. The new groups were given the task of putting the four different days of the dialogue into a coherent, complete work. As part of an independent study during the fall of 2000, four of the best students from that class continued to refine and rework the best material completed by the new groups. In subsequent years, in PHI 330 and in HON 341 *Time Travel*, new students were encouraged to improve the dialogue by adding or rewriting chapters with the goal of using the dialogue as a text for these courses.

The project included pitfalls. There was a complaint to a dean; a student had missed a class period during which the project requirements were described, but he reported to the dean that the requirements were never specified. I was also frustrated by some parts of the group learning experience. For example, I had set it up for the group members in PHI 330 that first year to work together outside of class meetings. The problem was that they had trouble finding meeting times that worked for everyone in the group. NC State students often carry a heavy load of courses, often have job commitments, and often don't live on campus. I should have anticipated this sort of scheduling issue, but did not. I have since learned to (i) put all homework requirements in writing and (ii) limit student group work to tasks that can be completed in class.

There were also some amusing and unexpected results that emerged over the years. From that initial jigsaw group project, I received one dialogue with the Three Stooges as the protagonist scientists! It started off:

> [*Three men walk into a laboratory.*]
> **Curly**: Hello
> **Larry**: Hello
> **Moe**: Hello
> [*All together*]: Hello

It continued in this same spirit, complete with eye pokes and the occasional, "Oo! Oo! Oo!" or "Nyuk, Nyuk, Nyuk!" To this day, I am troubled by just how much I laughed as I was grading this submission. Still, the current version of the dialogue shows remnants of that

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group's work, minus the slapstick and the Stooges. Incidentally, the current names for the characters derive from a much more intellectual source, the movie: *Bill and Ted's Excellent Adventure*. Willie, Tad and physicist Carlene Rufus are the namesakes of Bill, Ted and actor George Carlin's character, Rufus.

Later on, after some more polished versions of the dialogue had been completed, two honors students, Don Warren and Eamonn Tweedy created an epilogue for the dialogue, which introduced a surprising turn of events late on the last day of the story. Strolling to his car, Tad suddenly comes under fire from a sniper! The sniper misses.

> [*Frozen in fear, Tad stares at his shooter as the figure centers him in the cross hairs. The sniper hears a dull click from his rifle as the round gets lodged in the chamber. As he sees the assailant put the gun down, Tad takes off running as his attacker bounds down the fire escape, pulling a loaded handgun from his side ... Tad reaches a dead end in the hallway, turning to face his attacker. The man confidently approaches him, handgun pointed towards Tad's head.*]
>
> **Tad** [*panicked*]: W-why are you doing this to me?!
> **Shooter**: I've been waiting for this moment for so long.
> **Tad**: Do I know you? Have I met you before?
> **Shooter**: You haven't … yet. I'm your grandson.
> **Tad**: There must be some mistake … I don't even have any children!
> **Shooter**: There's no mistake, Grandfather. In thirty years or so, your daughter will give birth to a son: me. He'll spend the next thirty years growing up trying to earn the love of a grandfather that wouldn't have him. When you finally croaked, you left me nothing. A scientist who was worth millions at his death wouldn't leave even a dime to his only grandson. I was bent on revenge, but you were already dead. I've spent the last ten years exploring the possibilities of time travel. It's taken so long to get everything just right, but this moment is worth it all.
> **Tad**: You're trying to kill me because I'm going to leave you out of my will? Well, that doesn't exactly put me in the mood to write you in. Now you're surely not getting anything.[3]

Funny stuff, but it is also a perfectly consistent treatment of time travel from the future, while casually hinting at the presence of a causal loop. Being left out of his Grandfather's will was the sniper's own damned fault!

Around the same time, another honors student, Jamey Waldrep, created a computer animation of the first day of the dialogue using the computer game *Deus Ex*, which had editable components. Using the game, he was able to create visual representations of the three characters. Jamey did the voices for all three. He also built in some interactive features that allowed the viewer to set experimental parameters or choose time-travel movie plots for discussion. I was astounded at the amount of work Jamey put in. I was also astounded by the success he had. It was terrific. Alas, as far as I know, the project no longer exists. It pushed the limits of what *Deus Ex* allowed and was unstable on all but Jamey's laptop.

One group of students went in a similar but different direction. They created a live-action video of the dialogue. This approach was not nearly as successful as Jamey's, but that is

how research sometimes goes. The students were a little disappointed in their final project, but it still taught all of us a lot about what would and what would not work as a format for the scientific and philosophical discussions that take place. It also gave us a much greater appreciation of what it takes to act and direct.

Initially, my hope for student success rested on the idea that I would be asking students to do what I knew many of them could do well: take notes, understand the material, and present the ideas from their notes in a way that other students would understand. This did take place. Eventually, though, the project evolved beyond students presenting existing arguments about time travel in an original and accessible way; the students started breaking new ground. One example was when students described how the scientists should set up the initial conditions of the experiment such that there would be evidence of a causal loop. Another was when two honors students, Kristoff Kleiner and Diana Tysinger, independently of each other, worked on the idea of multi-dimensional (many-timelines, changing-the-past) time travel to contrast with one-dimensional (single-timeline, no-changing-the-past) time travel. They came up with a fictional but seemingly realistic experiment that showed evidence favoring one hypothesis over the other, even though I had not seen how this could be done.

Patience was important. It proved difficult to incorporate the discussion of multi-dimensional time travel in a way that allowed for a reasonable conclusion to the dialogue. In fact, for more than a year, the dialogue sat dormant, because of an inconsistency in the interpretation of the experimental results. To all of our good fortune, after I presented the inconsistency in the interpretation to my spring 2013 PHI 330 class, a philosophy honors student, Gray Maddrey, approached me and said he had an idea how to rework the discussion of multi-dimensional time. His idea was to rework the last chapter by introducing slightly different experimental data and a novel, sensible interpretation of that data. He worked in his ideas as part of an independent study during the summer of 2013. I was so pleased with the results that I approached a publisher, who accepted the book for publication, based on helpful referee reports from top professional philosophers.

I chose to approach Open Book Publishers because I had learned that David Velleman, Professor of Philosophy at New York University, had recently published a book on moral relativism with them. So had other prominent scholars including Ariel Rubenstein and Amartya Sen. I also learned that Open Book was committed to open-access publishing. Their motto is: Knowledge is for Sharing. Open Book pays no royalties but does publish .pdf and .html versions of all their books for anyone to read on-line, free of charge. This seemed the perfect home for *A Time Travel Dialogue*. The primary goal was never to make money. Were there ever to be royalties, the agreement was that the money would go to NC State in some way that would directly support undergraduate students. Widespread, affordable access, however, seemed in line with the educational goals that drove even the earliest work on the dialogue. Open Book also makes other inexpensive versions of their books available for purchase. Proceeds are only used to cover Open Book's publication costs. Hardback, paperback, .epub, .mobi and .pdf versions of the dialogue are all available on *A Time Travel Dialogue*'s homepage.[4] The .epub and .mobi versions contain embedded animations.[4]

 A Time Travel Dialogue is a work by my students. I was closely involved by virtue of being the one to expose the students to the metaphysics of time travel and in doing the substantial editing needed to make all the different student contributions fit together into

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a coherent whole. Still, the students have done the bulk of the work. Though many other students contributed, there are eleven official student authors, a group of especially bright students, many of whom now have graduate degrees and successful careers. They are Beth Ehrlich Slater, Kevin Harrison, Stuart Miller, Nathan Sasser, Steven Carpenter, Stephen Sutton, Robert Todd, Laura Wingler, Diana Tysinger, Kevin Martell, and Gray Maddrey. The combination of their abilities, their devotion, and their senses of humor produced something remarkable.

The dialogue project continues and has inspired new research projects. I keep hoping that someone might take up Jamey Waldrep's idea of a computer animation of the dialogue with interactive components. Also, there are opportunities to create educational resources (e.g., study questions) for the dialogue to publish on Open Book's web pages. Meanwhile, during the years of development of the dialogue, I have looked to related projects for my HON 341 students. One has resulted in a highly successful website, *A Time Travel Website*.[5] Students have created various topic pages based on their class notes and independent research. Other students have created timelines for various time travel plots from movies and literature. They have also identified top time travel movies with synopses of the plots.

A Time Travel Website had 29,952 unique page views in the 2014 calendar year. Since its release in August 2014 until the end of 2014, *A Time Travel Dialogue* has had 1756 unique page views. What was the recipe for this philosophical undergraduate-research success? Well, I wish I had understood it better sooner. Nevertheless, in retrospect, it seems to have been this: Come up with an idea. Reflect on the idea. Then reflect some more--lots more. If the idea remains intriguing, take the plunge. Combine patience with enthusiastic, engaged, and bright students. If something goes badly, figure out what went wrong, and call a do-over. Add another dose or two of patience, revive the enthusiasm, and mix in new, engaged and bright students. Repeat as necessary. Enjoy the continuing journey.

[1]http://asheville.com/event/unca-16th-annual-southern-appalachian-undergraduate-philoso phy-conference/
[2]http://www.northcarolinaphilosophicalsociety.org/
[3]This passage has been edited to make it a little briefer. Clever as it was, the epilogue never quite fit with later versions of the dialogue.
[4]http://www.openbookpublishers.com/product/256/a-time-travel-dialogue
[5]http://timetravelphilosophy.net/

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