

An Open Letter to W. Peter Trower, retired Associate Professor, Department of Physics, Virginia Tech, in response to his *Luis Walter Alvarez 1911-1988* Biographical Memoir (2009) published on the National Academy of Sciences website.

16 July 2009

Dear Peter:

In your Luis Alvarez biographical memoir published on the National Academy of Sciences website you stated: "Luis could be devastating when publicly demolishing a wrong result. Sometimes he was personally gracious, as with his critique of Buford Price's magnetic monopole claim, and at other times not, as with Dewey McLean's volcanism explanation for the K-T extinction."

Your assertion that Luis Alvarez demolished my "wrong" K-T extinctions research is either an attempt to eulogize Alvarez at my expense or an expression of ignorance of the facts of the status of the K-T impact versus volcanism extinctions debate. Alvarez's science never demolished my work linking the Deccan Traps mantle plume volcanism in India to the K-T extinctions. It was his vicious political attacks upon me, beginning the first day the K-T asteroid versus volcanism debate began at the K-TEC II meeting in Toronto where I first encountered the Alvarez team, that essentially wrecked my career, diminishing my further K-T contributions. Details follow.

Using brutal political attacks upon me that would have made the Russian agriculturalist Lysenko proud, Alvarez did effectively wreck my scientific career. Because of his widespread attacks upon my science, and my ability as a scientist, that even got into Virginia Tech where I worked with devastating impact upon me, my health failed. The stresses brought to bear upon me did their work. Horrifying pains throughout my body woke me one morning in January 1984. Nearly every joint in my body and limbs were inflamed, and some so swollen I could hardly move them. The pain was crippling. That went on throughout the year of 1984, leaving me nearly a physical wreck at the end. Thereafter, deep depression over what had happened to me, and post traumatic stresses prevented me from working full tilt again on the K-T, a field in which I had made original contributions beginning at the 1981 AAAS Toronto meeting where I linked the Deccan Traps to the K-T extinctions and proposed that it had released the K-T iridium--that was at that time the sole basis of the Alvarez impact theory--onto earth's surface. I also did the first work I know of linking climate change greenhouse conditions to global mass extinctions.

Re your assertion that Luis Alvarez demolished my "wrong" K-T research, please go to the National Science Foundation website at [http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=114648&org=OLPA&from=news](http://www.nsf.gov/news/news_summ.jsp?cntn_id=114648&org=OLPA&from=news) and read the 27 April 2009 article titled "New Blow for Dinosaur-Killing Asteroid Theory." Following are quotations from the article:

The newest research, led by Gerta Keller of Princeton University in New Jersey, and Thierry Adatte of the University of Lausanne, Switzerland, uses evidence from Mexico to suggest that the Chicxulub impact predates the K-T boundary by as much as 300,000 years.

"Keller and colleagues continue to amass detailed stratigraphic information supporting new thinking about the Chicxulub impact, and the mass extinction at the end of the Cretaceous," says H. Richard Lane, program director in the National Science Foundation (NSF)'s Division of Earth Sciences, which funded the research. "The two may not be linked after all."

"We found that not a single species went extinct as a result of the Chicxulub impact," says Keller.

This conclusion should not come as too great a surprise, she says. None of the other great mass extinctions are associated with an impact, and no other large craters are known to have caused a significant extinction event.

Keller suggests that the massive volcanic eruptions at the Deccan Traps in India may be responsible for the extinction, releasing huge amounts of dust and gases that could have blocked out sunlight and brought about a significant greenhouse effect.

Here is what Gerta Keller said to me in her 16 January 2008 e-mail:

I just wanted to let you know that you will finally be vindicated. It was Deccan volcanism after all, and not an impact that caused the mass extinction. It would be nice to have Luis Alvarez around to experience the fall of the Great Impact Theory.

Now, Peter, let's examine the history between you and me. The time I first "met" you remains fresh in my mind. It was during my K-T seminar in the geology department in 1981. The room was crowded and you sat on the floor in front of the podium. The obvious hostility on your face caught my attention, and I wondered who you were. After my talk, and people were filing out of the seminar room into the hallway, I heard loud talking in the hallway. Soon after, one of my graduate students, John Firth, came to my office and asked me if I had overheard Dr. Trower's comment: "Who the hell does McLean think he is?"

Your comment astounded me. I had been working on the K-T since a graduate student at Stanford University in the mid 1960s, and had been developing my own K-T extinction theory long before Luis Alvarez ever got into the K-T. I felt that I did not warrant your loud, public, insult just outside the seminar room that was filled with our geology students.

I had never heard of you, but, intrigued by your odd behavior, telephoned you at your office the next morning to see if I could determine why my talk had so offended you. After getting through an icy introduction, I discovered your connection to Luis Alvarez as having been one of his students. My impression was that you were infatuated with Luis Alvarez, and irritated that I had the audacity to develop my own K-T extinction theory with my own K-T volcanism theory, hence your comment, "Who the hell does McLean think he is." But, to be fair to you, you later became a valuable source of information on Luis Alvarez.

Incidentally, you might recall my question to you: "Do you know a Buford Price?" I was curious about Price because when I first encountered Luis Alvarez at the K-TEC meeting in Ottawa in May 1981--that's when the impact vs volcanism extinctions debate began--Alvarez took me aside and threatened my career if I publicly opposed his impact theory, citing Buford Price as an example of what might happen to me: "Let me warn you," he said. "When I finished with him, the scientific community pays no more attention to Buford Price."

Regarding the K-TEC II meeting, Alvarez and team started off the meeting confident that the iridium they had discovered at the K-T boundary proved that an asteroid impact had caused the K-T mass extinction. But, right before the first coffee break I equivocated his impact theory by proposing that the Deccan Traps mantle plume volcanism could have released the K-T iridium onto earth's surface. I had already presented such at the Toronto AAAS meeting in January 1981, but Alvarez was unaware of my work, and it caught him by complete surprise.

When Alvarez learned about an earthly source for the K-T iridium, he literally went into shock. He turned red in the face and began glaring fixedly at me, and when Dale Russell, convener of the meeting, called for a coffee break, Alvarez headed straight for me and ushered me into a corner. He was obviously upset with me. He wanted to know if I planned to publicly oppose his asteroid theory. I told him that I was doing the first work showing that greenhouse climate change can possibly trigger global extinctions and, because our civilization is facing a possible greenhouse climate change, I felt a moral obligation to continue my work. That's when he threatened my career with his statement about Buford Price, "the scientific community pays no more attention to Buford Price." After the coffee break, he was at times loud and belligerent with me, obviously trying to intimidate me into silence.

That Alvarez was so distressed with me mystified me. After all, we were at the K-TEC II meeting to explore the cause of the K-T mass extinctions. All I had done was to introduce the Deccan Traps volcanism as a possible contributor to the extinctions. I was also open-minded to impact as a cause of the extinctions. I learned later that Alvarez had big stakes riding on his asteroid impact theory.

In June 1980, the same month of publication of the Alvarez theory, NASA (the National Aeronautics and Space Administration) had chosen it to be the basis of a new program known as Project Spacewatch. At that time, President Ronald Reagan was cutting funding to the space agencies. The Alvarez impact theory which evoked death from the heavens--imminent, unavoidable, catastrophic, horrifying mass extinctions of life on earth--was just what the space agencies needed to rejuvenate them via new funding and career opportunities. Alvarez, as originator of the impact

theory and as a major player in this new enterprise of saving our civilization from future impacts, had motivation for being upset over the equivocation of his impact theory.

In your biographical memoir you speak of Alvarez's "professional decorum and ethics." Let's examine the "decorum" claim. The word "decorum" implies decency, politeness, courtesy, good manners, modesty. In fact, Alvarez's brutal treatment of others is legendary. Following are quotations from Nuel Pharr Davis's book *Lawrence and Oppenheimer* (1968, p. 314, p. 253, and p. 301):

One of the leaders in the atomic establishment says that he was appalled by an intimation he caught in 1954 of the way anger and frustration had affected Alvarez' mind: "I remember a shocking conversation I had with Alvarez. It was before the Hearings. I want to make it clear that I am not giving his words but trying to reconstruct his reasoning. What he seemed to be telling me was 'Oppenheimer and I often have the same facts on a question and come to opposing decisions—he to one, I to another. Oppenheimer has high intelligence. He can't be analyzing and interpreting the facts wrong. I have high intelligence. I can't be wrong. So with Oppenheimer in must be insincerity, bad faith—perhaps treason?'" (p. 314)

Like Lawrence, Alvarez characteristically wanted to hurry and do big things, and he too tended to treat other scientists like servants. But he showed more positive readiness to cause pain. 'I watched him identify negative protons several years prematurely with a cloud chamber in 1938,' says a frequent visitor to Berkeley. 'Then, years later, after the war I had lunch with him at the Faculty Club while he was building a million-dollar bubble chamber. The project manager came by and Alvarez started chewing him out in front of the whole table. I left and came back and Alvarez was still at it. Seemed needless to me. As well as I could tell, not the poor guy's fault at all.'

He was also a tense and ambitious man, tired of being overshadowed by Berkeley's Nobel prize winners and hungry for command, in which he seemed to find special release when he could use it to cause pain.

John C. Mather notes in his book *The Very First Light* (1996, written with John Boslough) that as regards Luis Alvarez, he "respected his mind and his fangs." (p.132). He notes also that in "physics circles Luie was considered brilliant, creative, and terrifying. He was known for unmercifully battering his postdocs and other scientists during seminars and oral presentations. I attended a meeting in Berkeley once when Luie tore into another scientist...." (p. 133).

Peter, as the author of two book about Luis Alvarez and the current biographical memoir that I am addressing herein--I believe I recall you telling me that you essentially wrote his autobiography, *Alvarez: Adventures of a Physicist--*" one might conclude that you have vested interest in protecting Alvarez's public image.

Now, let's examine your claim of Alvarez's "ethics." "Ethics" have to do with moral principles relating to or affirming a specified group, field, or form of conduct. Do proper ethics of science include attempts to politically destroy one's scientific opponents? I offer the following comments, and ask others to determine for themselves whether or not Alvarez's actions constituted ethical behavior.

After the May 1981 K-TEC II meeting, Alvarez followed through on trying to wreck my career. At nearly every scientific meeting I attended people cited vicious personal remarks they had heard Alvarez make about me: "terrible scientist, publishing nonsense," and so on. For one example, at the first Snowbird I extinctions meeting in October 1981, Dale Russell told me how Alvarez was circulating among the scientists telling them what a terrible scientist I was, undermining me even before I presented my speech.

Alvarez also was able to reach into Virginia Tech to damage me where I worked, and apparently even into the Dean's office. Assistant Dean, Bob Patterson, once told me that "Someone on campus could get fired because of his dinosaur extinctions research." I was the only one doing such research at Virginia Tech.

At that time, David Wones, a highly prestigious petrologist and former Chief of the Branch of Experimental Geochemistry and Mineralogy of the U.S. Geological Survey, was Chairman of our Geology Department. He was the best boss I had ever known. He was supportive of my K-T volcanism-extinctions work, insisted that I attend the 1981

Snowbird I conference, and even paid my way. Wones' 1/13/81 Faculty Activities Report to the Dean of Arts and Sciences, Henry Bauer, stated, "Dewey is one of the creative and original thinkers in the department . . . If he is correct in his analysis of fossil extinctions, the department will have housed one of the major figures of our time." And, "Dewey has been most cooperative with me." I adored David Wones.

By 1/12/83, K-T politics had so distressed Wones with me that his Faculty Activities Report noted, "Dewey McLean remains the least collegial of the faculty in the Geological Sciences." Wones would get angry with me for reasons I could not fathom and, when he saw me, might turn red-faced, and utter scathing remarks. Finally, I had "no future here," "could never be promoted to full professor," and should "look elsewhere." He tried to divert me away from my K-T research.

I was doing an excellent job here. I had received four Teaching Excellence Awards (1974 to 1981), was directing a graduate dinoflagellate program second only to my mentor at Stanford (two of my former graduate students have been President of the American Association of Stratigraphic Palynologists, and one received the 1984 Outstanding Graduate Student at Florida State Award, etc.), was doing original research linking internal earthly processes to evolution of earth's biosphere, and was developing a physiological greenhouse killing mechanism, etc. (I have the Ph.D. in geology from Stanford, and all course work for the Ph.D. in biology). But, because of the K-T politics, I became a virtual pariah in the department. The stresses were too much for me. In January 1984, my health failed.

Finally in January 1988, after seven years of attacking me subversively, Alvarez took his attacks public. He stated in the *New York Times* (19 January 1988), "If the president of the college had asked me what I thought about Dewey McLean, I'd say he's a weak sister. I thought he'd been knocked out of the ball game and had just disappeared, because nobody invites him to conferences anymore."

Alvarez even used what he did to me as a means to intimidate other scientists. In a letter Alvarez wrote to Robert Jastrow (4 January 1984) after Jastrow wrote an article critical of the Alvarez impact theory, he stated: "So Dewey is now a forgotten person in the field, or when he is remembered, it is only for a few good laughs, at the cocktail party at the end of the Deweyless meeting....I'm sorry to say I see you going down the Dewey McLean lane."

Had Alvarez in fact operated with "decorum and ethics" in the K-T debate, we scientists from many disparate fields could have learned from one another in attempt to discover the cause of global extinctions, and the world would have been better for it. Instead, his actions introduced a destructive pathological pall upon the K-T extinctions debate.

Regardless of which K-T extinction theory turns out to be correct in the end--and that remains to be seen because the science is still in progress--Alvarez's behavior toward me during the K-T debate was wrong, and so is your own by using the National Academy of Sciences as a sounding board to categorize my K-T research as a "wrong result."

Sincerely,  
Dewey McLean  
Professor Emeritus, Department of Geosciences, Virginia Tech