

# Book Review

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## EINSTEIN'S MISTAKES The Human Failings of Genius

By Hans C. Ohanian

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You can imagine how upset I became when I recently walked past the New Books section at my local bookstore and saw a title that read: *Einstein's Mistakes*. There they go, picking on the genius again, I thought. When are they going to realize that this guy was perfect? Oh, I mean aside from that cosmological constant blunder and the gravity-electromagnetism unification thing, that is.

But hey, regarding the cosmological constant, anyone can have an off day. I mean, if I wanted the universe to be static, I might have done the same thing too. In physics, it is so easy to add a mathematical constant to an equation when things aren't going your way. If only it were that easy in the real world. I could have paid my rent with a check for a much smaller amount, and included a separate paper with the letter **k** on it, along with a footnote underneath stating that  $k = 4.257$  and if the property owner would multiply what I actually sent him by the "rent constant" he would get a figure that would match the agreed upon amount.

And the gravity-electromagnetism thing? Well, that was later in his career, and he had already accomplished all of that other stuff anyway – so like a superstar athlete at the end of his or her career that decides to hang in for an extra season or two, I think we can give him a little latitude.

But a book titled: *Einstein's Mistakes* that has 338 pages of text? How many other mistakes could this guy have possibly made? Of course, I had to find out.

Well, you Einstein worshippers will be happy to know that Einstein didn't make enough mistakes to fill 338 pages of text. Ohanian uses some of these pages to provide background on pre-Einstein relativity. His stories about Galileo and Newton paint an interesting backdrop for the periods during which their various scientific contributions were made. Ohanian seems to strike a perfect balance when mixing relevant scientific info with interesting anecdotes.

Overall, this is a book that will be appreciated by defenders of all viewpoints. The Anti-Einstein crowd (who are affectionately referred to as cranks and conspiracy theorists) will undoubtedly lick their chops as they turn each page in search of more mistakes they can cram down the throats of the mainstreamers. The element within the physics community who have elevated Einstein's status to that of a religious figure will enjoy this book as well. For them, however, there will be a trade-off: Their image of Einstein as a holy scientific being, who seemed to be able to define the blueprint of the universe at will, will take a major hit. But it will be replaced with a better appreciation for Einstein's ability to follow his intuition, even when he didn't initially have the mathematical goods to back his argument. Often times, the end result

has lead to the scientific community eventually endorsing an original Einstein idea that began with mathematical or conceptual mistakes that needed correcting along the way.

The author definitely does not pull any punches when delivering the bad and the ugly, but he is also very respectful of the man who is the poster boy for genius. In spite of his numerous blunders, he still considers Einstein to be the greatest physicist of the 20th century and the second greatest ever, behind Isaac Newton. (Where did I put my  $F=ma$  T-shirt?) And readers entering with no strong opinion of Einstein, pro or con, will also find a lot of facts as pure truth seekers that will be new and extremely valuable to them.

Ohanian's chapter on the  $E=mc^2$  saga provides an eye-opening experience for any who may have become acquainted with the Einstein story through the science entertainment industry. What is science entertainment you ask? Well let's see - pro wrestling is not a real sport but rather "sports entertainment." There are certain news shows out there that don't contain accurate news reports but instead are considered "news entertainment." If you look at how Hollywood physicists have sensationalized things like the Einstein legend and other topics such as string theory - you will recognize that not all books and TV shows about science topics are necessarily done in a scientific manner. To borrow a phrase from Howard Dietz: *That's Entertainment.*

Now, on a personal note, I don't agree specifically with the author's analysis of the twin paradox, especially since in my opinion, it exploits the granddaddy of all Einstein mistakes, but that didn't stop me from enjoying and learning from the rest of this book. It is truly an incredible collection of facts that appear to be presented without passion or prejudice. Ohanian really seems to have done his homework in preparation for this book. I certainly haven't checked all of his references but I would be surprised if Ohanian's mistakes in Einstein's Mistakes add up to more than a paragraph.

As we all know, there is an absolute ton of books out there about Einstein and relativity. If I were only allowed to keep three or four out of the vast collection that I own, this informative, easy-to-read work would certainly be one of them.

CJK