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Einstein's redefinition of theory

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Einstein seems influenced by Hegel philosophy that: If the facts don't fit the theory, change the facts. This is a revision of an article written 5 September 2010. [1] The problem is that a quote used in the original article that was attributed to Einstein is now being said to be fake, and Ivana Trump is being criticised for using that quote, [2] namely: "If the facts don't fit the theory, change the facts". However, upon investigation I find that the quote is referring to a philosophical idea that dates back earlier than Einstein, and seems to be one of the philosophies he followed.

I used the quote "If the facts don't fit the theory, change the facts" and gave reference where I got the quote from. But it appears that the source claiming the quote was from Einstein has disappeared, [3] and cannot be obtained from the archives of wayback machine. [4] I can now only assume that the source was unreliable, and revise this article accordingly.

There are many critical attacks on Einstein's relativity, but what many critics do not consider is how radically Einstein changed things.

It is well known in popular sayings that Einstein changed our understanding of space and time and so forth.

What he really did was changed the meaning of terms. For instance, from Newtonian physics we have concepts like mass, momentum and so forth. Einstein redefined these physical concepts and effectively put the term "relativistic" in front of them, so that they become "relativistic mass", "relativistic momentum" and so forth. The term "relativistic" is placed in front

of them to let us know they are no longer thought of in the old Newtonian way.

Einstein did not stop there, he continued to change other things.

And so, what we have from Einstein what he meant by theory as – theory determines what we observe.

Einstein says: “Theory determines what we observe.” [5] The source for this quote has also disappeared from the internet, both in the link I cited and in wayback machine archives. But unlike the other quote, I do have a clue as to what happened, because at the site of The National Academies of Science Engineering Medicine [6], which seems to be selling the book upon which the quote was based: Einstein Defiant by Edmund Blair Bolles it says: “Contractual obligations prohibit us from offering a free PDF of this title published under the Joseph Henry Press imprint of the National Academies Press. The views expressed in this book are solely those of the author(s) and do not necessarily reflect the views of the National Academies.” So, it appears that maybe the pdf I saw had accidently been placed on the internet and then later removed.

Going from the quote of Einstein: “Theory determines what we observe.” I then say that this is contrary to many people’s understanding of what a theory is; they think in terms of collect data and then form a theory to match that data.

Einstein instead thinks – form a theory then interpret that data from the theory. So, for him if the data does not match the theory then it seems that he is saying the data must be adjusted to fit.

Which then leads to me wanting to use the quote by Einstein: "If the facts don't fit the theory, change the facts", but which is now the disputed quote.

i.e. Einstein saying: “Theory determines what we observe.” Seems to be implying the interpretation that he is saying: "If the facts don't fit the theory, change the facts" even if it did not actually say that!

But now with all the doubt cast over whether he said: "If the facts don't fit the theory, change the facts" how can we even be sure that he said: “Theory determines what we observe.”

Numerous quotes attributed to Einstein could be false.

A famous quote of Einstein is about him saying that introducing the "cosmological constant" was his "biggest blunder". But now Mario Livio wants to cast that into doubt because he “can find no documentation that puts those words into Einstein's mouth (or, for that matter, his pen). Instead, all references eventually lead back to one man, physicist George Gamow, who reported Einstein's use of the phrase in two sources: his posthumously published autobiography My World Line (1970) and a Scientific American article from September 1956.” [7]

i.e. Einstein said it to Gamow, but Einstein never wrote it down in his notes, so Livio wants to query whether Einstein really said it, if it is only based on verbal communication.

Thus, when quoting Einstein, we have this very big problem of how reliable is that information. Even the quote “Theory determines what we observe”, supposedly comes what Einstein said to Heisenberg, so was probably not something that Einstein himself wrote down.

If we want there to be critical/sceptical of things that Einstein said but did not write down, then there could be a vast amount of literature written about Einstein that needs discarding.

However, back to what my original article was dealing with, Einstein it seems was dealing with the relationship between theory and facts/data from experiments in a peculiar way. The emphasis is now on “seems”, it “seems” to some people that he was prepared to discard facts if it did not fit his theories, whether he actually said it or not; it “seems” that. (and of course, to others it might not “seem” that.)

Another Einstein quote (if any of them can be deemed reliable) from Gerald James, has Einstein saying: “It is the theory that decides what can be observed.” [8]

So, Einstein “seems” that he discards facts in favour of theory; at least to some of us it “seems” that is what he is doing, and “seems” to us to be wrong!

To many of us the scientific method “is” about testing theories; and what Einstein “seems” to be doing is not that.

Einstein “seems” to keep his theory no matter what experiments show.

Under such a “seeming” appearance what Einstein is doing is not dealing with a scientific theory; because it “seems” contrary to the philosophy that a scientific theory must be testable.

It would be good to know if science/physics were based upon this “seeming” philosophic attitude. The problem being that Einstein often did not give references as to what he was working from, and in the case of "If the facts don't fit the theory, change the facts" it is a philosophical idea that dates back before Einstein. So, attributing the quote to him seems more a case of attributing that philosophy to him. The problem is trying to untangle the thread from where the philosophical idea came from etc.

Mladen Dolar [9] says: “Hegel notoriously maintained that if facts contradict theory, then “um so schlimmer für die Fakten”—so much the worse for the facts. This can be seen as indicative of the paramount arrogance of a philosophy that takes no notice of such trivialities as empirical data.”

The philosophical problem becomes then what is meant by “facts”, and under Hegel philosophy it is not the common meaning attributed to the word!

Einstein appears therefore to have been influenced by Hegel philosophy when he was saying such things as: “It is the theory that decides what can be observed.”

But it all requires greater investigation, because I do not fail to notice the irony that I am using quotes to try to recover from using an unreliable quote, and so what guarantee do I have that these quotes are reliable (?)

So, I am back to saying it “seems” to be that Einstein was going by the philosophy of “If the facts don't fit the theory, change the facts".

However, we have allowed Einstein to be declared genius in 1919 that implies that we do things the way Einstein deemed and we adopt his method; even if that method is unclear. So, from that perspective he has radically changed things as to what a theory “is” and what science/physics “is.”

Einstein also kept changing his mind; this is presented as a virtue by the establishment that he was open to new information. But on understanding his theory (theories) it makes a mess, because he says one thing one moment and something else later; it makes him vague and ambiguous. Einstein was proclaimed genius in 1919, and so the vague and ambiguous point-of-view he held became official position of the mainstream. Ideally, the science

community should have insisted on only adopting a clearly defined theory, but that did not happen and it adopted an ill-defined theory with even the meaning of “theory” seemingly changed from what most people think is meant by “theory”.

It seems impossible to get out of the mess, because it has become status quo, i.e. the official way of doing things. The best we can do is go back to when Einstein became famous in circa 1919 and point out the criticism of Silberstein et al who informed us we did not have to do things Einstein’s way and we could continue with the Newtonian way. [10]

Meaning - we can continue to do things Einstein’s way or we can do things the Newtonian way. We have choice as to what way we do things. (My latest thoughts 2017 is that Einstein has been misunderstood and possibly mistranslated. So, in later papers will probably deal with that.)

Finally, when quotes like "If the facts don't fit the theory, change the facts" are attributed to Einstein when he possibly never said them, they might instead be referring to the type of ideas that he was perceived by others as following.

References

[1] original article: Einstein’s redefinition of theory c. RJAnderton2010-09-05

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[3] The source for the quote that is now said to be fake was: Einstein quotes http://thinkexist.com/quotation/if_the_facts_dont_fit_the_theory-change_the/10117.html

[4] wayback machine explained at: https://archive.org/web/

[5] Einstein Defiant: Genius versus Genius in the Quantum Revolution from link that has now disappeared from the internet at 24 July 2017: print.nap.edu/0309089980/pdf_image/257.pdf

[6] The National Academies of Science Engineering Medicine
https://www.nap.edu/catalog/10737/einstein-defiant-genius-versus-genius-in-the-quantum-revolution

[7] Einstein Likely Never Said One of His Most Oft-Quoted Phrases, The great scientist certainly regretted introducing the "cosmological constant" into his equations, but calling it his "biggest blunder"? Not so much, it seems. Rebecca J. Rosen Aug 9, 2013 Technology
Ref:https://www.theatlantic.com/technology/archive/2013/08/einstein-likely-never-said-one-of-his-most-oft-quoted-phrases/278508/

[8] The Advancement of Science, and Its Burdens: With a New Introduction, By Gerald James Holton p.149, Einstein says: It is the theory that decides what can be observed.
https://books.google.co.uk/books?id=QFsvAmHZAeYC&pg=PA149&dq=%22nonsense+all+the+same%22+einstein&hl=en&sa=X&ved=0ahUKEwjS5t_x0KLVAhUB1BoKHQc0BjMQ6AEIJDAA#v=onepage&q=%22nonsense%20all%20the%20same%22%20einstein&f=false

[9] Journal #34 - April 2012 by Mladen Dolar, Hegel and Freud
http://www.e-flux.com/journal/34/68360/hegel-and-freud/

[10] See for instance: Relativity does not require spacetime curvature II Roger J Anderton http://wbabin.net/weuro/anderton64.pdf

Spinoza quoted as saying: “If facts conflict with a theory, either the theory must be changed or the facts.”
At: http://thinkexist.com/quotes/benedict_spinoza/

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c.RJAnderton09Sept2017