

Einstein was aware of Boscovich's theory before his famous papers of 1905

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Einstein was working from earlier sources, even if he did not cite what those sources were in his famous papers of 1905. So, what we have is a development of physics ideas from Newton to Einstein, even if there are people deceived that because Einstein did not cite sources that he was presenting something totally new.

Einstein was part of group of friends that called themselves the Olympia Academy formed in 1902. [1]



The first book that Einstein suggested for reading was Karl Pearson's "The Grammar of Science". [2]

From that book, Boscovich is mentioned twice. So, ideally Einstein should have known about Boscovich's theory; unless he forgot. Unfortunately, the book

only gives two brief mentions of Boscovich, so obviously not sufficient information in it to be working from it.

The brief mentions are:

“The mind again fails to rest in peace until it reaches somewhere the motion of a point, the sizeless ultimate element of matter postulated by Boscovich.” [3]

And:

While talking in context of referring to Mr. Alfred Russel Wallace's book: “If he [Wallace] is talking of the conceptual sphere he fails to distinguish between the moving ideals (geometrical bodies, points, or Boscovich's "centres of force") and the modes of their motion.” [4]

However, in the 1900 version, that is not in the 1892 version of the book Pearson has added on p.540: “IRREVERSIBILITY of natural processes is a purely relative conception. History goes forward or backward according to the relative motion of the events and their observer. Conceive a colleague of Clerk Maxwell's demon (p. 84), gifted with an immensely intensified acuteness of sight so that he could watch from enormous distances the events of our earth. Now suppose him to travel away from our earth with a velocity greater than that of light. Clearly all natural processes and all history would for him be reversed. Men would enter life by death, would grow younger and leave it finally by birth. Complex types of life would grow simpler, evolution would be reversed, and the earth, growing hotter and hotter, would at last become nebulous. Shortly, by motion to or from the earth, our demon could go forward or backward in history, or with one speed that of light live in an eternal now. This conception of historical change and of time as a problem in relative motion was suggested to me by Mr. L. N. G. Filon, and is, I think, of much interest from the standpoint of the pure relativity of all phenomena.”

Unfortunately, he does not go into sufficient details other than that. But that sounds basically like some of the ideas that Einstein was famously associated with from his papers from 1905, and which I contend are the type of things Boscovich was dealing with. So, we have this connection from earlier sources that Einstein was working from which became parts of his theorising about relativity.

Pearson seems to have some bad political and ethic beliefs so the less said about him the better, and might be why Einstein never cited him as reference.

Such scientists as Paul Davies are deceived that Einstein's theories don't come from earlier sources, and says this: "History shows that when a crack appears in an established conceptual framework, one of two consequences may follow. One is that the old theory gets tweaked a bit to accommodate the new findings, but the basic framework remains intact. The other is the disintegration of the whole edifice, which gets replaced by something radically new. The latter is what happened when Einstein replaced Newton's ideas of space, time and gravitation with his own theory of relativity." [5]

Of course the latter thing (i.e. "Einstein replaced Newton's ideas of space, time and gravitation...") never happened, it was just still more of "old theory gets tweaked a bit". Just that because Einstein hid his sources to some extent by not citing them in his 1905 papers (i.e. of source as - Pearson) it gave the false impression it wasn't "tweaking" Newton and instead replacing by "something radically new."

As Max Born explains about Einstein's 1905 paper on relativity [6] : "[Einstein's] paper 'Zur Elektrodynamik bewegter Koerper' in Annalen der Physik. . . contains not a single reference to previous literature. It gives you the impression of quite a new venture. But that is, of course, as I have tried to explain, not true."

Einstein did not give references in his paper and that - can deceive that there was no development from earlier sources.

References

[1] https://en.wikipedia.org/wiki/Olympia_Academy at 20 May 2019

[2] 1892 version of book:

<https://ia800906.us.archive.org/16/items/grammarofscience00pearrich/grammarofscience00pearrich.pdf>

1900 version of book:

<https://archive.org/details/grammarofscience00pearuoft/page/n561>

[3] Further details from 1892 book about context p.324 -325 : "The obvious fact is that while in conception we can represent the moving parts of the ether as points, and we can endow these points with such relative velocities and

accelerations as will best describe our perceptual experience, yet when we project the ether into the phenomenal world it is at once recognized as a conceptual limit unparalleled in perceptual experience, and we do not feel at home with it. The old problems as to "heavy matter" recur. What is the ultimate element of the ether which moves ? and why does it move ? Build a perceptual matter out of a phenomenal ether, and we have again thrust upon us the question as to ether-matter's nature. Is it also to be a terra incognita mine et in ceterum ? The mind again fails to rest in peace until it reaches somewhere the motion of a point, the sizeless ultimate element of matter postulated by Boscovich. We find ourselves again involved in the contradictions which flow from asserting a reality for motion in the phenomenal field. We are again forced to the conclusion that motion is a pure conception, which may describe perceptual changes, but cannot be projected into the phenomenal world without involving us in inexplicable difficulties."

[4] Further details from 1892 book about context p. 484: "Mr. Alfred Russel Wallace's discussion of Matter in his Natural Selection. It would not be needful to refer to this feeble contribution of a great naturalist to physical science, had he not recently republished it without any qualifying remarks (Natural Selection and Tropical Nature', pp. 207-14. London, 1891). According to Mr. Wallace matter is not a thing-in-itself. but is force, and all force is probably will-force. It is unnecessary here to again remark on the illegitimate inference made in this extension of the term will (p. 70). But as force is only evidenced in change of motion, we may well ask what it is which Mr. Wallace supposes to move. If he is talking of the perceptual sphere, he fails to distinguish between our appreciation of individual groups of sense-impressions and of change in these groups, or indeed between perceptions and the routine of perception. If he is talking of the conceptual sphere he fails to distinguish between the moving ideals (geometrical bodies, points, or Boscovich's " centres of force") and the modes of their motion. As a matter of fact he uses force for sense-impression, for sequence of sense-impressions, for moving ideal, and for mode of motion. From this confusion of the perceptual and the conceptual are drawn arguments for spiritism, exactly as Aristotle, the Stoics, and Martineau have drawn them for animism (pp. 106 and 146). The chief difference between Mr. Wallace and his predecessors lies in the fact that he has polytheistic rather than monotheistic sympathies."

[5] <https://www.prospectmagazine.co.uk/magazine/was-einstein-wrong-theory-disprove-relativity>

[6] Max Born 1956, Physics in My Generation (London: Pergamon Press), p. 193.

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