

Max Jammer's mistakes in dealing with Boscovich's theory

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Max Jammer is a respected historian of science, but in his dealings with Boscovich's theory makes fundamental mistakes, and if he is influential then these mistakes have unfairly diverted peoples' attention from Boscovich. Einstein's changes to physics from circa 1905 are founded upon mistakes such as this that stretch across mistakes in history of science, philosophy etc., which hide Boscovich's unified field theory of the 18th Century. It is claimed that Einstein was unsuccessful in finding unified field theory, but what we find is that Einstein and his colleagues created a mountain of mistakes which when peeled away reveal the unified field theory.

In Max Jammer's book "Concepts of Force: the foundations of dynamics" [1] after dealing with a chapter on Boscovich's theory his final sentence is: "As far as physics proper is concerned, every modern physicist, most certainly, would agree with Thomson and Tait in calling such dynamic doctrine [of Boscovich] an "untenable theory."

Max Jammer is stating his opinion when says "far as physics proper is concerned" he does not say who agrees with him, and as per normal in any group not everyone agrees. So trying to make out that every modern physicist would have such an opinion is false. Putting aside that falsehood, and addressing the claim that Boscovich's theory is an "untenable theory." The reference he gives is from: Treatise Natural Philosophy by Lord Kelvin and Peter Guthrie. [2]

The relevant quote is: "Under Properties of Matter, we shall see that an untenable theory (Boscovich's), falsely worked out by mathematicians, has led to relations among the coefficients of elasticity which experiment has proved to be false."

What is being said here is that the mathematicians worked out some false mathematics. It is not say the theory of Boscovich is false, instead it is saying some mathematics based on Boscovich's theory is false in not agreeing with experiment. If the mathematics had been worked out correctly then I would suspect it would have agreed with experiment, especially since my method is mathematical modelling. Working from Boscovich's theory and creating a mathematical model in the context of that theory then if it did not agree with experiment, then slight modification of the mathematical model could be done and thus Boscovich's theory saved. Having some mathematical model not quite agreeing with experiment in no way makes a theory untenable. Thus Max Jammer is mistaken, the quote does not make Boscovich's theory untenable as he claimed.

There is a further problem.

As per the quote from Kelvin and Tait: "Under Properties of Matter, we shall see that an untenable theory (Boscovich's), falsely worked out by mathematicians, has led to relations among the coefficients of elasticity which experiment has proved to be false."

Moving on a few pages in that book they say [3]: "see Vol. II., Properties of Matter"

i.e. when they refer to faulty mathematics being dealt with in a section "Properties of Matter" it is in volume 2.

Now this is from a book called Part II published in 1912, it was published previously in earlier editions from 1883. When it says Part II it seems to be part II of volume 1. That might cause confusion of the difference between part II and volume II, and in the way the book is published it does not bother to say its volume I part II. It just says its part II.

However in the preface it says: "The original design of the Authors in commencing this work about twenty years ago has not been carried out beyond the production of the first of a series of volumes, in which it was intended that the various branches of mathematical and experimental physics should be successively treated. The intention of proceeding with the other volumes . is now definitely abandoned; but much new matter has been added to the first volume, and it has been divided into two parts, in the second edition now completed in this second part. The original first volume contained many references to the intended future volumes ; and these references have been allowed to remain in the present completion of the new edition of the first volume, because the plan of treatment followed depended on the expectation of carrying out the original design."

So there was plan for volume II but there never was a volume II created. So the claim about the faulty mathematics is referring to a volume that does not exist.

i.e. the mathematics has not been presented to the public, it was never published.

It is making a claim and not presenting the evidence backing that claim.

Max Jammer should have checked that and didn't so that is another mistake. The quote he cites does not support his claim about Boscovich's theory, and worse the quote is referring to something that has not been published. His mistakes multiply; he makes out there is only one opinion in the physics community, when clearly such a thing is not possible, he misunderstands Kelvin and Tait's sentence and he is going by a sentence that has no evidence to back up its claim.

However, if Max Jammer had chosen to cite reference from "Elements of Natural Philosophy Part one" by Lord Kelvin, LL.D., D.C.L., F.R.S. and Peter Guthrie Tait, M.A. 1901 [4] he would have been on slightly stronger ground because there it says Boscovich's theory is false:

"Under Properties of Matter, we shall see that a false theory (Boscovich's), falsely worked out by mathematicians, has led to relations among the co-efficients "of elasticity which experiment has proved to be false."

However again this is referring to something ("Properties of Matter") that was never published. The plan was for a series of books and it never happened. So there is no published evidence for the claim that Boscovich's theory is false. Supposedly in science we are supposed to go by evidence, so

no evidence for a claim and we must dismiss the claim as unsupported. Ideally Max Jammer should have checked before compounding these mistakes.

At a later date, as Dragoslav Stoilkoviae – Kelvin changed his opinion about Boscovich's theory:

“In 1902 Lord Kelvin noted that different properties of the atom may be explained by Boscovich's theory: “...and as we are assuming the electrons to be all alike, we must fall back on Father Boscovich, and require him to explain the difference of quality of different chemical substances by different laws of forces between the different atoms.” In 1907 Lord Kelvin was already quite sure that Boscovich's theory could be applied to explain phenomena in the interior of the atom, and declared: “My present assumption is Boscovichianism pure and simple” [5]

So Max Jammer should have checked that as well; should have gone by the latter position of Kelvin and not the earlier one.

Other claims by Max Jammer also turn out to be false:

“The conception of force as the primordial element of physical reality, advanced by Leibniz, Boscovich, Kant and their followers, was not very fruitful and productive for the advancement of theoretical physics. It was a construct that was not easily assimilable into a conceptual scheme of operational import, and apparently remains such even in our atomic age which succeeded in releasing “the force of the atom.””

This is false because Dragoslav Stoilkoviae as one example, has found Boscovich's theory “fruitful” as have others. (More recent example has been Feynman found it “fruitful”.[6])

And when it comes to issues like Faraday's support for Boscovich's theory, Max Jammer seeks to make that vague:

“It seems likely that Michael Faraday, at least temporarily, endorsed Boscovich's theory of force centers. In his letters to Richard Taylor and Richard Phillips he admits to having been persuaded to adopt, at least for the time being, Boscovich's point of view and refers to atoms as centers of forces. It is certainly not unreasonable to assume that his conception of lines of force led him to this conclusion.”

So that is support for Boscovich's theory but he then points out:

“Yet, in a letter to Tyndall, some ten years later, Faraday rejects any such implications : “You are aware (and I hope others will remember) that I give the lines of force only as representations of the magnetic power, and do not profess to say to what physical ideas they may hereafter point, or into what they will resolve themselves.””

So, making it sound that Faraday drifts into and out of support for Boscovich's theory, either that or Faraday is provisionally supporting it and hoping for something better. It is typical of Max Jammer's attitude towards Boscovich's theory to make the support for it seem vague.

It is very easy to see why Max Jammer makes such mistakes, because he is a follower of Einstein. Going back to the issue of the history of the mess that occurred with Einstein's relativity circa 1919 (that I have dealt with in previous articles) – there was not total agreement in the scientific community that Einstein's physics replaced Newtonian physics. Indeed a terrible mistake had been

made, and the mathematical model created by Einstein's followers for Newtonian physics was faulty, so when they thought that they had overturned Newtonian physics they had not, really all they did was faulty maths in the context of Newtonian physics. So after making such a fundamental big mistake, those following Einstein's way of doing things merely commit the same type of mistake again and again. Thus we have Max Jammer misunderstanding the statement of Kelvin and Tait as part of that Einsteinian tradition of mistakes.

Pre- Copernican revolution – the science community kept bodgeing their theory of geocentricism with planets thought as being in perfect circle orbits around the earth - by adding more and more epicycles. This supposed Einsteinian revolution is based on fundamental maths mistakes which it adherents try to bodge by adding more mistakes equivalent to those epicycles.

It is upon these things that Einstein followers build their mountain of mistakes.

References

[1] Concepts of Force : a study in the foundations of dynamics, Max Jammer, 1957 Harvard University Press p 147 - 187

[2] Treatise Natural Philosophy by Lord Kelvin, LL.D., D.C.L, F.R.S. and Peter Guthrie Tait, M.A. part ii Cambridge: at the University Press. 1912 First Edition, 1883. Reprinted 1890, 1895, 1903, 1912. p 214

[3] Treatise Natural Philosophy p 302

[4] Elements of Natural Philosophy part one Lord Kelvin, LL.D., D.C.L., F.R.S. and Peter Guthrie Tait, M.A. New York P. F. Collier and son (MCMI = 1901) p 243

[5] Importance of Boscovich's theory of natural philosophy for polymer science*) Dragoslav Stoiljkoviæ University of Novi Sad, Faculty of Technology, 21000 Novi Sad, Bul. Cara Lazara 1, Serbia POLIMERY 2007, 52, nr 11—12

[6] Original article UDC 113/119: 539.1Bošković, RJ Roger 9th 3rd 2012th Tomislav Petković 1 , Tomislav Petković, ml. 2 - 1 University of Zagreb, Faculty of Electrical Engineering and Computer Science, Department of Applied Physics, Una 3, HR-10000 Zagreb 2 University of Zagreb, Faculty of Electrical Engineering and Computer Science, Department of Electronic Systems and Information Processing, Una 3, HR-10000 Zagreb Bošković's work in the philosophy of nature in the development of Modern particle physics The 300 th anniversary of the birth Boskovic – cites J. Gleick, Genius: The Life and Science of Richard Feynman, Pantheon Books, New York, in 1992.

Notes

As per previous articles, I showed that Einstein and his followers made mistakes when dealing with the mathematics of Newtonian physics as regards the observations that supposedly proved Einstein's relativity over Newtonian physics; when truth is the observations did no such thing. Einstein is said not to have worked out the unified field theory. And the truth is he made lots of mistakes, undo those mistakes and we are back at the unified field theory of Boscovich- which is continuation of Newtonian physics.

c.RJAnderton22Aug2013