

# Victorian theory of everything compared to string theory

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Superstring theory is just modern equivalent to Victorian theory of everything

Sabine Hossenfelder [1] at a meeting reports in Scientific American: “String theory is currently the most popular idea for a unified theory of the [fundamental physics] interactions. It posits that the universe and all its content is made of small vibrating strings that may be closed back on themselves or have loose ends, may stretch or curl up, may split or merge. And that explains everything: matter, space-time, and, yes, you too. At least that’s the idea. String theory has to date no experimental evidence speaking for it. Historian Helge Kragh, also at the meeting, has compared it to vortex theory.”

Kragh [2] in his article “The Vortex Atom: A Victorian Theory of Everything” says: “A truly fundamental theory, such as the vortex atom theory, is not judged solely on its empirical merits. Present string theory provides another illustration.”

i.e. String theory is just a modern version of the Victorian theory of everything.

And of course, connected to Boscovich’s theory.

Kragh explains work on vortex theory was extended by Pearson: “Pearson’s modified theory of 1891, he sought to combine the merits of the extended vortex atom and the Boscovichian point atom. This he did by reducing the atomic sphere to a point from which ether continuously flows in all directions of space, or what he called an ether squirt. He later described in [\*word corrected by me] his point atom as “something like a tap turned on under water, except that the machinery of the tap is dispensed with in the case of the squirt”. Elsewhere in the world there were counterparts of the squirt atoms, sinks that absorbed ether and acted like negative matter. As to the question of from where the ether flowed, and to where it returned, he preferred to leave it to the metaphysicians. And yet the un-metaphysical Pearson did not refrain from briefly speculating about “a space of higher dimensions” as a possibility. Pearson developed his hydrodynamic and monistic theory in considerable mathematical detail, and endeavoured to turn it into a model that could illuminate concrete problems of physics and chemistry. But, like so many other theories of this class, it did not deliver what it promised. Considering that Pearson strongly favoured a positivist methodology, and tended to regard both ether and atoms as nothing but mental constructs, it is remarkable that he spent such an effort in building up an atomic theory based on the ether as the sole medium of the universe.”

The vortex theory was an unfinished theory, Kragh says: “I have referred to the vortex atom as a theory, a model, or a hypothesis, without discriminating between the terms (thereby following the usage of the Victorian vortex physicists). Perhaps it might be more appropriately called a research programme, say in the meaning of Imre Lakatos and his followers. Research programmes are not verified or falsified in any direct sense, but rather evaluated by their ability to produce still more empirically fertile theories. According to Lakatos, a progressive research programme predicts novel facts, and some of these are corroborated by experiments. If this is not the case, and if it remains so for a longer period, the research programme is said to degenerate. There can be little doubt that the vortex atom programme started to degenerate shortly after its birth. Yet it continued to live on for some thirty years, which illustrates that there is more to theory survival than empirical tests. A truly fundamental theory, such as the vortex atom theory, is not judged solely on its empirical merits. Present string theory provides another illustration.”

Far as I am concerned work on vortex theory then went on to become work on string theory, with the workers of string theory probably not being aware of their roots in vortex theory. Also, I think lots of mistakes were made; so, we have work on this framework for a unified theory. The unified theory is Boscovich’s with his point-particles that can swirl around in vortices.

## References

[1] A Theory with No Strings Attached: Can Beautiful Physics Be Wrong? [Excerpt] A physicist decries the trend of chasing after aesthetically pleasing theories that lack empirical evidence, By Sabine Hossenfelder on June 11, 2018  
<https://www.scientificamerican.com/article/a-theory-with-no-strings-attached-can-beautiful-physics-be-wrong-excerpt/>

[2] The Vortex Atom: A Victorian Theory of Everything, Helge Kragh, Centaurus 2002: Vol. 44: pp. 32–114, ISSN 0008-8994

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