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Whitehead's relational formulation of relativity

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Regarding physics, Alfred North Whitehead (1861-1947) is practically known only among few general relativistic theorists for his sort of special-relativistic theory of gravitation, formulated in opposition to general relativity. However, in my opinion, the greatest work of Whitehead is just a physical one, even if it has very important philosophical and mathematical implications. And it is not his theory of gravitation, but it is his relational formulation of special relativity, that is completely independent of his gravitation theory and also of his trials to link the world of experience and of perceptual representation and the world of physics at a foundational level. Indeed, Whitehead has given a solution to Ockham, Al Ghazali and Kalam school, and Leibniz' major problem of constructing a relational theory of space, time and motion, and so of geometry, by defining all the fundamental concepts and formulating (special) relativity in terms of event-particle relations: a relational theory of space and time should describe the principles of geometry in terms of sensible entities. Russell noted that indeed right lines and planes are not such entities, whereas, on the contrary, metrical (distance) relations are.

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