

Re: New version of a relativity FAQ

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- *From:* Tom Roberts <tjroberts137@xxxxxxxxxxxxxx>
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Pmb wrote:

But Einstein *did* put it into writing in a letter to Max Abraham:

I do not agree with the idea that general theory relativity is geometrizing Physics or the gravitational field. The concepts of Physics have always been geometrical concepts and I cannot see why the gik field would be called more geometrical than f.i. the electro-magnetic field or the distance between bodies in Newtonian Mechanics. The notion probably comes from the fact that the mathematical origin of the is the Gaussian-Riemann theory of the metrical continuum which we are wont to look at as part of a geometry. I am convinced, however, that the distinction between geometrical and other kinds of fields is not logically founded. – Albert Einstein to Lincoln Barnett, June 19, 1948

I remark that today is 2008, not 1948. The terminology has evolved since then. In today's vocabulary, the metric IS the geometry (with its associated connection) — that is simply how these words are used, TODAY. So the metric IS "more geometrical" than the electro-magnetic field. Note that I said "the metric" while Einstein said "gik field" — this is indicative of both the rather large increase in understanding and the morphing of terminology between then and now.

BTW I mean "understanding" among physicists. At least some mathematicians (e.g. Cartan) had understood this much earlier.

Quoting Einstein for support of archaic terminology is hopeless — do you quote Chaucer in support of using middle English?

Tom Roberts

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