An Under-Study of both in terms of the other – Wittgenstein's TLP* proposition 3.333 & the Lorentz Gamma-factor γ

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Abstract

This short paper is a simple attempt to see whether the Lorentz Gamma Factor, ***when*** restrained by Wittgenstein's TLP (Tractatus Logico Philosophicus*) 3.333 proposition on a Function containing a function which he supposes rather imperatively that it excises Russell's Paradox in Principa Mathematica, may be 'a rationalist/rational **under-study**' on that very of excisement, and vice versa. Further, potentially moot but nonetheless by Vico's Dictum attention is given to what the consequences of finalizing the Under-Study might entail, be consequent on, pertain to, maybe even elucidate, etc.

Such under-studies are abundant in the classics, for example Vico to Petrarch. That's sufficient and needs more of in the author's view.

a. Lorentz.

A. $(t, x) = (\gamma, \gamma \upsilon)$.
B. *TRANSFORM :* $(t, x) = [(\gamma, \gamma v) : \gamma t - \gamma \upsilon x]$, thus,
C. $t' = \gamma t - \gamma \upsilon x$, and
D. $t = \gamma t + \gamma \upsilon x$

Γ is capital Gamma, γ is lower case Gamma aa. Wittgenstein TLP 3.333 applied to a.: For each υ in Γ, υx and γt in Γ, if both $(\gamma, \upsilon x)$ and $(\gamma, \gamma t)$ are elements of some *functor* Fu, then $\upsilon x = \gamma t$.

$$f\ (\gamma, \gamma t) \cdot (\gamma, \upsilon x) = (\gamma, \gamma t) \cdot (\gamma, \upsilon x)$$

aaa. Continuing: For each υ in Γ, υx and γt in Γ, if either or both $(\gamma, \upsilon x)$ and $(\gamma, \gamma t)$ are not elements of some *functor* Fu, then $\upsilon x \neq \gamma t$.

$$f\ (\gamma, \gamma t) \cdot (\gamma, \upsilon x) = (\gamma, \gamma t) \cdot (\gamma, \upsilon x)$$

b. Wittgenstein TLP 3.333. 'The reason a function cannot be its own argument is that the sign for a function is already contains the prototype of its argument, and it cannot contain itself. For let us suppose that the function $F(fx)$ could be its be its own argument: in that case there would be a function '$F(F(f\ x))$', in which the outer function F and the inner function F must have different meanings, since the inner one has the form $\varphi(f\ x)$ and the outer one has the form $\psi(\varphi(f\ x))$. Only the letter 'F' is common to the two functions, but the letter by itself signifies nothing.'

c. 3.333. 'This immediately becomes clear if instead of $F(Fu)$ we write '$(E\varphi)$: $F(\varphi u)$. $\varphi u = Fu$'. That disposes of Russell's paradox.'

f. Assuming Wittgenstein's talking points above, with the Lorentz factor, there appear to be under-study theorems:

T1. $F(f(x)) = F(Fu)$

T2. $f\ (\gamma, \gamma t) \cdot (\gamma, \upsilon x) = f(x) = u$

a. $\varphi(u) = F\ (f(x)) = Fu$

b. $\psi(u) = F\ (f(x)) = Fu$

T3s. $F(\varphi(u)) = F(Fu)$

$F(\psi(u)) = F(Fu)$

$F(\varphi(u)) = ((E\varphi): F(\varphi(u)) . \varphi u = Fu)$, &

in the case of negation from out, and from in,

$F(\psi(u)) = \neg (((E\varphi): F(\varphi(u)) . \varphi(u)) = Fu$, or

$F(\psi(u)) = ((\neg (E\varphi): F(\varphi(u)) . \varphi(u)) = Fu$, *&*

in the case of affected outcomes for Fu on the right side of the equation,

$F(\psi(u)) = \neg (((E\varphi): F(\varphi(u)) . \varphi(u) \neq Fu$, *or*

in the case of affected outcomes for Fu on the right side of the equation,

$F(\psi(u)) = (((E\psi): F(\psi (u)) . \psi (u) \neq Fu$, *&*

in the case of changing by substitution of $\varphi \rightarrow \psi$,

$F(\psi(u)) = (((E\psi): F(\psi (u)) . \psi (u) = \mathbf{Fw = i}$, *or*

$F(\varphi(u)) = ((E\varphi): F(\varphi(u)) . \varphi u = Fu)$

g. With a symbolic replacement to the rules of the derivation, coming out last on an Fw = *i* is meant by my writing here to be the typical imaginary aggregate, perhaps merely so and therefore entirely moot, yet even as such, if that, a kind of reasonably interpreted meaningful item, then, even if for no other reason than that we return to the first proposition *otherwise*, we would rather return by necessitation to something else, if only perhaps for the sake of an occasion for capriciousness, then,

gg. This indicator has or would have a certain forensic sway. It's meaning (both *i* and its negation ¬ *i*) would be some kind reduction yet to understood or investigated, at least in this context.

h. What we do or would have ‘proof’ that Baez’s claim that functors should not have elements)simply because a functor is not strictly a set but enhances categories) is false.

hh. Further, if we have or would have had anything at all we have a representational calculus and not a procedural one amenable to computability, which is *paramount*; qua that, it represents the logical canvassing of reasoning on something we don’t understand but could be possibly translated into a procedure for computation, a model for computability, either 1 : 1, or by example. Still, looking at the data produced here, a translation to a computability algorithm would be easy to do and relatively simple in its steps.

i. But we don’t know.