Relative Product Theory with Quantification

Here I will use prolog notation for talking about predicates. I.e. the arity of the predicate will be indicated by “/n” following the predicate where n is the arity of the predicate.

Suppose Quine (Q) believes for any two real numbers there is one between them.
(here I have simply used an “I” prefix rather than “i_” for ideas and “w” instead of “w_ for words.
No prefix for objects.

Q believes (x)(z)(Ey)C(x ~= z)K(x< y)(y<z) =df
E iN E iE E ix E iy E iz E iC E i=/2 E i</2
K K K K K K K K B iN iE ix iE iz iN iE iy iC iN i=/2 ix iz iK i</2 ix iy i</2 iy iz
S/2 iN N S/2 iE E S/2 ix x S/2 iy y S/2 iz z S/2 iC C S/2 i=/2 =/2 S/2 i</2 </2

Q asserts (x)(z)(Ey)C(x ~= z)K(x< y)(y<z) =df
E iN E iE E ix E iy E iz E iC E i=/2 E i</2
K K K K K K K K Say wN wE wx wE wz wN wE wy wC wN w=/2 wx wz wK w</2 wx wy w</2 wy wz
R/2 wN iN R/2 wE iE R/2 wx ix R/2 wy iy R/2 wz iz R/2 wC iC R/2 w=/2 i=/2 R/2 w</2 i</2

Q asserts (x)(z)(Ey)C(x ~= z)K(x< y)(y<z) honestly =df
E iN E iE E ix E iy E iz E iC E i=/2 E i</2
K K K K K K K K K Say wN wE wx wE wz wN wE wy wC wN w=/2 wx wz wK w</2 wx wy w</2 wy wz
R/2 wN iN R/2 wE iE R/2 wx ix R/2 wy iy R/2 wz iz R/2 wC iC R/2 w=/2 i=/2 R/2 w</2 i</2
B iN iE ix iE iz iN iE iy iC iN i=/2 ix iz iK i</2 ix iy i</2 iy iz

The occurrence of an E implies what follows it is a variable. Only existential quantification is primitive, I use N E x N for universal quantification.

I have all the definientia used in *Principia Mathematica* to define definite descriptions and classes [or rather eliminate them]. They could all be applied using the Lukasiewicz notation. I will, mostly, continue using more familiar notation. The Lukasiewicz notation uses a natural left to right series relation between symbols. The ideas I use in my thoughts form a series of auditory images in time. (Mostly).

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