My Universe

v0.1

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1 Introduction

I have attempted to define a universe. It is a work in progress and might have bugs.

2 Meta

The newest version of this work is available at `http://metanohi.name/writings/myuniverse/`. This is version 0.1.

3 The Basics

Let us define the basic assumptions of the universe.

Axiom 3.1 (Existence)**.** *Let x be something. We have*

$$x$$

In other words, x exists.

This axiom is very useful.

Axiom 3.2 (Nonexistence)**.** *Let x be nothing. We have nothing. In other words, x does not exist.*

To make the universe more interesting we need more basic truths.

Axiom 3.3 (Comparability)**.** *Let x exist and y exist. x and y can be compared.*

Axiom 3.4 (Difference)**.** *Let x exist and y exist. We have*

$$x \neq y$$

That is, some x can exist where something which is not x exists.

Corollary 3.1 (Existence of at least two things (Axiom 3.4))**.** *Let x exist and y exist, and require that $x \neq y$. We have*

$$x, \quad y$$

It follows from Axiom 3.4 that both x and y can exist.

This is far from enough.

Theorem 3.1 (Multiple differences)**.** *We have*

$$y, \quad x \neq y \qquad \forall x$$

In other words, for all x, something can exist which is not x.

Proof 3.1 (Multiple differences (Theorem 3.1))**.** *Let x exist. According to Axiom 3.4, some y exists for which something which is not y also exists. If $x = y$, we are done; otherwise, it must be the case that $x \neq y$, in which case we are also done.* □

Support for multiple differences is not useful if there is not support for the existence of more than two things.

Axiom 3.5 (Existence of more than two things)**.** *Let n, where $n > 2$, be the number of things that exist. They exist.*

Now we have a nice little universe to play with.

4 The Next Level

I think my universe is quite nice as it is, but surely it can be improved, and more details can be extrapolated from the existing truths.