Mathology

Hypersurreal • 4 Dec 2023

> “I understand u like researching things..” “Love it.”

> “Zero was about to tell me the secret of the universe”

In Sheldon’s dream 1 & 0 talk about the universal binary & are about to tell him about the time before the universe when he is woken up..

The Classical Cave

Bound by the binary. I have started to think about the rejection of infinity / transfinite #s as a type of mathematical atheism. I have previously pondered mapping philosophies/religions to mathematical systems. As in being able to axiomatically define a system of belief. For example finitists & atheists. Believing in infinity but not transfinite numbers could be seen as a type of monotheism. Belief in transfinite numbers a type of polytheism. Tho I have long believed in mono-polytheism. There is only unity which plays as multiplicity. Monopoly!

Mathology clearly has diffenct sects (sets). [Do mathematical nihilists worship the empty set? 🤔]

The unconstructible universe

> The constructible universe denoted by L, is a particular class of sets that can be described entirely in terms of simpler sets. L is the union of the constructible hierarchy L_a.

> The Von Neumann universe denoted by V, is the class of hereditary well-founded sets. This collection, which is formalized by Zermelo–Fraenkel set theory (ZFC), is often used to provide an interpretation or motivation of the axioms of ZFC.

> A Grothendieck universe is meant to provide a set in which all of mathematics can be performed. There are two simple examples of Grothendieck universes: The empty set and the set of all hereditarily finite sets V_ω.

What if our universe is non-well-founded (eg. loopy)?

$$x = \{x\}$$

A quine atom (which happens to look like a loopy impartial game..).

Back to religions & math maps. Previously this had made me think about the story of Krishna & mother Yashoda:

> Once Balarāma and other friends came to Kṛṣṇa's mother Yaśodā and complained to her that "Krishna eats clay while we are playing." the angry Yaśodā immediately called Kṛṣṇa and asked him whether it was rightly complained. However, Kṛṣṇa denied, telling her that his friends were lying, just to harass Him and get a scolding from the mother. But, Yaśodā was not convinced and insisted that he should open his mouth and show. Immediately, **Kṛṣṇa opened his mouth and Yaśodā had a look inside his mouth. To her surpsrise she saw the whole Universe**, 'Vishwa', like sun, moon, planets, oceans, mountains etc.,and **she also saw herself with krishna** drinking milk on her lap. She thought she was dreaming but soon she came to know the truth and she embraced Kṛṣṇa and loved him.

More recently, after learning about ☽ (loony), I thought about Lalita:

> Etymologically, Lalita means 'She who plays'.

> The crescent moon adorns her forehead.

> When they [Brahma, Vishnu & Shiva] bowed at her feet, they beheld in her mere toenails, a reflection of the entire universe.

How's that for a toe!

> “There is no difference at all between the Great God (Purusha) and myself. It is only for the sake of the world that we appear as two. In absence of this manifested world, there is neither the male, not female nor androgyne.”
>
> “Nothing in this world is devoid of me. I enter into every substance, and making Purusha the instrument. I do all the actions. I am the coolness of water, the heat of fire, the luster in the sun and also the soothing rays of the moon, which are but manifestations of my power.”
>
> “If abandoned by me, this universe becomes motionless. If I leave Shiva, he will not be able to kill demons. A weak man is declared to be without any Shakti, nobody says that he is without Shiva, or without Vishnu. Those who are timid, afraid, or under one’s enemies - they are all called Shakti-less; no one says that this man is Shiva-less and so forth.”

It’s not difficult to conceptually start from nothing & build up to everything (eg. the constructible universe). What’s more confusing is thinking about an infinity that has no start. Eternity. Unconstructible. Continuous.

No wonder we struggle so much with our finite discrete math to properly measure an infinite continuity 😅