Division by zero - a playful short discussion

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James Anderson[1] has proposed an obvious definition for the dreaded division by zero.

After setting the limit $1/x$ ($x \to 0$) to the number (!) ∞ (and $1/\infty = 0$), he determines the solution $0/0 = \Phi$, where Φ ("nullity") is an additional number outside the number series that can be used for further calculations according to certain rules. Correspondingly, $\infty/\infty = \Phi$ and $0 \cdot \infty = \Phi$.

Although the definition of a solution number satisfies the need for computability and programmability, from a philosophical point of view I would prefer to define 0/0 complementary to the above version for what it is: Everything Arbitrary. Because, as we know, every solution gives a correct result in the inverse, e.g. $0/0 = a$. Inverse: $0 \cdot a = 0$ is correct.

If we denote Everything Arbitrary (including 0 and ∞) with Ж, then the multiplication table reads:

$$0/0 = Ж$$
$$\infty/\infty = Ж$$
$$0 \cdot \infty = Ж$$

The inversions, with which I restrict myself to the last equation, $Ж/\infty \to a/\infty = 1/\infty = 0$ and $Ж/0 \to a/0 = 1/0 = \infty$ are consistent, i.e. they agree with the above limit numbers.

But the extreme cases? If $Ж = \infty$, is the inverse $\infty/\infty = 0$? And if $Ж = 0$, do we get $0/0 = \infty$?

Yes. But both also give any other number, so Ж. So these inversions are correct (not contradictory), but from the beginning they are hard to refute (hard to falsify).

The same situation arises from Anderson's statement $1/0 = \infty$, because the inverse $0 \cdot \infty$ is Everything Arbitrary, Ж, not just 1. Only that Anderson condenses Ж to Φ and escapes arbitrariness by this additional assumption.

However, the leap from limit to arbitrariness has philosophical significance, for it recalls the reflection of the universal continuum in my book How Consciousness Creates Reality, which also qualitatively anticipates infinity and makes it explode in the creation of all worlds. In the center of the reality funnel, it is then condensed in a different way and becomes, so to speak, a "computational variable" - but without neglecting the larger reference. Limit and arbitrariness touch each other in an infinitesimal way and produce a structure that is no longer arbitrary at all.

Should not Ж, despite or because of its arbitrariness, have a greater significance also in mathematics than Φ? Is it perhaps even a crossroads to other infinities, to other systems? Courage and flexibility of standpoint are required...

Dialogue on Alternating Consciousness. From Perception to Infinities and Back to Free Will

[1] www.bookofparagon.com/News/News_00012.htm