

Burali-Forti's Paradox

Naproche formalization:

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2024

Burali-Forti's Paradox, named after Cesare Burali-Forti, demonstrates that the collection **Ord** of all ordinal numbers is a proper class [**BuraliForti1897**].

Theorem (Burali-Forti's Paradox). **Ord** is a proper class.

Proof. Assume the contrary. **Ord** is transitive and every element of **Ord** is transitive. Hence **Ord** is an ordinal. Thus $\mathbf{Ord} \in \mathbf{Ord}$. Contradiction. \square

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