Summary of the Trans-Papers

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Summary

- Removed negative zero from IEEE 754 floating-point arithmetic, thereby removing a category error

- Removed all NaN states from IEEE 754, making it more robust and accurate

- Removed all redundancy from IEEE 754 relational operators, thereby removing all run-time exceptions from them

Summary

- Removed the need for IEEE 754's total-order relation, thereby removing a category error

- Removed all redundancy from the negations of the relational operators of ordinary mathematics

Summary

- Extended real topology to transreal topology

- Extended real continuity to transreal continuity

- Extended real limits to transreal limits

- Extended real, differential calculus to transreal, differential calculus

- Extended real, integral calculus to transreal, integral calculus

Summary

- Simplified the transcomplex numbers

- Proved transcomplex numbers consistent by constructing them from complex numbers

- Proved that the transcomplex numbers contain the transreal, complex and real numbers

Summary

- Gave the first instantiation of Wittgenstein's logical space

- Gave the first paraconsistent determinant

- Gave the first transreal logic

Transmathematica

- Set up *Transmathematica* as a mathematical society to promote all of the mathematics that arise when division by zero is allowed

- Set up *Transmathematica* as a mathematical journal to publish papers on any aspect of the development, teaching, or application of transmathematics

- Seeking US $25m to start up a company to manufacture and sell transreal supercomputers