

- VEDRAN ČAČIĆ, *Tarski's theorem in NFU*.

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The theory NFU is a slight modification of Quine's New Foundations, adjusted in order to have a possibility of Axiom of Choice, and a working proof of consistency relative to ZF. It represents a viable alternative to the "usual" set theory, and it is interesting to see which results of the mainstream theory hold there.

One of these results is Tarski's theorem about equivalence between the squaring principle (any infinite set is equinumerous with its Cartesian square) and the Axiom of choice. Direction (\Leftarrow) is proved in roughly the same way as in ZF, however the direction (\Rightarrow) presents problems since it uses the principle that for every x there is a $y \notin x$, while obviously $x := V$ (which exists in NFU) cannot have such y . Also, some other details in the proof require a bit more attention. We will explore different ways of proving the missing direction of that theorem.

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