

- ▶ GRZEGORZ SITEK, *Mereological model of arithmetic of natural and real numbers*.
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In [1] the Authors have obtained the full development of Tarski's geometry of solids, that was sketched in [3]. *Tarski's Geometry of Solids* is one of the systems of the so called "pointless geometry" and it is based on mereology. In such systems, a notion of a "point" is not assumed as one of the primitive ones. Instead of it, the notion of three-dimensional space and three-dimensional parts of it are accepted. Points are defined then as a special kind of sets of parts of space.

In [2] we have introduced in Tarski's theory the notion of *diameter of mereological ball*. We have shown there, among others, that the set of all diameters together with the relation of *inequality of diameters* is a dense, linearly ordered set, without the least and the greatest element.

Now, we are going to expand these results. We will present a briefly sketch of Tarski's theory and then a sketch of the construction of the notion of natural numbers and real numbers in the theory, together with an interpretation of the operations of addition and multiplication.

[1] RAFAL GRUSZCZYNSKI, ANDRZEJ PIETRUSZCZAK, *Full development of Tarski's geometry of solids*, *The Bulletin of Symbolic Logic*, vol. 14 (2008), no. 4, pp. 481–540.

[2] GRZEGORZ SITEK, *The notion of the diameter of mereological ball in Tarski's geometry of solids*, *Logic and Logical Philosophy*, vol. 26 (2017), no. 4, pp. 531–562.

[3] ALFRED TARSKI, *Foundations of the geometry of solids*, *Logic, Semantics, Metamathematics. Papers from 1923 to 1938* (J. H. Woodger), Clarendon Press, Oxford, 1956, pp. 24–29.