

Vladimir Voevodsky's Unachieved Project

Soon after receiving the Fields Medal for his proof of Milnor Conjecture and the related work in the Motivic Theory, Vladimir delivered a series of two public lectures in the Wuhan University (China) titled “What is most important for mathematics in the near future?” where he described the most urgent tasks as follows: 1) to build a computerised version of Bourbaki's ‘Elements’ and 2) to bridge pure and applied mathematics. The first project resulted into the Univalent foundations of mathematics. The second project remained unachieved in spite of significant time and efforts that Vladimir spent for its realisation. More specifically, during 2007-2009 Vladimir worked on a mathematical theory of Population Dynamics but then abandoned this project and focused on the Univalent Foundations until the sudden end of his life in 2017.

Using extensive unpublished materials available via Vladimir Voevodsky's memorial webpage (<https://www.math.ias.edu/Voevodsky/>) I reconstruct Vladimir's vision of mathematics and its role in science including his original strategy of bridging the gap between the pure and applied mathematics. Finally, I show a relevance of Univalent Foundations to Vladimir's unachieved project and speculate about a possible role of Univalent Foundations in science.