

Abstract

Plant physiologist Bohumil Němec is one of the most important people in the history of Czech science. In this thesis, crucial concepts and theories that B. Němec developed in his scientific and popularizing publications are described and put in context. In addition, materials from the personal fond of B. Němec located in the Archive of the CAS were used. Particular questions tackled in this thesis are those of stimuli transmission in plants, the starch-statolith theory of gravitropism, morphaesthesia, organogenes, Němec's approach to evolutionary theory, and genetics, and the division of organisms in two groups. Moreover, Němec's role in the contemporary debates about vitalism, mechanism, and the effect of these two philosophies on the approach towards scientific research is indicated. By that, Němec's transition from the mechanism to the so-called physiology of stimuli (Rheizphysiologie) is illustrated. The outcome of the thesis is broadening the knowledge in the history of plant physiology, especially the history of the natural sciences in the Czech context.