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"*Dynamism in space and space dynamics: The influence of the new physics and technology on space-time imagery in selected literary works of American modernist writers of the 1940s and 1950s"*

SUMMARY

The dissertation constitutes an attempt to explore the intermedial relationship between the new scientific and technological achievements from the first half of the twentieth century and literature, with special focus being placed on the influence of Einstein's Theory of Relativity, outer space exploration, and the popularization of the scientific findings on the creation of literary space-time imagery in selected works of American late modernist prose of the 1940s and 1950s. The paradigm shift induced by Einstein's groundbreaking publication from 1905 known as the "Photoelectric Effect" paper not only ignited the revolution in the field of physics but also contributed to a series of socio-cultural changes in America. These are particularly intensified in the 1920s, during the period of high modernism, which coincides largely with the time of the greatest popularity of scientists such as Edwin Hubble, Arthur Eddington, Niels Bohr, or Max Planck to list just a few. The participation of some of the most prominent figures from the scientific community in the creation of popular science discourse places scientific achievements in new contexts, in which they create new, intermedial networks of interconnections and influences with the elements of popular and high culture. The intensification of efforts aimed at popularizing the new scientific achievements in the 1920s thus initiates an ongoing dialogue between scientific thought and more abstract, humanistic attempts to explore reality. The dialogue enters the period of revival in the 1940s and 1950s, mostly due to the fact that the second wave of increased interest in popular science coincides with the technicization of social life and the technicization of war in the 1940s. The 1950s, in turn, feature an invigorated interest in Einstein's Theory of Relativity. The scientific problems of time, space and their mutual relationship are once again placed at the center of both scientific and popular scientific discussion. For this reason the cultural, and therefore literary, image of the era is to a considerable extent

shaped by achievements of science and technology. The above mentioned "Renaissance" of the Theory of Relativity in the 1950s contributes primarily to creating new sensitivities in ordinary perception and literary representation of time and space, proving the notions of absolute time and space as well as the traditional Newtonian perspective on the physical reality inadequate in the light of the new findings. The analysis of selected works of American prose from the 1940s and 1950s based on close reading allows to conclude that the relationship between literature and science is internally complex and goes beyond the scope covered by the majority of studies exploring science fiction texts written during the late modernist period. Selected works by some of the leading American authors of the 1940s and 1950s, such as Ernest Hemingway's *Islands in the stream*, James Jones' *The thin red line*, Norman Mailer's *Barbary shore*, Flannery O'Connor's “The displaced person”, or James A. Michener's *The bridges at Toko-Ri* exhibit characteristics of the influence of new physics, space exploration and the technicization of life and war on literary space-time imagery. The new scientific findings are brought into literature by discourse series oscillating around the Theory of Relativity and other related scientific discoveries. Hence, the mechanisms of the influence of science on selected works of American late modernist prose is analyzed in the study within the conceptual framework of Foucauldian discourse analysis, as presented by the philosopher in "The order of discourse"; the text constitutes both a theoretical basis for the analysis as well as provides a repository of methodological tools applied in the present study. The subjective perception of space by the characters, the stratification of the represented worlds into overlapping, yet autonomous space-times with separate frames of reference, time as an internally incoherent phenomenon, alternative dimensions of time such as memory, imagined past, alternative present, the motif of the human body viewed in the categories of a microcosm, or a machine whose movement in space-time leads to its deformation, constitute the main thematic axes of the research on the influence of the new physics, the popularization of science and the technicization of life on American late modernist fiction of the 1940s and 1950s.