ON THE CONCEPT OF TIME IN EVERYDAY LIFE AND BETWEEN PHYSICS AND MATHEMATICS

PAOLO DI SIA¹⁻⁴

¹University of Padova, School of Science, Department of Physics and Astronomy & Department of Chemical Science, Padova, Italy

²University of Padova, School of Medicine, Department of Neurosciences, Padova, Italy

³paolo.disia@gmail.com

⁴www.paolodisia.com

Abstract: In this paper I consider the concept of time in a general way as daily human time and then within physics with relation to mathematics. I consider the arrow of time and then focus the attention on quantum mechanics, with its particular peculiarities, examining important concepts like temporal asymmetry, complexity, decoherence, irreversibility, information theory, chaos theory. In conclusion I consider the notion of time connected to a new theory in progress, called “Primordial Dynamic Space” theory.

Keywords: Time, Modern Physics, Irreversibility, Decoherence, Symmetry/Asymmetry, Entanglement, Complexity, Primordial Dynamic Space (PDS) Theory, Education.

Introduction

Time and irreversibility

Superposition and entanglement

Quantum mechanics between innovation and complexity

Information, complexity and arrow of time

“Past hypothesis”, gravity and arrow of time

Recent advances on the concept of time

Conclusion

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