

Why is time not reversible?

Abstract

This article refers to and is at the same time a supplement to the work *The Cold Big Bang Model*, hereafter called MBBR or the basic work, which was printed by the Tribuna Economică publishing house, in the year 2021, with ISBN 987-973-688-429 -0; work is also listed at: <https://bigbangdigitalmodel.com/en/>

We aim to answer the question in the title based on the principles of MBBR.

1. INTRODUCTION

In the basic work, we defined *time* as, based on *Axiom 2* and *Definition 2*, the countable sequence of events arising in the process of logical-mathematical thinking, thought carried out by a creative Consciousness.

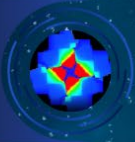
2. CONTENTS

Taking into account the *time* thus defined and attached to logical-mathematical thinking, we showed how the appearance of mathematical paradoxes can be avoided, allowing:

- freedom in the formulation of sets in Cantor's theory;
- breaking out of the vicious circle of self-reference;
- the freedom of formulating the negation in definitions of the type: the set of all sets that **does not** belong to itself.

The price paid for this success is the need to take into account the time associated with logical-mathematical thinking, more precisely the recognition of newly appeared/defined objects, objects that can no longer be analyzed with the previously considered tools, in which case the discrete time clock must be given one unit ahead. In this way disappear such contradictions as: *the sentence P is simultaneously true and false* or *the set A belongs to itself as an element*, since at time $t+1$, arising as a result of an important reasoning performed on the proposition P or the set A, they are no longer identical to those at time t . In the same way, Russell 's paradoxes operating in a "world frozen" in time are also avoided. In the basic paper, some concrete examples of avoiding paradoxes are given.

Let's note that the process of the appearance of new objects of thought is an irreversible one, since the attempt to return (in time) before the thought process that led to the appearance of those objects is also a thought process that has the effect of registering at least one new unit of time on the



discrete clock face; so, would initiating another thought process leading to the destruction of said object/objects would have the same effect. So, the thought process only goes forward, never backwards, making the "arrow" of time have only one direction.

Since we have extended this notion of time to the process of creation and evolution of the Universe, that is, to physical time, it follows, as a corollary, that it cannot be reversible.