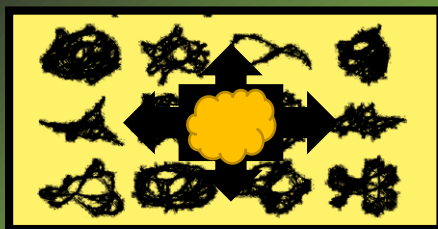


Philosophical Review of the Wolfram's Theory of Everything (1)

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Foreword:

Stephen Wolfram's theory of everything is a colossal work that had been amply developed and published.¹ Its deep analysis takes time and research. This is what we would like to do in the frame of the CRDI (Center for Research and Development of Infinitylogy). What is initiated here is just a first approach to see how the philosophy in general and the philosophical theory of Infinitism, in particular, can effectively help to assess different suggestions in this regard.

In our center we have already started a critical work on the theory of strings based on the last book of Professor Michio Kaku. We have published an article on this topic in one of our publications.²

But in general, we will come back to Wolfram's works and other cases to elaborate more on our supposition according to which there would never be a theory of everything but in a philosophical framework. This could never be the task of science since the latter knows how to deal with the finite, while everything is just infinite.

¹ BECKER, Adam; Physicists Criticize Stephen Wolfram's 'Theory of Everything', in: Scientific American. Source: [🌐 scientificamerican.com/article/physicists-criticize-stephen-wolframs-theory-of-everything/](https://www.scientificamerican.com/article/physicists-criticize-stephen-wolframs-theory-of-everything/)

² See our book entitled *Infinitude in Action (Exploration and Utilization of Infinity)*, ILCP Publishing House, 2021, chapter 13: On the Theory of Everything (EOT), pp.155-167.


Introduction:

The attempts to find a theory that could explain how the universe works are multiplying in the different fields of science. Some have gone farther than that and suggest, besides a general theory, the possibility to visualize and simulate it as well. The Wolfram theory is one of these.

“At its heart, Wolfram’s new approach is a computational picture of the cosmos—one where the fundamental rules that the universe obeys resemble lines of computer code.”³

Wolfram pretends that “Even when the underlying rules for a system are extremely simple, the behavior of the system as a whole can be essentially arbitrarily rich and complex.”

In this paper, we will review the most basic point of the Wolfram theory from the standpoint of the theory of Informatism.

³  [scientificamerican.com/article/physicists-criticize-stephen-wolframs-theory-of-everything](https://www.scientificamerican.com/article/physicists-criticize-stephen-wolframs-theory-of-everything)

Our reasoning is simple, or even basic. In order to express it let us first explain what the premises of the infinitist vision on the matter are.

Infinitist view on the universe

Infinitism used an inductive approach⁴ for seeing what is going on in the universe before reaching some general assertions. By observing any phenomenon in the material world and breaking it down we can see that it's composed of an infinite number of components and subcomponents that are interrelated in the form of causal chains between them.

Noticing a regularity and iteration in many cases brought us to a conclusion that is a pure induction: *Everything is infinite*. Or more precisely: *Everything is compositely infinite*.

⁴ Inductive is characterized by the inference of general laws from particular instances”.

Then we use, this time, a deductive approach⁵ and see if we could apply that the general rule to all the particular cases. And through multiple observations of cases we see that this general rule is working as well.

The above bidirectional reasoning (Inductive-Deductive) drives us to infer some points that are formulated clearly in the following statements:

- **Everything is infinite.**
 - **Everything is infinite or is not.**
- **Everything is infinitely composite.**
 - **Everything is compositely infinite.**
- **Everything is composed of infinite components and subcomponents.**
 - **Each component is composed of subcomponents.**

⁵ Deductive is characterized by or based on the inference of particular instances from a general law.

- **Each subcomponent is composed of sub-subcomponents.**
- **This course of being composite is endless.**
- **Everything contains an infinite number of interrelations between its components and subcomponents.**
 - **The interrelations between components and subcomponents are shaped as endless interconnected causal chains.**
 - **Each causal chain is infinitely bidirectional, inside a phenomenon and then outside of it.**
- **Everything contains infinite ways, modes, and modalities according to which these countless interrelations are shaped.**
 - **The infinite character of the interconnecting ways within matter makes all immeasurable diversity of substance and form of matters.**

- **As this diversity is infinite no theory can encompass it in a Theory of Everything, but in a general way and most probably only in a philosophical framework or through a philosophical approach.**

The above assertions shape the core of the theory of Infinitism. Our review of the Wolfram theory and also the other similar attempts of shaping a Theory of Everything, like the *theory of strings*, accounts for the above statements.⁶

So, with all the precaution and relativism that hover over these statements, we will go over a rapid review of the Wolfram theory.

⁶ Evidently, we are aware of the tentative character of these assertions; that's moreover why Infinitism has charged the new discipline of Infinitylogy with the mission of methodical and objective verification of these assertions. While we are developing the application of Infinitism's statements we will develop Infinitylogy as a specialized field of study where these statements go through rigorous verifications and examinations. For more information about Infinitism and Infinitylogy, and their complementary roles please see the list of the books at the end of this paper but also visit our blog and its post at www.thecrdi.com

The Wolfram theory's review

My objective here is not to criticize the Wolfram's theory of everything from the point of view of science or technology. His model is mathematical, and computational and I don't have any proficiency in none of these. My approach is simply philosophical, more precisely ontological, and a little phenomenological. All my scrutiny is mainly focused on what constitutes the starting point of this theory, where Wolfram says:

“It all begins with something very simple and very structureless. We can think of it as a collection of abstract relations between abstract elements. Or we can think of it as a hypergraph—or, in simple cases, a graph.”

As we can see, the point that is taken as the most basic part of this giant theoretical construction contains a definition that cannot realistically exist according to the basic

assertion of Infinitism where its states that *everything is infinite or is not*.

Being infinite, in our theory has a material concrete meaning: *being compositely infinite*. This means that everything 1) is having a structure and 2) its structure is infinitely composite. Therefore, in the real world you could never find a 'structureless' phenomenon, whatsoever.

For sure, we could envisage such a thing, but it remains merely in the realm of our imagination and cannot have the least material exertion in the universe. From this point of view, the Wolfram theory looks like taking a unicorn to draw a zoological tree from. In the simpler word, such a thing called "something very simple and very structureless" doesn't exist in the real world, at all.

But why? Can't we break down the structure of matter and eventually reach a particle or subparticle that is not composed of everything? So, isn't then this thing

structureless? After all, the Wolfram's "very simple and very structureless" thing cannot be what the science calls "elementary particles"? Here is the definition-witness for this claim: "Elementary particles are the smallest known building blocks of the universe. They are thought to have no internal structure, meaning that researchers think about them as zero-dimensional points that take up no space." ⁷

The discussion turns to be interesting when we know that issue the same problem with science and this definition. What does it mean to say that "they are thought to have no internal structure"? Infinitism states that, based on the assertion of *everything is infinitely composite*, such a thing with "no internal structure" could not even exist? Remember: *Everything is infinite or is not.* ⁸

Let's develop this point:

⁷ livescience.com/65427-fundamental-elementary-particles.html

⁸ In our book entitled: *Basis of Infinitylogy*, we developed this criticism of scientific assertion on elementary particles or on fundamental elements. See chapter III: A critical lecture on standard model, pp. 54-87.

Take the most complex known or observed system in the universe and break it down, you will reach the simpler structures whose simplicity is just a phenomenological approach. This means that we are facing an anthropic apprehension that has nothing to do with an objective ontological configuration of that so-called “simple” structure.

Likewise, when we consider something as ‘complex’, we should be aware that the intricacy of its structure comes as well from our anthropic interpretation rather than an intrinsic feature of that phenomenon. There is no inherent independent complexity or simplicity beyond the direct interference of our perceptual sensory and our cognitive interpretation. Simplicity or complexity are not physical facts but epistemological ones.

In an infinite scaling, we don't forget, every simple thing has an immeasurable complexity in its inner unbounded

structure and any complex thing is a simple part of a bigger, and relatively but objectively, more complex entity.

So, what is going on in the universe is a definition-free configuration that cannot be labeled neutrally in any specific way, complex or simple. The extent of the intricacy of each phenomenon is a question of the ability and the capacity of the mind that observes, apprehends and interprets it.

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So, back to the premises of the Wolfram's theory, we can say that no rule from which we start a theoretical construction could represent a factual phenomenon that would be ontologically simple, if it is not always relative and never an absolute call. An assessment on the simplicity of a phenomenon is always highly arbitrary, artificial or even fake, since nothing in nature, by its inner infinitude, could be objectively and ontologically 'very simple'.

The question from the Infinitism's point of view is simple: how, in the real world, any phenomenon could be infinitely composite and simple all at once?

There is no intrinsic simplicity in the universe. Everything is infinitely complex, compound, and multifaceted. Any object that we take as the starting point for elaborating a system is not but a step of an infinite causal chain that created it and will also continue its course endlessly.

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The above point brings us to the second issue that we detect in the Wolfram theoretical construction:

Parting from the initial point, the Wolfram theory focuses on one direction of the movement that goes forward and gets

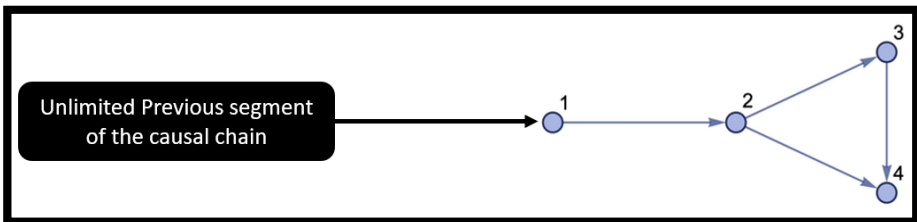


Figure2- According to the Infinitism, we should see this process as having an anterior segment before the starting point in the course.

more complex. This hypothetical line of development is in the real world a continuous causal chain. But the Wolfram model slips this chain and ignores literally its anterior segment that brought about the thing that the model is taking as its point of departure; the same point presented as “something very simple and very structureless”.

So, it's true that the theory of Wolfram is working well in a mock environment that we could aseptically create and develop, but it could not have any root in the real and infinitely polluted world. Once we look at any concrete example of this simple and structureless thing, we would find nothing.

While the theory is utterly incomplete, and that's why it can't claim to be a *theory of everything*, it deserves to be noticed for half of the work it accomplishes. It shows well the possibility of development and complexification of a chain of events.

This point is also what we suggested in our previous proposals for the development of software that would be able to simulate the plausible fruition of a phenomenon, based on the real data and general equations and algorithms that self-expand along with the unremitting entering flow of data.

In our proposal, we take moreover into consideration the other directions of the studied phenomenon as well. A comprehensive approach should be able to answer the question about where a phenomenon is coming from. We could look for its causativeness's pas trajectory as well and track it as much as the objective available data make it possible.

So, in our model, any basic rule or simple modality has a backward and forward pathway to elucidate as well its current existence as its future evolution.

But we don't stop it in our model at the external exertion of a phenomenon. We explained that everything is on the one hand incarnating infinitude in its inner structure and on the other hand, as a composing part of a bigger entity, it is in and limitless interaction with other adjacent components of the setting it is a part of.

So, we can see that while Wolfram theory looks after the verification of its assumption (departing from the simple to produce spontaneously the complex) in only one lane, we go in four directions and get a much more complete image of a dynamic process that is going on with the studied phenomenon; the goal is to verify our assumption according to which there is no outright 'simple' and 1) everything is infinitely complex as also 2) every complexity is infinitely simple. All is a question of the existential scaling that turns out to be illimitable.

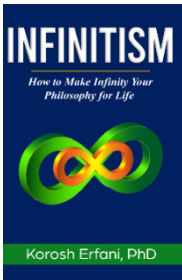
The difference between the Wolfram approach and ours is therefore that we don't censor artificially the endless existing causal chain of a phenomenon at some point so as to ground a whole theory on an end that cannot materially exist.#

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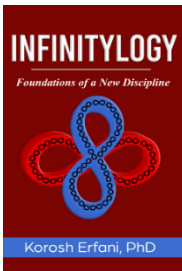
PS: As we mentioned in this paper's Foreword, our work on the Wolfram model's details and the similar efforts of constructing a *theory of everything* is a continuous endeavor, and we will progressively more thoughts and remarks about it in the future. For more information please follow the updates on our website: www.thecrdi.com

All your views and comments are welcome as well.

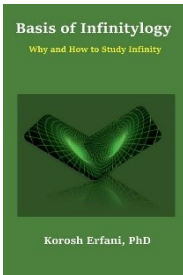
Books published so far:



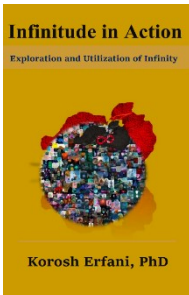
Infinitem: How to make Infinity your philosophy for life, ILCP Publishing House, 2021, 375 pages.



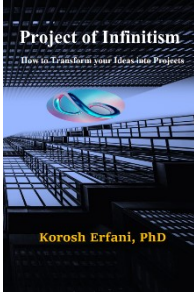
Infinitylogy: Foundations of a New Discipline, ILCP Publishing House, 2021, 148 pages.



Basis of Infinitylogy: How and why to study Infinity, ILCP Publishing House, 2021, 148 pages.



Infinitude in Action: Exploration and Utilization of Infinity, ILCP Publishing House, 2021, 200 pages.



Project of Infitinitism: How to Transform your Ideas into Projects, ILCP Publishing House, 2021, 132 pages.

Our books in other languages



● *Infitinitism: The Philosophical theory to change*, (Book in Persian), ILCP Publishing House, 2020, 1018 pages. (possible translation in the future)



- The CRDI plans translating these mentioned English books in French in the future.

www.thecrdi.co



Our Websites



- Website on the *Center for Research and Development of Infinitylogy* (CRDI)

www.thecrdi.com

- Website on the philosophical theory of *Infinitism* and its applications.

www.infinitism.info

- Website on *Infinitylogy* as a new discipline and its establishment:

www.infinitylogy.com

- Website of the ILCP Publishing House

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