

Are Simple and Complex the same?

By: Korosh Erfani, PhD



January 2022

First Version



*A production of the Center for Research
and Development of Infinitylogy (CRDI)*

Introduction

There have been many efforts to explain how nature works. The famous *Wolfram theory* is one of them. In his theory, as well as in some others, the focus is on the way the systems get complex. Their core idea is that any basic rules will end up with an extent of complexity that cannot be expected a priori.

From the perspective of Infinitism, one question arises: Could this complexity goes infinitely or, we can imagine a level where the system could not be more complex. And if such a point is possible, what happens there? Does the system collapse? Does it bifurcate? Or any other new status that it can take because of no more capacity for complexity?

Here are some ideas from an infinitist perspective:

We already know that *Infinitism* states that *the matter is infinitely composite*. This means that structure of any phenomenon has uncountable constituting echelons.

Whatever is a given level of this structure, there are always smaller sublevels and it doesn't stop.

With such a vision over the construction of matter, one can ask how this question of complexity can be viewed in a compositely infinite configuration.

First technical question:

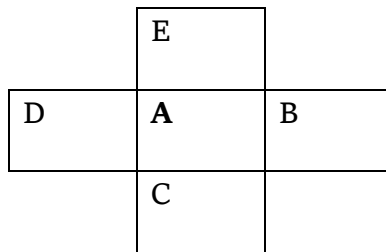
In which direction the complexity is increasing, towards micro or macro? I.e., if we take the case of a given phenomenon, the direction of the complexification will be from the smaller subcomponents towards the bigger one or, on the contrary, the complexity increases when we go inwardly?

While these questions could look epistemologically normal or nay logical, they are ontologically unusable since the infinitude makes the whole process of complexity highly relative.

But How?

What is seen as the complexity of the echelon A, compared to the complexity of echelon B, is always relative, since no categorization of levels is possible in an infinite perspective. The labeling doesn't help.

As we can see in this table, what we categorize as a Simple Rule in a micro-level, will become the Complexity of a macro-level; if the process had to stop here, we could adhere to the logical models of the explanation for this process. But, as we can see in the same scheme, now the complexity of macrolevel will become the simplicity of microlevel for another echelon of the structure.



Where

- A is a Simple rule

- B is the Complexity of the same structural level of matter caused by A
- C is a Simple rule of the lower structural level of matter that caused upwardly the complexity A
- D is a Simple rule of the same structural level of matter that caused the complexity A
- E is the Complexity of the upper structural level of matter that is caused upwardly by A.

We can see that A is playing instantaneously all the four status that we could imagine:

- Simple rule to its macro-level Complexity,
- Complexity of its micro-level's Simple rule,
- Simple rule to its same level Complexity,
- Complexity of its same level's Simple rule.

This simultaneity of roles happens in the real world (material, physical, biological, chemical). But so is not true in an artificially restricted computational automaton with a

mechanical linear move. While the dynamism of the foremost can be apprehended by dynamic mathematics, the latter is generated by the view of static mathematics. The particularity of dynamic mathematics is that it can integrate the multiplicity of a seemingly single reality, while static mathematics can treat only one of these multiple realities of an actuality at a time.

Therefore, any system is, at the same time, Simple and Complex and one cannot detach them but only in an artificial and arbitrary way. This is the anthropic necessity of our epistemology that alienates us from the realistic ontology of the world; as long as we don't go beyond this forged worldview, with its mechanical arrangement of the material world, we cannot reach the hidden but existing capacity of the matter.

Liberating our mind from static mathematics is a precondition to integrate the dynamic mathematics. In the

latter we can see that any segment of a system is at once simple, compared to a complex reality, and Complex, linked to a simple reality.

Since the structure of matter is organized as causal chain, we see that this synchronized replacement of status (roles) is far from happening one after another, as imagined in computational representation, but concurrently and interactively, and more importantly, this variation of roles happens causally.

In the non-computational, non-static-mathematical world, the simple rules lean towards complexity, not as a mere effect of mechanical iteration but as due to their intercreating interconnected relations with other components. This is actually the mere definition of matter in *Infinitism*:

Matter is infinite interrelated intercreating causal chains.

Each component, being a material entity, encompasses this definition in itself, reproduces it in its inner edifice, and interacts with other components as such. Therefore, these are the intricate networks of causal chains that are acting within a given phenomenon and in relation to other phenomena.

In our previous books, we already explain the details of the mechanisms by which these causal chains are going on. Regarding the topic of this essay, simple rules and complexity, we can say that every causal chain integrates, in each of its composing members, the four statuses of

- Simple Rule as Cause,
- Complexity as effect and then
- Complexity as cause and
- Simple Rule as an effect.

Moreover, in a dialectical causativeness what is seen as the effect becomes a cause for its own cause; also anything seen

as the cause is not but an effect of another cause(s) that is (are) itself (themselves) an effect, and it goes endlessly.

So, the complexity is finally nothing but the impact of this dialectical relationship between cause and effect organized as causal chains. These causal chains being an ongoing process, are generating continuously more complexity that that is acting as simple rules that are not finally but new complexities previously generated by some simple rules. This process doesn't have any termination.

This dynamism makes that there would not be an end to any causal chains. This means that the infinitude thus shaped makes each complexity become a simple rule for another complexity to be shaped, and each phenomenon that we call a simple entity results from a previous beneath complexity.

Therefore, in the infinitist approach, the complexity is never at a point that we can consider as 'final' or 'maximal'; nor any simplicity can be seen as 'basic' or 'fundamental' since

it is just the outcome of an underneath complexity that created it.

This is what Infinitism develops to explain the events like the Big Bang that is not but a point of complexity caused by some previous simple rules and these latter are themselves not but the complexity of some pre-Big Bang simple rules, and this chain had no starting point, nor any final future; it's infinite.

Summary and Conclusion:

Through the interchangeability of Simple and Complex, we get the idea over the universality of the aforementioned assertion, according to which *everything is infinitely composite*. We could therefore generalize it since *every simple thing is infinitely complex and every complexity is infinitely simple*.

The fact that we cannot determine any fixed or freeze status for a level of the structure of a given phenomenon

demonstrates infinity as *infinitude in action*; which is the continuation of shaping complexities through simplicities and shaped simplicities by complexifications.

This interposable moving status of Simplifications and Complexifications is the dynamism that accounts for *infinitude in action*; another name for infinity.

We remind that this is what we enumerated as one of the three indicators of infinitude within the matter

1. Number of the components of a phenomenon
2. Number of interconnections between the components,
3. Number of the ways these interconnections are done.

We can see that this set of simple and complex represents the third above feature and can explain why we have all the variety of the matter's composition.

Since:

- Any simplicity creates a complexity,

- Any complexity is a relative simplicity,
- The transformation of Simplicity into complexity and,
- The role of the complexity to be the subsequent simplicity
- Creates a permanent, continuous, unstoppable process that will shape a newness among the ways the components are interconnected.

The course of interchange between simple and complex could be in any direction and is not linear. It goes from simple to complex and then it turns out to be something else with a dissimilar level of simplicity or complexity. These permanent changes make the uncountable variety of matter and its immense dynamism as well. While we should discover the rules that dominate each portion of this course, we should not forget that the course itself is endless and infinite.

- Uncountable rules, uncountable changes, uncountable ways according to which the rules shape, all represented as an incessant process or Infinity.

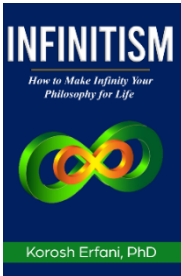
This means that at each level of the structure of matter we get a more complex configuration. But ‘more’ here is accounted for a relativity and nothing else. As the simple rules go up to the complexity, no complexity could become but a simple rule for a bigger complexity and as it went on for the universe, what we will have in the future and in all micro and macro levels of existence, is just more complexity that cannot stop itself. It brings about infinity. Here is the path:

- Simple rules, then
- More complex entities, then
- Transformation of the complexity in the new simple rules and then
- More complexity, and again and

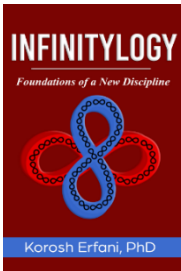
- it goes forever.

The infinitude of interaction between simple rules and complexities: this is infinity.

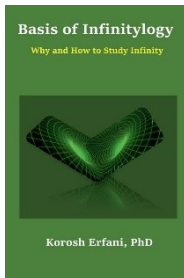
Books published so far:



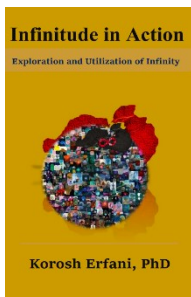
Infinitem: How to make Infinity your philosophy for life, ILCP Publishing House, 2021, 375 pages.



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.

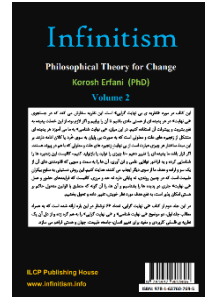


Infinitude in Action: Exploration and Utilization of Infinity, ILCP Publishing House, 2021, 200 pages.

Our books in other languages



● *Infinitism: 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.com



Our Websites



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

www.infinitem.info

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

www.infinitylogy.com

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

www.thecrdi.com

- Website of the ILCP Publishing House

www.ilcpbook.com