

## Frontier Aspects of Genetics

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### Abstract

In modern Science, the boundaries of a fragmented Description of Nature are like front lines, and the development of these Fragments of Science proceeds as if on a battlefield-who will displace whom. Whereas both the Unified Description of Nature and the correct Description of Fragments, as well as the same Genetics, must be sought on the path of establishing General INVARIANTS, which manifest themselves on the “front line”.

**Keywords:** DNA; RNA; Nucleic acids; Polymers; LIFE.

### Introduction

Modern science follows an intensive path and often uses models that take into account only some of a number of significant factors [1,2]. This path allows you to quickly skewer various related phenomena, but without taking into account their deep connection, we have a motley collection of eclectically complex information, in which even supercomputers (together with neural networks) will drown. And the result, unfortunately, in many intensively developed Sciences we have is what is described by the old proverb: “A bad head gives no rest to the feet.” That is why one of the Nobel laureates for cancer research honestly said: “Humanity simply does not know what cancer is.” And he added: “You can get money to develop

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another panacea for Cancer. But you won't get money to solve the cancer problem.”

But this article is not about how to fix our crazy World, but about the fact that the correct scientific approach will give more “rest for the legs” and real results that will be used in practice.

And the correct approach is not based on stringing disparate facts onto a “skewer”-a promoted concept and glossing over the contradictions, but, on the contrary, on eliminating them on the basis of an expanded Phenomenology. In fact, this is what in mathematics is called the axiomatic approach when constructing Theory. And the whole question is the correct choice of an orthogonal reference point or independent

coordinate forces, which give a strict description of the phenomena even to a first approximation.

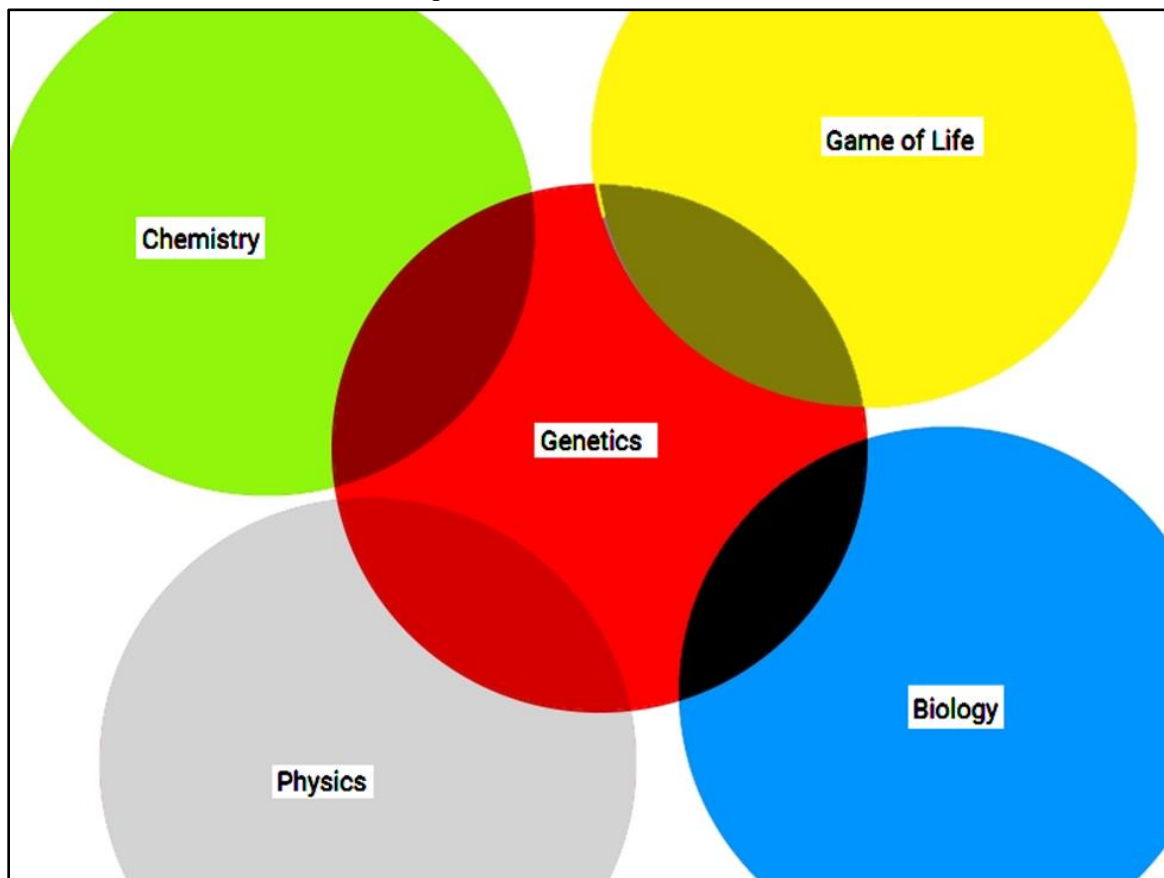
But it is impossible to build a Theory of Everything-not to embrace immensity. But by choosing Genetics as a “point of view,” you can analyze where its main provisions conflict with the provisions of related Sciences bordering on it. In this case, we will be able to clarify and expand the phenomenology of Genetics itself, similar to what was shown in the work on Virology [3].

And so, within each section of science, phenomenology is built on INVARIANTS, as, for example, in Physics, on numerical, world constants - coefficients in various equations,

which are functional Invariants-Laws of Nature.

Well, to complete the approach, we note that Mathematics itself, built on Logic, is INVARIANT for Science in general and allows for measurements and comparisons of different quantities, parameters and allows one to describe (by formulas) any phenomena.

It is also impossible to consider all areas of research related to genetics, at least within the framework of one work. Therefore, we will go through only a few areas bordering on Genetics, as shown in Figure 1 for the simplest flat case.



**Figure 1:** Phenomenological intersections of genetics with related sciences.

And since the author had to do a lot of physical research and development of precision instruments, let's start, as I taught my graduate students and graduate students to start with "instrument calibration" (the beginning of checking INVARIANCE-the measurement process), we can note the first borderline aspect of genetics with the physics of measurements. In this regard, the structural detail laid down in the foundations of Genetics is DNA and RNA helices, obtained, in principle, by Breg's employees using Breg's method, which well describes non-living Nature-crystals. In crystals, the structural unit is stable enough not to be destroyed by high-energy X-rays and, in principle, energy is necessary for its destruction. Whereas the living State of Matter refers to the Polymer State [4-6], which consumes energy to form a structural polymer unit. So, you need to understand that the "building blocks" of DNA and RNA Genetics are nothing more than a polymer formed by X-rays from the original state of which they stung life.

So, freshly measured DNA is simply the result of "fossilization" during the measurement

process, just as the DNA of fossils of ancient animals is the same result of "fossilization" that took place over a long period of time.

Therefore, gentle chemical methods and IR spectroscopy provide a more rigorous characterization of the very structural unit on which Genetics is built [7].

And that's why even "barbaric" experiments on a living Cell yielded not just a fossil ornament, but also made it possible to discover in a separate Living Cell the music of life, the structural dynamic unit of which is notes [8].

And Genetics is still built on "building blocks" from "fossils."

Genetics, which deals with the Dynamics of life, and specifically, the inheritance of the heredity traits inherent in its building blocks, is naturally, through effects bordering on the "Game of life", connected with the General Thermo-Dynamics of the struggle between chaos and Harmony [9]. So, its true building blocks must be sought in Prigogine's dissipative thermodynamic structures.

## References

1. Ordin S. Refinement of Basic Models. Lambert. 2017. 163273. ISBN: 978-3-659-86149-9:82.
2. Ordin S. Letter to Editor, Evidence-Based Physics. Am J Mater Appl Sci. 2021;3(1):001-2.
3. Ordin S. Math-Phys-Chem-Virology. Glob J Sci Front Res: A, Physics and Space Science. 2023;23(5):41-4.
4. Ordin S. Bio-Characterization of the Polymeric State of Matter. Open Acc J Biomed Sci (OAJBS).
5. Characterization of the Polymeric State of Matter. Adv J Phys Res Appl.
6. Ordin S. Nano and Frontier Aspects of Biomedicine. Determinations in Nanomedicine & Nanotechnology (DNN). 2021:1-2.
7. Ordin SV. The Dynamic Element of Life. NBICS-Science. Technologies. 2019;3(8):66-75.
8. Ordin S. Degrees of Harmony of Nature. Nanotechnological Society of Russia.
9. Prigogine I. Modern Thermodynamics: From Heat Engines to Dissipative Structures. John Wiley. 1998.