Proof of Millennium Problems: Specifically, the P != NP Statement

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"When you gaze long into the abyss, the abyss also gazes into you." - Friedrich Nietzsche

"It is more laconic; do not laconize." - Warrior of Reason

"I simply learned in college that P is contained in NP. Then, I got a tattoo that says P != NP. Had to think about what to do if they prove it equals." - Course author Professor Shlyaposhnik N.

1 List of Undemonstrated Definitions in the Course:

Scientific facts proven rigorously and considered obvious by the course author:

Ideas from Mathematical Analysis

- R^n - an n-dimensional Euclidean space. (n - some natural number)
- Euclidean space - a linear finite-dimensional space with a metric.
  (Physical meaning - distance and angles are defined in this space).
- Vector - an array (set) of length n. (n - some natural number)
  (Physical meaning/array - the carrier of an axiomatic set. Any finite set, language alphabet if you will.)
  ((Example/String or matrix n by n in an m-dimensional space of functionals.))

Ideas from Set Theory

- ${R_f}^n$ - the set of all possible functionals in an n-dimensional space (functions that are solutions to wave equations, heat conduction equations, and

any possible differential or integral equations, where n is some natural number).

- Functional - a mapping (function, if you will) from an n-dimensional Euclidean space to the space of real numbers. A scalar function or any known function in science - power, exponential, trigonometric, or semantic (defined by morphemic words, parts of the alphabet loaded with meaning, where the alphabet is finite, so the language is countable).

  (Function from a physics perspective - work. Other physical concepts follow from Noether's theorem (Ideas from Quantum Field Theory).)

  Noether's Theorem - Let G be a finite group acting on a vector space V. Then the set of invariant subspaces of V with respect to G is finite.

  Physical meaning - shows the invariance of a quantity, various conservation laws, invariants. A finite number at the time of the article's release. And at any other moment too).

- A - a set according to Shlyaposhnik if it can be enumerated in the form of a finite language alphabet: called the quantifier language or the axiom language.

- U - the set of all sets - Unium. Where we "reside"topologically, that is, mathematically, that is, intellectually or conceptually.

- Empty set - an element of any Euclidean space, any Functional space, so it will be in any finite Cartesian product. But not in more than countable by topology - this is the first and only axiom in Shlyaposhnik's topology, take it on faith. This is less than in Geometry, for example. Proven in the series of theorems below.

  Ideas from Functional Analysis

- Topology τ - the structure of open sets in a topological space.

- Open set A in a topological space - contains the empty set, the unium of topology, the condition of topologization - any countable union of open sets and any finite intersection of open sets are open.

Ideas from Quantum Semantics

Language space - the set of all possible languages.

Axiom language - a set of statements serving as the foundation for a mathematical theory.

Mathematical theory - a formal system of symbols and rules for their combination, i.e., Shlyaposhnik's triple: a set of Axioms (countable but finite at any moment in a person's life) + set of functionals (continuous) + Shlyaposhnik's topology (axioms satisfied, to be proven later).

Epsilon-net - a set of points covering a space with a metric with a certain precision $\epsilon >= 0$.

(Physical meaning - what people do before anything else, even think and breathe, is a finite and measurable time. At every point in time, we are motionless - Zeno's paradox.).

Support - Let X be a topological space. The topological support of a subset $A \subseteq X$, denoted by $\text{supp}(A)$, is defined as the closure of the subset A in X, i.e.:

$$\text{supp}(A) = \overline{A},$$

where $\overline{A}$ denotes the closure of the set A in the topological space X.

(Physical meaning - it is not made up of anything smaller, from a physics perspective. These are quanta, mesons, obviously).

2 Definition/ Quantum Semantics - This article and subsequent explorations in Shlyaposhnik's spaces

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Definition/ Theorem: Consequence generated by the logic of language applied to the boundaries of the axiomatic set (alphabet logic) and the boundaries of the Unium (initial conditions of the concept, if you will, also the universe).

Definition/ Language Logic: Acceptance on faith of the axiomatic set due to the finiteness of the human lifespan and the impossibility of knowing everything. (Physical meaning - master the course of science and believe in it).

Definition/ Alphabet Logic: An idea built on language, accepted as logically proven by a certain number of people.

Definition/ Consequence: A fact not accepted by a certain number of people, tending to zero in infinity, in the topological understanding of the fact in Shlyaposhnik's topology (to be proven later).

Definition/ Support: Notice that science is a language, i.e., Shlyaposhnik's triple. Then notice that any language is isometric to Shlyaposhnik's topology, which means the base is continuum, the prebase is countable, i.e., the prebase is an epsilon-net, leading to the conclusion that the support is finite. Also called a replicator.

Physical meaning - quanta either remain the same or change to other quanta. But their total number is finite at any moment in time.

Theorem 1 (Shlyaposhnik): The language of physics + mathematics is our universe. Notice the following conclusions: mathematics gives us an understanding of topology, physics gives us an understanding of quanta and replicators, and the laws of quantum mechanics. In my understanding, we live in R^4 but time is a non-negative ray. Also note that mathematics consists of a finite number of definitions, as does physics - you can define the language of all books on general physics accepted in almost all countries. Or in all. This implies countability and

even finiteness at any moment in time, axioms of mathematics and physics. This leads to the complete theory of strings, if you will, more like half-strings. What Einstein was looking for. Let's finally define Shlyaposhnik's topology:

$$R^n \times R_f^m = \underbrace{R \times R \times \ldots \times R}_{n \text{ times}} \times \underbrace{R_f \times R_f \times \ldots \times R_f}_{m \text{ times}}$$

How to interpret mathematics - clear. Let's show how to interpret physics - at any moment in time from $t = 0$ to $t \in \tau = R$, i.e., a finite number of years, and as a result, nanoseconds. As well as the duration of the uncertainty relation.
Notice that everything in the universe is sets of molecules, which are sets of particles and waves. Notice that this is, at the time of this article, the language of mathematics + physics - because it depends on time. Every, figuratively speaking, 10 years new knowledge appears, it is inevitable, but each time it is obvious that there is less epoch-making on a large interval - otherwise they would have been statistically discovered earlier.
Consequence 1: Since replicators, at the time of the article, are a finite set of experimentally confirmed quarks, and assuming new undiscovered particles can be hypothesized a countable number of times - either by people or by artificial intelligence, we get that there will always be something for science to strive for in the limit, due to the non-obviousness of the finiteness of the future Mendeleev's table. Or there will be the possibility of creating replicators in neural networks or people - which is equivalent to the death of people (my other article will be, wait or contemplate).
Theorem 2 (Shlyaposhnik): The language of physics + mathematics + programming - our universe still is. - the proof is obvious, due to the finiteness of the carrier as before, by analogy for any language of any science, any everyday language, numerical, etc.

Theorem 3 (Shlyaposhnik): Notice that our universe is always Shlyaposhnik's triple, that is, always the language of all languages, if you understand the physical meaning, that is, logic.
Definition/ Philosophy: Analysis of selected Shlyaposhnik spaces with an extension of the Axiomatic set.

The physical sense is that you can introduce at least one axiom per nanosecond; your life is a finite number of seconds.

Theorem 4 (of Wonderland): It's pointless to prove obvious theorems. People will point out your mistakes, as derived from everyday empirical observations. An updated version of the article will be released. Science is all about debates, but it's already philosophy. To understand the proof of the theorem, you need to extend the axioms of your belief to the axioms of the author's course. Nothing more.

Theorem 5 (of Wonderland): Notice that in the axioms of Theorem 2, which is obviously finite, i.e., the Wonderland triplet, there exists an example of an NP problem that cannot be solved in P. This fact is trivial because it directly

follows from the proven Dandy-Kakutani theorem:

I prove it, in particular, only in the Wonderland topology, the space of the triplet. So let's consider its formulation, known to mathematical circles:

The current Kakutani's theorem, also known as the principle of nested sets for multivalued mappings, is a solved problem in topology. However, there remains an open problem known as the Kakutani Problem (or the Dandy-Kakutani Problem).

The Kakutani Problem is associated with the question of the existence of a minimal fixed point for a certain class of multivalued mappings on compact convex subsets of Hilbert spaces. My statement is that I don't know its solution (either for now or ever), in general. Still, it is obvious from the physical understanding of meaning: The Kakutani Problem, in the context of graphs of multivalued mappings, is formulated as follows:

Let X and Y be topological spaces, where X is a compact space, and Y is a Banach space. Consider the mapping $F : X \to 2^Y$, where 2^Y denotes the set of all non-empty subsets of the space Y. The Kakutani Problem is to determine the conditions on the mapping F under which there exists a point $x_0 \in X$ such that $F(x_0) \cap \text{conv}(F(x_0)) \neq \emptyset$, where $\text{conv}(F(x_0))$ denotes the convex hull of the set $F(x_0)$.

In other words, the problem is to find conditions on the mapping F that guarantee the existence of a point x_0 for which the intersection of the set $F(x_0)$ and its convex hull is not empty. This follows from the first and only axiom of Wonderland. The empty set is the given point. Now let's understand the physical meaning of Wonderland spaces: an exact approximation of human life, with epsilon error, is the decay time of the largest experimentally found atom. It's not quite applied science yet, but I'm 21 years old, and the idea is as follows: during our lives, we do a finite number of things and ideas. Now let's look at such a subspace of Wonderland: in our time, there is cryptocurrency, and it still exists—definitely for the forecasted days. Consequently, as a consequence, while it exists, there is no proof of P != NP. As it is forever in people's minds, except for the informational extinction of humanity, leading to the loss of scientific articles and the conclusions of scientists. Why is cryptocurrency evidence? Empirical fact, if you will, axiom (2) in the Wonderland space. However, our universe is proven in Theorem 3 and is a Wonderland space. Therefore, whenever people come up with something like cryptocurrency, or any civilization, or neural networks, they reach the level of intelligence genetically sufficient to understand this article. There will be a second part, for those who did not understand the meaning of metasemantics, but only 2 axioms - I remind you - in geometry, a point and a line are also already two - and also the finiteness of mathematics, given and described in the article above, taking into account the readers' school knowledge.

(Physical sense: A series of statements are equivalent: 1) Cryptocurrency is secure, thanks to people's influence in this sphere. 2) Any countability is finite since the lifetime of the universe is finite, and there was no one to count. We haven't observed this for quarks. 3) NP problems were formulated before proving that there is a non-P problem. This

is normal, as it was in all sciences for years. 4) Essentially, we live in the topology of Wonderland; the support is finite because humans didn't appear instantly, and I formulated the experience of humans not immediately.

5) Any system containing freedom of will for beings is NP from the viewpoint of concepts. The reason is the manifestation of wave properties.

6) It's evident why a photon is a wave - a photon is literally information. Like this article. Like any idea formulated in language or otherwise.

7) A million-dollar prize or a Nobel Prize in physics is a manifestation of particle properties.

Theorem 6 (of Wonderland): Notice that I have solved all millennium problems because they are trivially obvious in our universe with a finite support. I think it's not difficult to Google the conditions. Here are proof ideas similar to P != NP - the support in the complex plane is finite. Hence, from the physical observational fact, it follows that nontrivial zeros at $1/2$ are related to the Schrödinger constant, where minimal energy jumps in nature have $1/2$ of the Schrödinger constant. This is the solution to the Riemann hypothesis - in our universe, it's true. A non-zero spectral gap is also obvious in the Wonderland topology and terms of mathematical analysis. Navier-Stokes - yes, it's obvious for any equation and elliptic too; this is true because I proved that P is not equal to NP, and the support is finite in mathematical analysis and field theory.