

Axiomatics of Mathematics

It is known that mathematics is a tool in all Natural Sciences that helps to discover the reality. The most significant role the mathematics plays in Physics as a fundament to build its modern theories.

Mathematics itself is based on the fundament upon which it is built, i.e. its Axioms.

Inclusion or exclusion (let us call it a "Game") some of the Axioms influences Physics and, thus, makes our vision of Nature sometimes completely opposite over time.

The most famous of such Axioms is Euclid 's parallel postulate (5th axiom of Euclid).

Exclusion of this Axiom resulted in the creation of Relativity theory.

There are other such "games" with Axioms. The most significant is Zermelo-Fraenkel Axioms.

Zermelo-Fraenkel Axioms is the basis of Zermelo-Fraenkel Set Theory.

Therefore, it is seen that Axiomatics of mathematics depends on people, i.e. on who "play" with Axioms.

Let us "play" such "Game" in this article as it was done for centuries by leading mathematicians.

Mathematics has never taken into consideration the dependence between development of people's conscience and the system of its Axioms. But as one can see such dependence does exist if one looks into History of mathematics.

The people's conscience develops over time infinitely.

Though Albert Einstein thought sometimes differently: "Only two things are infinite, the universe and human stupidity, and I'm not sure about the former."

Mathematics has never had any Axiom that belongs to the conscience that is the infinite development of people's conscience (assuming it might exist).

In other words it was always excluded such a possibility that there is "Another player" - player who already tried all possible games with axioms and built all possible theories on their basis.

In this article let us assume that there is such player and that this player has own Axiom that he utilizes to build own theory.

It is logical to assume that "Another player" has given us his Axiom since the language of mathematics is a universal language based on numbers and iterations.

As one of possibilities to pick up such Axiom let us choose Riemann Hypothesis.

Including Riemann Hypothesis into list of axioms of mathematics one can get as a result the solution of all Millennium problems. For instance, "Yang-Mills existence and mass gap problem" solution: there is no Matter, hence notion of mass is irrelevant.

Also there will be another Physics without paradoxes (what is the paradox as not a mere sign of inconsistency in the theory?). For instance, "Twin paradox" from Relativity theory is not a paradox anymore since there is no Time. "Three

body problem” is solved as follows: the motion happens not in three dimensional space. Hence this problem is incorrect problem.

And as the main consequence – Mathematics becomes only Number Theory. The study of which is the key to understand the reality as Pythagoras and His school has claimed centuries ago.

In the end one has two choices: include Riemann Hypothesis as new Axiom or further try to prove it.

Using the first approach one gets eventually “Theory of everything”.

The second approach is the old one: Physics with paradoxes.