On the Millennium Prize Problems

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(Dated: September 23, 2015)

Abstract

If the following text would not be accepted by Prize committee as the pay-able proofs (but I hope for) then let at least it builds your confidence to refer to these conjectures and problems (which now are having my answers), as the achieved facts. I see no logical problems with all these plain facts, are you with me at last? It is your free choice. One even can ignore own breathing and, thus, die. One can ignore what's ever in this world. But it is not always recommended. Please respect my copyrights! ©.

PACS numbers: 02.40.Pc,02.40.Ma,04.20.Gz

I. POINCARÉ CONJECTURE

The man, who was first in space is Russian Gagarin. First solved Millennium Problem belongs to Grigori Perelman. There are many "firsts" in Russia. Do you think, what it is something strange considering the political climate in 2015? So I suggest to moderate the pride of Russian leaders by following paper. Too much pride is not good.

A. My opinion on the old proof

What properties has the Grigori'es proof [1, 2]? For my sense of scientific beauty, it is too long and can not be grasped by the normal people. Even Scientists are in confusion and are forced to believe the three tiny expert groups. The blind trust has invaded the Science. Let us change that a bit.

Millennium Prize Problems are not solved, check the Wikipedia. The only Problem, which is claimly solved is the Poincaré conjecture. Solved by Grisha Perelman [2] in 2002.

See in the Wikipedia article "Poincaré conjecture" the part "Ricci flow with surgery", the text there "he cuts the manifold along the singularities". More information on latter is in Russian Wikipedia: Grigori fills the holes (left by surgery) by the spheres, so the manifold is smooth again. I am afraid, what the points on this additional, alien spheres are not present in the original manifold. And they (the alien points) are going into the final manifold, which is the Sphere the Poincaré has talked about.

Therefore there are points on the Sphere, which have no correspondence in the original manifold. So the original manifold is not homeomorphic to the Sphere. May the Russians be making the mistake? It is very likely.

If Grisha cuts the object (a mini-sphere) out of the original manifold, he must reattach the edges of this object to the edges of remained hole (as they appear in the final Sphere). Otherwise two (or more) points in the final Sphere do correspond to single point in original manifold. It is forbidden violation of the homeomorphism.

In the deformation process (through the Ricci flow) the Universe is shrinking, isn't it? Suppose it is. Then what is the final stage of this process? If it is the singularity again (it occasionally might be, because the singularities happen in his preprints, so there is for sure the one exception – the fatal error of the Grigori'es proof), then one can not cut it out.

If there is some other object, then it is showing, that the result is not the simple sphere. Indeed, Wikipedia claims, he has multiple spheres, which he connects using pipes (perhaps made of alien points, which are not present in the original manifold). Perhaps some case leads to more strange situation, than the collection of spheres? I recall, that Poincaré talked about any single case, that it must lead to the final Sphere. Therefore, if the Grigori has a single exception, it is the fatal defeat of the Russian's proof.

You must understand: were spent serious financial grants to clear out his preprints. And the thick books came out [1]. Therefore, it is not possible for me to study his papers. It will take several decades, perhaps. I hope, the man, who has wrote these books (thick ones) will see my paper and check the Grigori'es preprints for these illuminated error possibilities.

B. Clear proof of Poincaré conjecture

I think, the Poincaré was asking in his mind without extra complication: "Is a simply connected manifold homeomorphic to the Sphere?" One can rephrase it: "Are all simply connected manifolds homeomorphic to each other?"

The A is simply connected manifold. The B is simply connected manifold. Suppose they are not homeomorphic. Then the neighboring areas in A are not neighboring in B. Therefore the loop, which can be contracted in A, can not be contracted in B. Latter means, that B is not simple. I came to logical contradiction, thus, the A and B are homeomorphic. Proof ends.

C. To those, who is in doubt

Let us prove: "Homeomorphism from simply connected manifold makes only the simply connected one."

Let we have to starting facts: A is simple (i.e. simply connected) and the transformation from A is the homeomorphism. Suppose we are wrong and the manifold B is not simple. Let's take a curve (loop) in B, the one which can not be contracted. Because of homeomorphism it is the loop in A. The loop in A can be contracted; because of homeomorphism, it can be contracted in B. I came to logical contradiction. Thus, the B is simple.

So it is strong argument in favor of Poincaré conjecture.

Let us prove, that two simple connected manifolds can always have the homeomorphism. The non-homeomorphism means, that to some single point in A correspond at least two points in B. Let these points in B belong to a curve, which is made closed in a loop, the closing part of the loop runs near these points. Then the image of this loop is the loop in A. The loop in A can be contracted, but it can't be contracted to a single point in B. Thus, the B is not simple by the definition of simplicity. I came to logical contradiction, thus the transformation is homeomorphism.

II. YANG–MILLS EXISTENCE AND MASS GAP

Einstein's Relativity is reliable

The bending of light at the Sun, and the energy loss at the binary stars could be any. But it is predicted by General Relativity. If the Gravity were just force-field in flat spacetime it would be having any effects. But latter correspond to the Einstein. Therefore, probability, that Relativity is incorrect is zero. But How about the Alternative Gravity Theories? When Einstein has got his General Relativity, he has one shot from countless possibilities. Thus, the probability to success (in African Sun eclipse) was zero. But he has succeeded. Thus it is the true inspiration and, thus, no alternatives are possible.

Note, that with proof of Einstein's reliability one can solve some other Millennium Problem, even the coming ones. Note, that postulates of Relativity are rigorously proven in the viXra forum (Standards Are Good for Clearing Science, http://viXra.org/abs/1509.0192)

III. P VERSUS NP

Wikipedia in 2015 describes the problem: "it asks whether every problem whose solution A can be quickly verified by a computer can also be quickly solved by a computer."

How we know the solution A? We can not blindly trust nowadays. So we first have to find it, the true answer A, and then start checking it. Therefore to find the answer is quicker, than to check the seemingly "given" answer.

IV. GENERAL SOLUTION TO CERTAIN PROBLEMS

Suppose you already know, that you hoping for. Let's say you hope always get the value $v = 0.5$. Then probability to find it the next time is exactly zero! Indeed, the result of the tries could have been any (0.49, 0.502, 0.3, ...). The limitation (as laws) of the tries is unknown. So the limitation could have been any. However, if you find it, than there is no casualty. Thus, you have discovered the law – everlasting constancy of the 0.5.

Only if you intentionally seek for counterexample, you find or you construct it. So, without the intention of conscious, the nature is structured so, that some Millennium Problems have the positive answers.

There is the famous five-sigma rule. Latter is known from the Physics (P.S. the Grisha Perelman has used Physical Entropy in the Mathematical section of arXiv). Let the Math branch of Science fully respect it to avoid in-necessary splitting in scientific community. Please recall, that this rule says, that if probability of mistake is less than 1/10000000, then it is called not the hypothesis, but the discovery.

A. Note on Fermat theorem

According to Large Number Theorem, after 1000 positive tests the probability, what the next test is successful is $1 - (1/1000)$. Thus, the probability, what all tests would be successful is product of all $(999 + k)/(1000 + k)$, where $k = 0 \ldots \infty$. It is zero, as MapleV says. Therefore the success of the proven conjectures means the true inspiration of their creators. So, a human is for sure, the more advanced and equipped, then some complex collection of atoms and neurons.

V. TO BREAK OBJECT IS EASIER, THAN TO BUILD ONE?

I could add the new exciting problem.

The human has consciousness, he is living one. It is hardly can be described through logical laws, if man decides not to be logical. Therefore, it is aspect, which we will not consider for this logical Problem.

Then to build an object let us let the material nature. Due to we have the thermodynamics second law (the growth of entropy), to build object can not be easier, than to destroy one.

The process can not take unlimited amount of time, so the process is not strictly adiabatic. Therefore it is always harder to build, than to destroy. Proof ends.

Acknowledgment

So many problems are solved now, truly "Come unto me, all ye that labour and are heavy laden, and I will give you rest." (Matthew 11:28). Thank You, Lord!

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[1] John W. Morgan, Gang Tian, Ricci Flow and the Poincare Conjecture, 2007, 493 pages, arXiv:math/0607607; Bruce Kleiner, John Lott, Notes on Perelman's papers, 216 pages, Geom. Topol. 12 (2008) 2587–2855; Huai-Dong Cao, Xi-Ping Zhu, Asian Journal of Mathematics, 2006, 327 pages.

[2] Grisha Perelman: arXiv:math/0307245, arXiv:math/0303109, arXiv:math/0211159.