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Fermat's Last Theorem and Kenneth Ribet's Mistakes!

<http://www.newrotor.narod.ru/english1.html>

About Ken Ribet's Proof 2006-11-28

This article analyzes Ken Ribet's article "From the Taniyama-Shimura Conjecture to Fermat's Last Theorem", which is the basic part of the Great Fermat's theorem proof made by Andrew Wiles. The truth demands to scarify the Ribet's article though this will be a complicated process. The Ribet's article is written by dull mathematical language. Many principles of the article may be interpreted in two ways. They need objective explanations. There are no such explanations. Everything seems simple and obvious.

Everything seems deeply thought over. However, the article is not perceived as the truth. The article is too much hypothetical. The hypothetical solution of Fermat's equation, the hypothetical Frey's equation, the hypothetical discriminant—everything around is hypothetical. The article has not a single numerical example. There are only reasonings on the properties of numbers in the article.

The respective popularizers interpret the Ribet's proof arbitrarily. Everyone—in his own way. Any comment to the Ribet's article is played up and distorted. Any understanding of the reasons of one or another Ribet's action is declared incompetent, with reference to their absence in the Ribet's article. It is practically impossible to make the so-called popularizers change their mind.

The pressing by popularizers through mass media is so strong that it is difficult to imagine that someone would attempt to refute the Great Fermat's theorem proof. One attempt made by Edgar Escultura is known. He declared that the existing system of numbers is not correct and therefore the Fermat's theorem proof is erroneous. It is rather naive attempt to refute the Fermat's theorem proof. Most likely, the attempt of refuting

the proof is artificial and developed in support of the Andrew Wiles's indirect proof.

<http://www.abs-cbnnews.com/storypage.aspx?StoryId=4433>.

Even the fact that Andrew Wiles proved only a special case of Taniyama-Shimura hypothesis on the property of semistable curves of being modular and this fact has nothing to do with Fermat's theorem proof is ignored by the popularizers.

The Fermat's theorem proof is ascribed to Andrew Wiles though the indirect proof was made by Ken Ribet. A precedent exists in mathematics. In particular, it is known that Gauss mathematically proved a series of Euler's conjectures which Euler used to prove a special case of Fermat's theorem, if $n = 3$. However, nobody asserts that Gauss but not Euler proved a special case of Fermat's theorem.

In the given situation everything is the other way round. The true author of Fermat's theorem indirect proof is relegated to the background. Andrew Wiles is given superiority. This testifies to the existence of a powerful machine of suppression of all attempts to refute the Ribet's proof. The machine works so faultlessly that it remains only to suppose that Fermat's theorem indirect proof is a well thought and planned Swindle.

1. Ribet's Proof and Clarifications by Popularizers

Ribet uses the equation of mythical elliptical curve to prove Fermat's theorem. The expression "a mythical curve" is not a figment of the author of article. Many (including Ribet) call the Frey's curve a hypothetical curve.

1.1 In the scientific articles the Frey's curve is called a hypothetical curve.

<http://modular.math.washington.edu/edu/Spring2003/21n/project/jenna/jenna.doc>

A reader is originally prepared for the idea that such curve does not exist, if Fermat's theorem is correct. On the other hand, such curve has the right to existence if Fermat's theorem is erroneous.

The popularizers of the proof even invented a definition of Frey's curve: "Let n be a simple number and a , b , and c - such positive integers that $a^n + b^n = c^n$. Then the corresponding equation $y^2 = x(x - a^n)(x + b^n)$ determines the hypothetical elliptical curve called the Frey's curve,

which exists, if there is not a contrary instance to the Great Fermat's theorem".

<http://ru.wikipedia.org/wiki/%D0%A3%D0%B0%D0%B9%D0%BB%D0%B7%D0%AD%D0%BD%D0%B4%D1%80%D1%8E>

<http://ru.wikipedia.org/wiki/%D0%A3%D0%B0%D0%B9%D0%BB%D0%B7%D0%AD%D0%BD%D0%B4%D1%80%D1%8E>

<http://ru.wikipedia.org/wiki/%D0%A3%D0%B0%D0%B9%D0%BB%D0%B7%D0%AD%D0%BD%D0%B4%D1%80%D1%8E>

<http://ru.wikipedia.org/wiki/%D0%A3%D0%B0%D0%B9%D0%BB%D0%B7%D0%AD%D0%BD%D0%B4%D1%80%D1%8E>

It follows from this source of information that the Frey's curve exists, if Fermat's theorem is correct. If Fermat's theorem is erroneous, the Frey's curve does not exist.

Pay attention that these sources contradict each other.

1.2 In the two above sources the Frey's curve is described by the equation: $y^2 = x(x-a^n)(x+b^n)$ and implies that the factors of the curve are exponential number a^n , b^n , besides, $a^n + b^n = c^n$.

Let us advert to one more source.

<http://ega-math.narod.ru/Liv/Goldfeld.htm>

It appears that the Frey's curve is described by the equation: $y^2 = x(x-A)(x+B)$.

Besides, this equation is not connected with Fermat's equation and the issue of curve's existence is not doubted.

Pay attention that each source of information by the Frey's curve means different curves described by different equations, which are either connected or not connected with Fermat's theorem. This is just another contradiction.

1.3 Saimon Singh was the first to inform on the Frey's curve. But there is a pleasant unexpectedness. It appears that Yves Hellegouarch was the first to invent the curve.

<http://www.math.unicaen.fr/~nitaj/hellegoarch.html>

Strange is the fact that Jean-Pierre Serre did not know about Yves Hellegouarch's works. There is one more subtlety. Yves Hellegouarch's believed that the curve exists even in the assumption that Fermat's equation has integer-valued solutions.

http://en.wikipedia.org/wiki/Fermat's_last_theorem

This is just another contradiction.

1.4 In the proceedings of symposium of 1983, the Frey's article was not published. However, in 1985 Ribet sets forth the course of Frey's reasonings.

http://arxiv.org/PS_cache/math/pdf/9503/9503219.pdf

That is Ribet knows the contents of Frey's future article, though before publication the contents of article is considered confidential.

Jean-Pierre Serre in the letter (1995) explains Frey some peculiarities of his article too.

As a result of the pressure exerted, Frey pays attention to a strange discriminant and surmises that the curve does not exist and is not modular in the article which was published after Serre's comments in late 1986.

The strangeness of the discriminant is advertised even in popular sources of information.

<http://www.bbc.co.uk/dna/h2g2/A521966>

"Then Gerhard Frey threw out the idea, that given a solution A, B, C to the equation $a^n + b^n = c^n$ then the elliptic curve $y^2 = x(x - A^n)(x + B^n)$ could be formed. This curve would, among other things, have the property that the so-called discriminant would include an expression $(AB)^n$, where n would have to be a very large number (remember that the theorem had been proven true up to ridiculously high exponents), and thus that any divisor of AB would occur ridiculously many times, something that did - in essence - make the whole curve quite fantastic".

Such interpretation of Frey's "enlightenment" causes mistrust of the Fermat's theorem indirect proof.

1.5 The Fermat's theorem proof made by Andrew Wiles is really stuffed with the such discrepancies and contradictions. Their abundance causes suspicion: whether the proof is an ordinary swindle. Therefore, let us consider the Ribet's article directly. But first we will consider some peculiarities of elliptical curves.

2. Some Peculiarities of the Theory of Elliptical Curves

Let us consider some peculiarities of the theory of elliptical curves in order to understand the Ribet's proof.

2.1 The equation of elliptic curve, which is often called the Frey's curve has the form: $y^2 = x(x-A)(x+B), \dots$ (1) where A and B are integers.

2.2 The Frey's curve becomes semistable elliptic at certain integer-valued factors A and B.

In particular, the curve is semistable if number A is an odd number and number A+1 is divisible by 4, and number B is an even number and divisible by 32.

<http://www.math.jussieu.fr/~merel/denes.pdf#search=%22HELLEGOUARC>

H%20Elliptic%20Curves%20%22

2.3 The semistable Frey's curve has the discriminant $D = 16 [AB(A+B)]^2, \dots$ (3)

which is written in the form $D = 16 (ABC)^2, \dots$ (4) if $A + B = C \dots$ (5).

2.4 The semistable curves have bad factorability of discriminant.

2.5 Numbers A and B may be specified in the form of exponential numbers a^n and b^n . The Frey's equation in this case has the form: $y^2 = x(x-a^n)(x+b^n), \dots$ (6)

2.6 The discriminant (4) may be presented in the form: $D = 16 [a^n b^n (a^n + b^n)]^2, \dots$ (7)

or $D = 16 [a^n b^n C]^2, \dots$ (8). if $a^n + b^n = C \dots$ (9).

2.7 Number C is a problem number. Just this number can be badly factored.

2.8 There is also the elliptical curve, which equation has the form: $y^2 = x(x-A)(x-C), \dots$ (10).

2.9 The elliptical curve is also semistable, if A is an odd number and A+1 is divisible by 4 and C is an even number and divisible by 32.

2.10 The semistable curve has the discriminant: $D = 16 [AC(C-A)]^2, \dots$ (11), which may be written in the form: $D = 16 (ABC)^2, \dots$ (12), if $C - A = B \dots$ (13).

2.11 The number A and C may be specified in the form of exponential numbers a^n and c^n . In this case the equation has the form: $y^2 = x(x-a^n)(x-c^n), \dots$ (14).

2.12 The discriminant of such curve may be presented in the form: $D = 16 [a^n c^n (c^n - a^n)]^2, \dots$ (15), or $D = 16 [a^n c^n B]^2, \dots$ (16), if $c^n - a^n = B \dots$ (17).

2.13 Number B is a problem number. Just this number can be badly factorable.

2.14 The curves described by equations (1) and (10) exist, are semistable. The curves described by equations (1) and (10) are modular, if Taniyama-Shimura hypothesis is correct.

3. Analysis of Ribet's Proof

3.1 Ribet begins his proof from Fermat's equation. $a^n + b^n = c^n \dots$ (18)

Ribet assumes that a hypothetical solution of Fermat's equation exists. That is numbers $A = a^n$, $B = b^n$ and $C = c^n$ of the equation $A + B = C$ are the exponential numbers and have bases a , b , c .

In this case bases a , b , c are relative primes. However, Ribet does not explain what a hypothetical solution is. A reader gets the right to think that all three bases a , b , c of integers A , B , and C are the hypothetical numbers.

In fact, a peculiarity of the hypothetical solution of Fermat's equation is the problem of search for the third base, for example, base "c" of integer C with a real possibility of specifying two other integer-valued bases a , b of integer exponential numbers A and B . For example, the following equation may be always written:

$$3^5 + 2^5 = 275 \text{ or } 243 + 32 = 275.$$

Numbers a^n and b^n may be specified as integers belonging to the number axis. However, it is impossible to find the integer-valued base "c" of number $C = 275$.

Thus, by the hypothetical solution of Fermat's equation the existence of problem number is meant, which has a hypothetical base, for example, base "c".

It should be noted that Ribet in an implicit way replaces the hypothetical base of integer exponential number by the hypothetical solution. In particular, Ribet proposes to consider numbers a , b , c as relative primes. In this case the problem number with the hypothetical base is dissolved among the integer exponential numbers with integer bases. The problem number becomes invisible.

3.2 Then Ribet proposes to introduce number $a^n = A$ and $b^n = B$ into the equation of elliptical curve (1) as this was done by Frey and to obtain the equation of Frey's curve. $y^2 = x(x-a^n)(x+b^n), \dots$ (19)

Pay attention that Ribet shifts the responsibility on Frey for two important steps in his proof: timeliness and propriety of establishing a link between Fermat's equation and elliptical curve equation.

Pay attention also that in Fermat's equation, numbers A and B and even C are the integers. Therefore, the introduction of these numbers into Frey's equation allows to say that the Frey's curve always exists.

However, the Frey's curve may be called the hypothetical curve if it contains the problem number, which does not have an integer-valued base. Thus, further by the Frey's hypothetical curve the existing curve meant, which has integer factors. However, at least one factor of this curve cannot be presented as exponential number with integer-valued base.

If the Frey's curve does not contain the problem number, we will call such curve Frey's real curve.

3.3 Let us consider the "link" between Fermat's equation and elliptical curve equation.

It should be noted that the set of Fermat's equation hypothetical solutions consists of three bases a , b , c of exponential numbers A , B and C . In this case as shown by example, two bases a , b may be integers. The third base " c " is hypothetical and is included into problem integer C .

Ribet proposes to use only two bases a , b from the set of triplets of bases a , b , c to construct the Frey's curve. Such Ribet's proposal is incompetent. It allows to select for Frey's curve construction two integer-valued bases forgetting about the existence of the third - hypothetical base. If hypothetical base " c " of problem number C does not participate in the construction of Frey's curve, the curve is the Frey's real curve. Otherwise, the Frey's curve is the Frey's hypothetical curve.

This suggests that the use of two numbers from the combination of three numbers is an incompetent action. The use of two numbers does not allow to distinguish between the Frey's real curve and Frey's hypothetical curve.

Let us remind that Ribet uses for his reasoning the notion of Fermat's equation hypothetical solution. In this case, the sense between the notion of Frey's real curve and Frey's hypothetical curve is lost. Moreover, if we take into consideration that two numbers of Fermat's equation determine the third number, the notion of hypothetical solution contributes to creating the opinion that the Frey's curve is always the hypothetical curve, which does not exist.

The reason is well-known—three integer-valued bases do not exist. To distinguish between the non-existent hypothetical curve and Frey's hypothetical curve, we will call such curve the Frey's non-existent curve.

Finally, if two numbers of Fermat's equation determine the third number, the notion of hypothetical solution contributes to creating the opinion that to construct the Frey's non-existent curve three numbers of Fermat's equation are used.

If Ribet knows that the Frey's curve may be real curve, it should be admitted that Ribet deliberately inspires a reader with the idea that the Frey's curve is the non-existent curve and for its construction all three numbers of Fermat's equation are used. And this is a deception.

(A fatally dangerous game is known, which is called "Russian Roulette". A player in this game puts only one cartridge into a revolver's cylinder. Then he spins the cylinder. After that he puts the revolver to a temple and shoots. If the player remains alive, he is considered a lucky person.

Let us assume that a revolver's cylinder accommodates only three cartridges. Three cartridges imitate three Fermat's exponential numbers (A, B and C). Two cartridges (numbers A and B) do not have ignition caps. One cartridge is live as it has an ignition cap (number C).

Let us assume that Ribet put these cartridges into the cylinder. Ribet is allowed to try his fortune twice. Ribet shoots twice and remains alive. He was lucky – both cartridges happened to be without ignition caps (number A and B).

In other words Ribet selected two Frey's exponential numbers with integer-valued bases to construct the Frey's curve. Thus Ribet managed to obtain the equation of Frey's real curve.

However, if Ribet asserts that to try his luck he hypothetically used all three cartridges, he obviously exaggerates.

The next Russian Roulette player happened to be less lucky and was lost. He could not construct the Frey's real curve equation, as he wrongly considered that the live cartridge did not contain the ignition cap. That is, the second player actually was constructing the Frey's hypothetical curve using numbers A and C. That is why the second player paid his life for the mistake.

This figurative example clearly shows that the link between elliptic curve and Fermat's equation can exist only in the case if all three Fermat's exponential numbers are included into the elliptical curve equation).

3.4 Following Frey during the construction of elliptical curve using Fermat's exponential numbers $A = a^n$ and $B = b^n$ Ribet imposes special requirements upon these numbers.

Ribet proposes to consider number A as an odd number. In this case $A+1$ must be divisible by 4. Ribet proposes to consider number B as an even number which is divisible by 32. Just in this case the elliptical curve is semistable.

Pay attention, Ribet forgets about the integer-valued hypothetical solution (bases "a", "b", "c") of Fermat's equation and recalls exponential number A, B, and C of Fermat's equation.

In particular, Ribet imposes the special requirements upon numbers A and B. Thus, Ribet comes back to the really existent equation of form (1) $y^2 = x(x-243)(x+32)$ and demonstrates to a reader that this equation is the equation of semistable curve.

There is nothing surprising about it. Ribet would not have begun to prove that the Frey's non-existent curve can be semistable curve.

That's why Ribet deals doubly. Using the notion of Fermat's equation hypothetical solution, Ribet convinces a reader that the Frey's curve is the Frey's non-existent curve. Forgetting about the hypothetical solution of Fermat's equation, Ribet assumes the existence of Frey's hypothetical curve or even Frey's real curve and shows that the curve is semistable.

Actually, Ribet occupies himself with making fool of a reader, if we take into consideration that in the hypothetical solution of Fermat's equation only base "c" of problem number C is a hypothetical number.

If problem number C is not included into the elliptical curve equation, the Frey's curve is simultaneously both real and semistable Frey's curve. If problem number C is included into the curve equation, the Frey's curve exists, is the Frey's hypothetical curve but cannot be the semistable curve.

3.5 It should be noted that the requirements to the numbers determine which precisely exponential number from the Fermat's equation should be introduced into the Frey's curve equation. However, Ribet does not advertise this peculiarity. More likely, the other way round. Ribet acts as though he again gives a reader the right to mistake.

3.5.1 Pay attention to the equation $y^2 = x(x-A)(x+B)\dots$ (19) and to the equation $3^5 + 2^5 = 275$

If $A = a^n = 3^5$, $B = b^n = 2^5$, we will obtain the equation of elliptic curve $y^2 = x(x-3^5)(x+2^5)$.

Having this equation, Ribet is ready to continue the proof.

3.5.2 However, if there is the equation $3^5 + 32525 = 6^5$, the equation of elliptic curve can be written only in the following way: $y^2 = x(x-3^5)(x+b^n)$ or $y^2 = x(x-3^5)(x+32525)$.

Base b is obviously not an integer. Evidently, this variant of introducing the numbers from Fermat's equation the elliptical curve equation was discussed more than once. The commentators detected a defect of Ribet's article. The commentators compensate for that defect and propose in this case to introduce numbers A and C from Fermat's equation into the equation of the other elliptic curve of the form $y^2 = x(x-A)(x-C)$

<http://sputnok.mto.ru/Seans/Kvant/pdf/1999/04/kv0499solovyev.pdf>

http://www.issep.rssi.ru/pdf/9802_135.pdf

Moreover, the commentators assess this defect of Ribet's article as the fact, which confirms the link between Fermat's equation and elliptic curve equation. In principle, numbers B and C can be always interchanged in Fermat's equation with change of sign before these numbers. This operation will lead to the change of form of Frey's elliptic curve.

That is, Ribet proposes to put numbers $A = a^n = 3^5$ and $C = c^n = 6^5$ in equation (19). Ribet is ready to construct the elliptic curve of the form: $y^2 = x(x-3^5)(x-6^5)$ and to continue the proof.

Ribet explains his actions in case 3.5.1 by the fact that numbers A and B meet his requirements, and number C does not interest him. Ribet explains his actions in case 3.5.2 by the fact that numbers A and C meet his requirements, and number B does not interest him.

However, it should be noted that by a strange coincidence in the above cases number C and B turned out to be the problem number with hypothetical bases c, b. One cannot believe in the accidental coincidence, as one cannot impose any requirements on divisibility upon a problem number.

This allows to make very important conclusions:

- Ribet deliberately removes the problem numbers out of the frameworks of elliptic equation.
- The equation of elliptic curve, which Ribet considers, always describes the existent semistable real Frey's curve.

(Let us come back to the figurative example. After the Russian Roulette game Ribet remained alive and the second player was lost. A reader is mistaken if he (she) thinks that Ribet was simply lucky. The point is that the revolver's cylinder was painted different colors: red, yellow, and black.

Ribet was told beforehand that the live cartridge would be put into the cylinder from the side, which is painted black. Therefore Ribet each time avoided the visible section of cylinder pointed black. But this information was concealed from the second player. It is just the situation in which a reader finds oneself).

3.6 The method of instilling, which Ribet used, cannot conceal the mistake.

Ribet's mistake consists in the fact that Ribet did not consider all cases that appear at the "introduction" of the numbers from Fermat's equation into the elliptic curve equation. The Fermat's equation allows for the following record: $3^3 + 5^5 = 3368$

Pay attention. In this equation numbers $A = a^n$, $B = b^n$ are odd numbers. The even number is problem number $C = 3368$

According to Ribet's requirement, the even number should be shifted into the equation of elliptic curve. But number C is the problem number and it cannot be expressed in the form c^n . According to Ribet's requirement, the problem number must be beyond the frameworks of elliptic curve equation.

There is a contradiction in the requirements, which follow from the method of Ribet's proof. Ribet did not remove this contradiction and "forgot" about this contradiction. Ribet "forgot" about the mistake.

So, Ribet states that his method of proof is valid if the Fermat's equation has the form:

$$3^5 + 2^5 = 275$$

$$3^5 + 32525 = 6^5.$$

However the Ribet's method of proof is not valid, if the Fermat's equation has the form: $3^3 + 5^5 = 3368$.

This means that Ribet failed Ribet's proof is not complete. Further consideration of his proof is of no interest.

3.7 However a certain time was spent on the consideration of Ribet's proof and a whole series of other defects was revealed. It would be unfair to ignore these defects.

Let us come back to the conditions that Ribet imposes on the numbers included into the elliptic curve equation.

Rybet proposes to consider number $A = a^n$ as an odd number. In this case $A+1$ must be divisible by 4. Ribet proposes to consider number $B = b^n$ as an even number, which is divisible by 32.

3.7.1 These limitations exclude the cases when $A = 5, 9, 13 \dots 245 \dots B = 48, 80, 112, 144 \dots$ Such limitations exclude consideration of Frey's curve with numbers a^2, b^2 , that is, the cases when numbers $C = c^n$ with integer-valued "c" exist.

Actually, Ribet admits that his method is defective and does not allow to prove Pythagoras theorem.

3.7.2 Moreover, Ribet fears that his method may result in failure and imposes the additional requirement that n must be more than 4. Ribet

agrees that a breach in his proof be closed by the known proofs of Fermat's theorem made by Euler and Fermat.

But the patching of holes testifies to the defects in the theory of elliptic curves. In particular, possibly, Ribet's theorem on existence for an elliptic curve of a parabolic form with integer-valued factors has defects.

Ribet officially shows that his proof is the proof of a special case of Fermat's theorem. However, this does not prevent Ribet from asserting that Fermat's theorem in full scope follows from Taniyama-Shimura hypothesis. Ribet over-estimates the value of his work.

3.8 At one of the steps of his proof Ribet proposes to pay attention to the minimal discriminant of Frey's curve (as it appeared, existent, semistable, and modular).

Ribet proposes to write the minimal discriminant of Frey's curve in the following form: $d = (abc)^{2n/2^8}$

Pay attention. If number "c" does not exist, the discriminant does not exist. If the discriminant does not exist, the Frey's curve does not exist. If the Frey's curve does not exist, the curve is fictitious. Just another time Ribet tries to divert a reader's attention from the real existence of Frey's curve.

Let us remind a reader that the discriminant of elliptic curve has the form: $D = 16 [a^n b^n (a^n + b^n)]^2$.

Therefore, the minimal discriminant can be written in the form: $d = [a^n b^n (a^n + b^n)]^2 / 2^8$ or $d = [a^n b^n (C)]^2 / 2^8$.

Such record of the minimal discriminant excludes the doubt about existence of Frey's curve, which is semistable and modular. Such record of the minimal discriminant reduces the idea of Fermat's theorem proof to the consideration of possibility of minimal discriminant factoring, that is number c presentation in the form of exponential number c^n . In this case the Ribet's exercises with putting the Fermat's numbers into the Frey's elliptic curve equation are not needed.

However, as it follows from the article, Ribet made every effort to conceal this simple truth and to substitute it with the reasonings about the link between Frey's curve and Fermat's equation.

3.8 Let us consider the reasons, for which Ribet forcedly conceals the truth.

3.8.1 Let us assume that at this step of the proof Ribet makes the assumption on possibility of factoring number C in minimal discriminant.

It is obvious that after the assumption made Ribet will be able to prove that the constructed curve becomes non-modular on the condition that the curve is semistable.

However, if number C has good factorability, the curve's discriminant also has good factorability. The semistable curves do not have a discriminant with such properties. Ribet will have to prove that his assumption does not transfer the semistable curve into the category of non-semistable curves of the type

http://homerage.mac.com/ehgoins/ma598/homework_8_solutions.pdf

<http://ru.wikipedia.org/wiki/%>

[D0%AD%D0%BB%D0%B8%D1%82%D0%B8%D1%87%D0%B5%D1%](http://ru.wikipedia.org/wiki/%D0%AD%D0%BB%D0%B8%D1%82%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%B0%D18F_%)

[81%D0%BA%D0%B0%D18F_%](http://ru.wikipedia.org/wiki/%D0%AD%D0%BB%D0%B8%D1%82%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%B0%D18F_%)

<http://ega-math.narod.ru/Liv/Kraft.htm>

If Ribet cannot prove that the Frey's curve remained semistable with number c factoring, his method of proof becomes useless. This means, Ribet did not prove that the Frey's curve ceases to be a modular curve. Hence, the propriety of the method chosen by Ribet to prove the Fermat's theorem was not confirmed. This is the failure of his method of proof.

(A figurative example: Pay attention. A football ball consists of a leather cover and a rubber bladder, which is inflated with air. A ball of the same size can be made of rubber. The rubber ball will remain a ball: it will jump on a solid surface. However, the ball made of rubber is not suitable for game, as it is too heavy. Now let us make the assumption, which is similar to the Ribet's assumption. Assume that the football ball is filled with water. Such "ball" will loose all the properties of a football ball).

3.8.2 There is one more reason, for which Ribet forcedly conceals the truth.

Assume that Ribet proved that the curve is semistable and non-modular. If Ribet proved such properties of Frey's curve, considering this curve a real existing curve, Ribet revealed the contrary instance to Taniyama-Shimura hypothesis.

Even if Wiles proves Taniyama-Shimura hypothesis, Ribet has to prove that such curve does not exist to remove the contradiction. The exclamation that existence of the Frey's curve is impossible ("this is impossible") is obviously not enough.

Especially, if we take into consideration that by that time Ribet was familiar with Yves Helleguarch's works. However, Ribet does not mention his works in his proof, as Yves Helleguard's opinion was different from Ribet's opinion. Yves Helleguard's did not consider equation (14) as an equation of non-existent curve.

4. Bill's Conjecture and Ribet's Proof

The existence of Bill's conjecture also strikes a blow at Ribet's proof, which obviously is impossible to ward off.

<http://www.math.unt.edu/~mauldin/beal.html>

There is no need in considering Ribet's mistakes from the viewpoint of Bill's hypothesis. The very existence and acknowledgement of Bill's conjecture by the world's mathematical community confirm the falsity of Ribet's proof.

However, we will note that Bill's conjecture testifies to the defects of Ribet's theorem about the existence for an elliptic curve of a parabolic form with integer-valued factors.

http://www.issep.rssi.ru/pdf/9802_135.pdf.

But it is impossible to consider this problem in a short review.

5. Ribet's Article and Andrew Wiles

This review considers some lines of the first phase of Ribet's proof.

Let me express perplexity to Andrew Wiles, which is connected with the use of Ribet's work in the "general" proof of Fermat's theorem, to which Wiles has pre-tensions. So many mistakes were revealed in several lines of the proof that it is hard to believe that they had not been noticed by the specialist in this field of mathematics. The Great Fermat's theorem

is connected with the history of mathematics, and it is impermissible to treat it haughtily.

6. Conclusions

Ribet did not prove Fermat's theorem in the assumption of the truth of Taniyama-Shimura hypothesis.

Ribet made too many mistakes and discrepancies, which allows to consider his proof as an unsuccessful attempt.

Yury G. Zhivotov

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