Two Articles Proving and Disproving the Riemann Conjecture

James T Struck

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James T. Struck BA, BS, AA, MLIS

Disproof of the Riemann Conjecture with Infinity and the Points beyond the Critical Strip and X axis Zeros Still Existing beyond the Critical Strip Besides the historical Proofs Discussion of the Zeta Function and Dirichlet Function beyond the Riemann Conjecture and Riemann’s Article Title of Prime Numbers Less than a Given Magnitude

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James T. Struck BA, BS, AA, MLIS

A French American Museum of Chicago, Dinosaurs Trees, Religion and Galaxies, NASA

sealsrosesandstars@yahoo.com

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Abstract

We perhaps have been following the wrong path in looking at the Riemann conjecture by forgetting the article title. Riemann wanted us, as he makes clear in his title, to talk about and discuss “On the Number of Primes Less Than a Given Magnitude.” We can be happy that our look at his title “On the Number of Primes Less Than a Given Magnitude” helped us understand prime numbers a bit better than talking about the real part of $\frac{1}{2}$ in relation to the zeta function. If we consider prime numbers of less than a given magnitude as on a graph or listed, we see many points that lie outside the critical strip as a type of disproof.

Introduction

The Riemann Conjecture can be both proven and disproven as past mathematicians have proven so many points to be fitting the Riemann Zeta Functions link to the critical strip and we can also show here that many points would be beyond 1 as zeroes. By looking at the original article by Riemann, we can consider prime numbers less than a given magnitude and see that those go beyond the critical strip area.

Discussion

1. Disproof Dirichlet and Riemann Zeta Function goes to infinity, so that would be more than $\frac{1}{2}$. See here from Wikipedia.org accessed on 11/8/2017 that Riemann goes to infinity

"The Riemann zeta function or Euler–Riemann zeta function, $\zeta(s)$, is a function of a complex variable $s$ that analytically continues the sum of the Dirichlet series"
By continuing, they mean that the function goes to infinity. A function that goes to infinity would and does include points beyond 1 as zeros. From Wikipedia.org accessed on 11/9/2017

"The Riemann zeta function $\zeta(s)$ is a function of a complex variable $s = \sigma + it$. (The notation $s$, $\sigma$, and $t$ is used traditionally in the study of the zeta function, following Riemann.)

The following infinite series converges for all complex numbers $s$ with real part greater than 1, and defines $\zeta(s)$ in this case:

$$
\zeta(s) = \sum_{n=1}^{\infty} n^{-s} = \frac{1}{1^s} + \frac{1}{2^s} + \frac{1}{3^s} + \cdots \quad \sigma = \text{Re} \left( s \right) > 1.
$$

It can also be defined by the integral"

And from Britannica accessed on 11/9/2017

Riemann zeta function, function useful in number theory for investigating properties of prime numbers. Written as $\zeta(x)$, it was originally defined as the infinite series $\zeta(x) = 1 + 2^{-x} + 3^{-x} + 4^{-x} + \ldots$.

If a function goes to infinity, the function would go towards infinity rather than the critical space between zero and one. Infinity includes all points as Georg Cantor and others described two types of infinity - uncountable infinity and countable infinity. Uncountable infinity would include all points. All points includes points beyond the critical space. Riemann conjecture disproved. Riemann hypothesis disproved. Points that are zeroes of the equation can go beyond the critical space as infinity includes all points.

2. "He also knew that all nontrivial zeroes are symmetric with respect to the critical line $x = 1/2$. Riemann conjectured that all of the nontrivial zeroes are on the critical line, a conjecture that subsequently became known as the Riemann hypothesis." We can put a non-trivial zero away from the critical line disproving the conjecture. As we can put a non-trivial zero someone else, we do not need to place so much mysticism and supernatural or mystical into Riemann’s critical line but can see reality in the far wider
Universe of numbers. I can say for example that the number infinity including all numbers is a zero for the equation beyond the critical line. Let's look at the function again for a value like 2 a prime number

\[
1 + 1/2^2 + 1/3^2 + 1/4^2
\]

1 + ¼ + 1/9 + 1/16 would again diverge toward a larger number as the figure in the front of the function is a sum adding together the parts towards a larger number.

Approaches a larger number than 1 as we would keep on adding numbers to it. A zero or an x intercept can therefore be seen beyond the critical line between 0 and 1. Let's try 3 another prime number

\[
1 + 1/2^3 + 1/3^3 +1/4^3
\]

would again approach a larger number as Riemann said in his article title that he was trying to understand prime numbers. Recall the title of the 1859 article that created this conjecture was “Understanding Prime Numbers less than a certain magnitude.” 1 + 1/8 + 1/27 + 1/64 would actually approach a large number as numbers would continuously be added. That addition could be considered a zero even avoiding the language of x +iy that is traditionally part of the discussion. Just showing that to present a disproof of the conjecture, one or I can show that numbers do not have to lie within the critical space between 0 and 1 when we use the Dirichlet function and Riemann zeta function.

3. Disproof- We Can understand prime number better by looking at more than the real number ½ as primes are not ½ nor between 0 and 1. As a type of disproof, we can say that most primes do not lie between 0 and 1 and around ½ and near the critical strip.

4. Proof- The critical strip on the Slonzor chart below hits (1/2,0), so that would serve as some kind of proof as would the support from scientists in the early part of the century and beyond showing support for the critical strip with many zeroes.
5. Proof- The critical Strip (0, -1/2) if line thick. Line thickness provides a y intercept at around ½ supporting the conjecture as well. We can just make lines very thick.
6. Disproof- The real part of Riemann’s $x + iy$ will always be more than $\frac{1}{2}$ as there are always new primes away from the critical strip.

7. Disproof. The zeta and Dirichlet function are for more than primes alone, so that would be a type of disproof. Riemann is using Dirichlet and zeta to a critical strip area when the zeta function and Dirichlet are not supposed to be limited to the critical strip or to primes.

8. Nothingness can be a type of disproof. The question raised in the Riemann hypothesis is about non-trivial zeroes of the function. Non-trivial zeroes are found along the entire x-axis. There are still zeroes on the x-axis. The critical strip does not make those zeroes along the x-axis go away. As there are still zeroes along the entire x-axis until infinity, we have the zero or nothingness disproof of the conjecture. Zeroes still exist along the entire x-axis and those nothings or zeroes still exist and disprove the conjecture in a way. The zeroes along the entire x-axis actually do not disappear or go away. The zeroes along the entire x-axis show that zeroes outside the critical strip are still there and exist.

9. Rest of the x axis disproof that there are still zeroes along the entire x axis shows that zeroes can exist outside the critical strip between 0 and 1.

10. One could see lines of prime numbers as teaching more about prime numbers which was Riemann’s goal in the original 1859 article which argued for his hypothesis. Simple maps or drawings of where prime numbers are would teach more about prime numbers than consideration of the zeta function which is a type of disproof of the Riemann conjecture. Simple prime numbers on graphs or listed more completely answer his conjecture’s concern with prime numbers of less than a certain magnitude.

11. We actually do not know what Riemann wanted done precisely with his conjecture. He may have agreed with my contention that prime numbers can be understand of less than a given magnitude by listing prime numbers or by graphing prime numbers.

12. Prime numbers really are better understood by looking beyond the critical strip. The title of his article Prime Numbers less than a given magnitude really does support my
disproof that the critical strip does not have to have all the solutions. Prime numbers really exist in many places beyond the critical strip.

13. Riemann was a religious man who may have prayed with his wife the Bible, so we can both believe in a proof and disproof as belief is permitted in anything. We can believe in proof or disproof of the Riemann conjecture of historical significance as one of the great mathematical questions known to humankind.

14. **Riemann zeta function**, function useful in **number theory** for investigating properties of **prime numbers**. Written as ζ(x), it was originally defined as the **infinite series** \( \zeta(x) = 1 + 2^{-x} + 3^{-x} + 4^{-x} + \ldots \).

Please plug in any prime number for the equation such as 3

\[
1 + 1/8 + 1/81 + 1/256
\]

Would tend towards a large number rather than a point inside the critical strip. As the zeta function would tends towards infinity, the Riemann Conjecture can be seen as somewhat disproven!

**Conclusion**

Consideration of prime numbers less than a given magnitude includes a large number of prime numbers outside the critical strip. Many past mathematicians have shown many numbers as within the critical strip as a type of proof we show here. What we discover here is a number of expositions that numbers could lie outside the critical strip and do lie outside the critical strip. Solutions to the zeta function can be defined to be outside the critical strip and hence disprove the Riemann conjecture. Prime numbers involved with the zeta function actually do not have to be in the critical strip as we can invent solutions outside the strip.
Acknowledgements

I would like to thank my mother Jane Frances Back Struck who was abused by Cook County Guardian and Illinois with toxic pharmaceuticals and unnecessary medications linked to her dying on 7/15/2017. She provided inspiration as she got an A in economics at Mundelein College and people did not respect her work enough to treat her like a person. Chicago Police stole $92 from her hands and beat her up as she was waiting on a wheelchair with flowers in her hair as she liked to sit outside sometimes and get fresh air. She used different words like “Heaven” “Princess” “Leave me alone” “birds of the air” and “Moon” which Cook County and Illinois used to enslave my mother and beat her to death with toxic medications.

James T. Struck BA, BS, AA, MLIS P.O. Box 61 Evanston IL 60204

References


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Disproof of Riemann Conjecture Using Infinity Prime Number and Proof Using Line Thickness. Ambiguity about Riemann’s Conjecture as Both a Disproof and Proof of the Riemann Conjecture

By

James T. Struck BA, BS, AA, MLIS

President A French American Museum of Chicago, Researcher NASA, President Dinosaurs Trees Religion and Galaxies, Assistant Midwest Benefits Group

Introduction

Bernhard Riemann born in September 1826 and living until July 1866 made some notes about the zeta function in a brief 8 page article in 1859. Disproof and Proof can be accomplished very briefly too. Ambiguity about what expression was being talked about can be seen as both a proof and disproof of the conjecture. When a conjecture is ambiguous, a conjecture can be seen as in a grey area of both proof and disproof simultaneously.

Abstract
The Riemann conjecture can be disproved using infinity prime number off the critical line and proved using a very thick line always through \( \frac{1}{2} \) and the critical strip. Lack of clear knowledge about what expression Bernhard Riemann was talking about in 1859 can be seen as both a disproof and proof. Ambiguity about the initial Riemann conjecture can be seen as proof and disproof of the conjecture.

Discussion

Disproof of the Riemann Conjecture.

Infinity prime number is off the critical line of \( \frac{1}{2} \). Infinity divisible by Infinity and 1. Infinity prime number would have a zero Not on \( \frac{1}{2} \) line or in critical strip. As infinity prime number is off the critical line or not in the critical strip, Riemann conjecture disproved. Pure infinity prime number is uncountable infinity. Pure infinity prime number would not lie along the critical strip and would have no zero on the critical strip.

Proof Riemann Conjecture

All lines that are zeroes can be seen as very thick so they lie on the \( \frac{1}{2} \) line. Every zero can be drawn very thickly to also lie on the \( \frac{1}{2} \) line and within the critical strip.

A conjecture can be easily proven and disproven in a few statements as we are not even sure what was originally being talked about. Bernhard Riemann made statements like “These properties of \( \zeta(s) \) (the function in question) are deduced from an expression of it which, however, I did not succeed in simplifying enough to publish it. “ [1] and [2]
If we do not really know what function or expression Bernhard Riemann was talking about as he did not simplify the expression enough to publish it, we do not really have the ability to prove or disprove the conjecture as we are not entirely sure what he was talking about.

Name Disproof also

Also Bernhard’s real name was Georg Friedrich Bernhard Riemann. As his real name was Georg Friedrich, we can also argue for a name disproof as many talk about Bernhard Riemann, but his real name was Georg Friedrich or Georg Friedrich Bernhard Riemann. As many are disproving or proving Riemann’s hypothesis, his real name being Georg Friedrich Bernhard Riemann can be seen as a type of disproof as well.

Conclusions

Proof and Disproof are accomplished through discussion of the lack of clear knowledge of what expression Riemann was talking about.

Disproof is accomplished through showing a new number Pure Prime Infinity which is off the critical line. Pure Infinity Prime number would not have a value one half as pure infinity prime number would not have a clear value except as pure infinity divisible by pure infinity and one. Georg Cantor and other mathematicians have proposed the concept of a pure infinity which is not countable different than countable infinity. Pure infinity would not lie on the critical line of ½.
Proof is accomplished through making the zero line at any point very large to go through \( \frac{1}{2} \) and the critical strip. A thick zero line would also go through the \( \frac{1}{2} \) and critical strip line.

As Bernhard Riemann’s real name was Georg Friedrich Bernhard Riemann, clarity about his real name can be seen as a type of disproof too.

Proof and disproof can be achieved as quickly as Bernhard Riemann’s initial statement of the problem in a few words. Lack of clarity of what expression was being talked about can be seen as a proof and disproof. We do not know exactly what Bernhard Riemann was talking about in 1859, so we can see the conjecture as proven and disproven due to ambiguity and vagueness about what the conjecture was actually about. Ambiguity can be seen as both a disproof and proof.

Acknowledgements

I would like to thank my mother Jane Frances Back Struck who taught me that I can give myself time to prove and disprove things through her poetry and different expression such as saying "heaven" "Princess" "birds of the air" and "moon" and her driving to visit the Par King Miniature Golf Course on Milwaukee Avenue and other places such as Morton Arboretum which she requested that I take her to. Illinois and Cook County discriminated against her different expression with deadly medications linked to her death on 7/15/2017.

References