Generalized Riemann Hypothesis and Why Doctors Get It Wrong About When You Will Die

ABSTRACT

According to the Clay Mathematics Institute, “The prime number theorem determines the average distribution of the primes. The Riemann hypothesis tells us about the deviation from the average. Formulated in Riemann's 1859 paper, it asserts that all the 'non-obvious' zeros of the zeta function are complex numbers with real part 1/2.” Furthermore, if you can write out a valid mathematical proof of the Riemann hypothesis and get it published in a refereed mathematical journal then the Clay Mathematics Institute will, after due deliberation, give you a prize of one million U.S. dollars. The Riemann hypothesis has a generalization to Dirichlet L-functions, among others. What might the Riemann hypothesis and medical predictions have in common? Experience suggests that both are difficult. It might be that accurate prediction of outcomes is mathematically and empirically intractable in almost all interesting cases. Stephen Wolfram’s Principle of Computational Equivalence states that “Almost all processes that are not obviously simple can be viewed as computations of equivalent sophistication.” This brief communication offers two conjectures concerning the generalized Riemann hypothesis for Dirichlet L-functions. In addition to medical doctors and number theory, this brief communication makes reference to Abraham Lincoln and a set of dogs with cardinality one.

GENERALIZED RIEMANN HYPOTHESIS

According to Wikipedia, "The theory of L-functions has become a very substantial, and still largely conjectural, part of contemporary analytic number theory. In it, broad generalisations of the Riemann zeta function and the Dirichlet L-function for a Dirichlet character are constructed, and their general properties, in most cases still out of reach of proof, are set out in a systematic way."

http://en.wikipedia.org/wiki/L-function

https://en.wikipedia.org/wiki/Generalized_Riemann_hypothesis

http://en.wikipedia.org/wiki/Zermelo–Fraenkel_set_theory

Consider two conjectures about Zermelo-Fraenkel set theory (ZF).

CONJECTURE 1: Let χ be a Dirichlet character modulo q and let T be a real number > 10. Suppose that P is a formal proof in ZF that, for all real σ with $1/2 < \sigma < 1$ and for all real t with $|t| \leq T$, $L(\sigma + i\,t)$ is nonzero. Then the number of symbols in P is > (log (log T))/ q .

CONJECTURE 2: Let n be a positive number > 10. In ZF there exists a false formal alleged proof P0 that the generalized Riemann hypothesis is true for s —> $L(s,\chi)$ with the followings characteristics (a) and (b): (a) the number of symbols m in P0 satisfies $n < m < 2n$ and (b) in ZF if P1 is any true formal refutation of P0 then the number of symbols in P1 is > (log (log n))/q .

What is the meaning of CONJECTURE 1? Assume that, in all models of ZF, the Generalized Riemann Hypothesis (GRH) is true for the function s —> $L(s,\chi)$. Then CONJECTURE1 says that, in the formal system of ZF, a partial proof in a restricted domain of the GRH for the function s —> $L(s,\chi)$ has to be rather long — presumably a mere calculation that makes estimates. If GRH is false for s —> $L(s,\chi)$ then CONJECTURE 1 is true because, in formal logic, a false statement implies anything. In CONJECTURE 2 a definition of “formal alleged proof” depends upon the definition of “formal proof” in a system of first order logic.

From Wikipedia, “A formal proof or derivation is a finite sequence of sentences (called well-formed formulas in the case of a formal language) each of which is an axiom, an assumption, or follows from the preceding sentences in the sequence by a rule of inference. The last sentence in the sequence is a theorem of a formal system.” http://en.wikipedia.org/wiki/Formal_proof

A formal alleged proof is a finite sequence of sentences together with a final sentence consisting of the formal statement to be proved — however, in AT LEAST ONE CASE some sentence is not an axiom, is not an assumption, or does not follow from the preceeding sentences in the sequence by a valid rule of inference. Informally, a formal alleged proof is a sequence of reasoning that someone alleges to be a formal proof but IN TERMS OF VALID FIRST ORDER LOGIC is not a formal proof.

One might ask concerning CONJECTURES 1 & 2: So what? Why should anyone care about CONJECTURES 1 & 2?

Actually my main purpose is PUBLICITY — I need to convince 5000 young scientists, 500 astrophysicists, or 100 string theorists that Milgrom is the Kepler of contemporary cosmology.

http://www.weizmann.ac.il/particle/milgrom/ Welcome letter | Mordehai (Moti) Milgrom, Weizmann Institute of Science

PREDICTION

I say that, as of November 2015 of the Christian Era, the world’s 3 greatest living scientists are James D. Watson, Sydney Brenner, and Professor Milgrom of the Weizmann Institute. I predict that Professor Milgrom shall win the Nobel prize by December 2020. There is widespread belief that dark matter particles exist and that Newtonian-Einsteinian gravitational theory is 100% accurate. I say that the belief in dark matter particles shall soon be on its deathbed.

"It's difficult to predict exactly when a patient is going to die, or, sometimes, if they are going to die at all.” http://www.theguardian.com/lifeandstyle/2015/jun/02/doctors-predict-patient-die-prognosis-wrong

PREDICTION, MEDICAL DOCTORS, LINCOLN, AND A DOG

Is it a valid prediction that many great intellectual pioneers shall be ignored?

“In 1865, Semmelweis was committed to an asylum, where he died at age 47 of pyaemia, after being beaten by the guards, only 14 days after he was committed.” http://en.wikipedia.org/wiki/Ignaz_Semmelweis

Note that 1865 = 5 * 373 where 373 is prime, 5^9 divides the order of the monster group, 373 = 9 *41 + 4, there might be only 1 universe with 4-dimensional spacetime, and 41 + 1 = 42.

"Douglas Adams was asked many times why he chose the number 42." https://en.wikipedia.org/wiki/Phrases_from_The_Hitchhiker's_Guide_to_the_Galaxy

“Ever since President Abraham Lincoln's assassination in 1865, questions, rumors and speculation have surrounded the medical aspects of his death and those connected with it.

If the president had been rushed to a modern-day emergency room, would he have survived? Why wasn't he returned to the White House to die in his own bed?” http://www.abrahamlincolnonline.org/lincoln/education/medical.htm "A Doctor's View of the Lincoln Assassination”, Abraham Lincoln Online

“… Then, of course, there was Fido, a mutt Lincoln adopted around 1855 when he was

a successful lawyer in Springfield. At the time it was unusual to own a pet with no economic purpose. Fido was a pet, plain and simple. In a way he was a status symbol, proof that Lincoln had risen to the middle class." — Matthew Algeo
http://www.huffingtonpost.com/2015/04/14/abraham-lincoln-dog-animal-lover_n_7055640.html "Abraham Lincoln Obsessed Over His Dog Just Like You Do"
Note that 1855 = 1865 – 10, where 10 is the dimension of the fundamental domain in string theory.
Are all my thoughts on nature, string theory, and numerology wrong? Google "mochizuki nature".
Note that
j(τ) = 1/q + 744 + 196884 * q + 21493760 * q^2 + 864299970 * q^3 + …
From Wolfram Alpha:
Euler's constant = .5772156649....
log(744) / log(pi) = 5.77607095 approx.
(mass top quark)/(mass electron) = 340901 approx.
196884/340901 = .57754010695... approx.
Is all my numerology folly?
"The fool doth think he is wise, but the wise man knows himself to be a fool." Act 5, Scene 1
http://babel.hathitrust.org/cgi/pt?id=hvd.32044086737095;view=1up;seq=128 "As You Like It"