Gödel’s Incompleteness Theorem: The Universe, Mathematics and God

80 years ago, Kurt Gödel toppled empires of mathematical philosophy with his famous Incompleteness Theorems.

I’m every bit as interested in science, philosophy and engineering as I am in business. Gödel’s theorem has profound implications for every branch of knowledge.

The materialist view prevails in secular circles. Materialism states that the laws of physics and the universe we know are all that is. It sees the universe as a giant machine. It assumes that everything we experience is purely the result of blind cause and effect. It scoffs at the idea that there is any such thing as God or metaphysics.

This view was epitomized by “Logical Positivism” which was espoused by a group known as “The Vienna Circle” in Austria, led by Ludwig Wittgenstein. Logical Positivism says that anything that cannot be experimentally verified or

Kurt Gödel proved, ironically, that it’s impossible to prove everything. And yes, he proved it.
mathematically proven is invalid.

The Logical Positivists were confident that very soon, all the loose ends of mathematics would be nailed down by a single unifying theory. The world would finally fully embrace reason and logic and leave the failures of religion behind.

Kurt Gödel was a member of the Vienna Circle and in 1931 proved that a single unifying theory was impossible. He proved that the goal of the Logical Positivists was unachievable. This was a devastating blow.

Gödel’s Incompleteness Theorem says that any system that is complex enough to express mathematics cannot prove, by itself, that everything it says is true. It will always rely on something outside the system that you have to assume is true but cannot prove.

You can then step outside the system and complete your proof, but in order to do that you will now have to invoke something else from the outside. So you keep expanding ever outward, invoking still more things that you cannot prove.

This was very disturbing to mathematicians, because mathematicians hate uncertainty.

Many people have raised the question of whether Gödel’s incompleteness theorem applies to the universe itself. If the universe is mathematical, then yes in fact it does.

Stated in Formal Language:

**Gödel’s theorem says**: “Any effectively generated theory capable of expressing elementary arithmetic cannot be both consistent and complete. In particular, for any consistent, effectively generated formal theory that proves certain basic arithmetic truths, there is an arithmetical statement that is true, but not provable in the theory.”

**The Church-Turing thesis says** that a physical system can express elementary arithmetic just as a human can, and that the arithmetic of a Turing Machine (computer) is not provable within the system and is likewise subject to incompleteness.

**Any physical system subjected to measurement is capable of expressing elementary arithmetic.** (In other words, children can do math by counting their fingers, water flowing into a bucket does integration, and physical systems always give the right answer.)

**Therefore the universe is capable of expressing elementary arithmetic and like both mathematics itself and a Turing machine, is incomplete.**
Syllogism:

1. All non-trivial computational systems are incomplete
2. The universe is a non-trivial computational system
3. Therefore the universe is incomplete

Some time ago I posted an article about this:
http://www.perrymarshall.com/articles/religion/godels-incompleteness-theorem/ and I was greatly interested in seeing if anyone would be able to poke a hole in my argument. (The article is a much more thorough explanation of Gödel than I am giving you here.)

Nearly everyone agrees that math is incomplete. The idea that the universe is also incomplete apparently makes some people very uncomfortable. If the universe cannot explain itself then there has to be some kind of higher power at work.

The debate essentially comes down to this:

- If the universe is illogical and inconsistent then it is possible for it to be complete.
- If the universe is logical and consistent then it is incomplete.
- If the universe is incomplete, then it depends on something on the outside.

In other words, if the laws of mathematics and logic apply to the universe, then the universe has to have a metaphysical source. Atheism can only be true if the universe is irrational.

(By the way, my experience from conversing with literally thousands of atheists via email and on my various blogs is this: When you get down to the core emotional center of why they don’t believe in God, it’s often because they feel deep down that the universe is irrational. They’re immensely disappointed that the world is full of evil and suffering. Because of this, they reject the idea of God.)

You cannot prove that the universe is mathematical. But belief that the universe is mathematical is the #1 assumption of modern science. Toss out that assumption and the whole philosophical framework of western civilization crumbles.

In the history of science, you will find that belief in a God who created an orderly mathematical universe was one of the foundations of scientific discovery.

If you visit the world’s largest atheist website, Infidels, on the home page you will find the following statement:

“Naturalism is the hypothesis that the natural world is a closed system, which means that nothing that is not part of the natural
If you know Gödel’s theorem, you know that all logical systems must rely on something outside the system. So according to Gödel’s Incompleteness theorem, the Infidels cannot be correct. If the universe is logical, it has an outside cause.

Thus atheism violates the laws of reason and logic.

The Incompleteness of the universe isn’t formal proof that God exists. But… it IS proof that in order to construct a rational, scientific model of the universe, belief in God is not just 100% logical… it’s necessary.

Practically speaking, all knowledge we have about anything is incomplete. There are always some things you’re certain of, some things you’re somewhat sure of, and some things you cannot prove at all. Human knowledge is always enlarging the circle of what is known, but every question that we answer just provokes more questions. In real human experience, the quest to enlarge that circle never stops.

And I would submit to you that this is the essence of faith, as actually practiced by thinking, reasoning people.

Many people assume that religious faith is some mystical imaginary idea that is embraced purely on the basis of emotion or intuition. That it has nothing to do with facts, reason or logic.

This is completely untrue – at least in in the Judeo-Christian tradition. No one is asking you to believe without evidence or rational reason. Belief in God, in Jesus, and even the afterlife is based on historical events, logical propositions, and reasonable arguments.

Science itself originated from theology. Science assumed then, and assumes now, that the universe is rational. That the universe operates according to fixed, discoverable laws. Even science itself is a very practical outworking of faith in the reliability and consistency of the natural order.

The practice of faith is in many ways living out a hypothesis: That if you follow the teachings and embrace the Spirit, you will have an excellent opportunity to experience success in your work and your family. And that you will be rewarded in your search for meaning and pursuit of the deepest questions.

Perry Marshall

P.S.: If this intrigues you, make sure you read my more extended article, Gödel’s Incompleteness Theorem: The #1 Mathematical Discovery of the 20th Century.
About the Author

Entrepreneur Magazine says: "Perry Marshall is the #1 author and world's most-quoted consultant on Google Advertising. He has helped over 100,000 advertisers save literally billions of dollars in Adwords stupidity tax."

He is referenced across the Internet and by The New York Times, The Washington Post, USA Today, the Chicago Tribune and Forbes Magazine.

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Posted by Perry on July 25th, 2010. Filed in Not on Homepage.
Tagged as Cause And Effect, Circles, Gödel's Incompleteness Theorem, Giant Machine, Incompleteness Theorem, Incompleteness Theorems, Kurt Gödel, Laws Of Physics, Logic, Logical Positivism.
Comments on Gödel’s Incompleteness Theorem: The Universe, Mathematics and God

1. July 25

**Workout Goals Guy** @ 12:40 pm

Not always have we understood everything we see or hear, but continuous work especially in the field of mathematics has helped us solve many previously though illogical concepts.

I think we should keep working towards better understanding of everything, and hope that one day we understand the holographic thing this life is.

Atheists say, “we see it then, we believe it”. But In religion there is a saying, “believe and then you shall see it”.

Permalink Reply

2. July 26

**Yadvinder Singh** @ 5:20 am

Well the “Logical Positivists” are true in every context but human beings are poor emotional creatures they make decision based on emotions and they want to believe in God. They want to think that someone is up above there who is watching them. And as you said you can be completely logical and believe in God. Thanks for the post

Permalink Reply

3. July 27

**Rafi Hecht** @ 11:37 am

Some loaded questions for loaded comments:

“It assumes that everything we experience is purely the result of blind cause and effect.”
If one claims that a famous Van Gogh painting was the result of just taking some buckets of paint, splashing them against the canvas and voila! it came out a masterpiece, how quickly would that person be believed? Or even, just taking a paintbrush and mindlessly stroking lines on the canvas. The point I’m making is, some things need to be pre-meditated, just as some experiences we endure.

“It scoffs at the idea that there is any such thing as God or metaphysics.”

Prove that air exists and, if it does, how it allows us to live and our brains to function the way they do. Better yet, prove the mechanics of the brain, and even the eye.

I can go on and on.

Richard Russett @ 10:51 pm

“The universe is incomplete, therefore God exists” is an obvious non sequitur — even if your analogy between formal systems and the physical universe were valid. (For instance, the universe could be inconsistent. Or, something else other than God could complete it.)

With that said, Godel’s proof is about additional assumptions completing a set of axioms. Not a supernatural being completing a physical universe.

IS the universe a logical system? Your examples illustrated how you can make logical systems correspond to things and events in the universe, but not that the universe IS a logical system. So at most you can draw the conclusion any logical systems instantiated in the universe are incomplete (or inconsistent), and can be completed only by additional assumptions (not by a supernatural being).

In general this argument glosses over probably a dozen important distinctions, and makes another dozen leaps in logic.

Richard.

Perry @ 9:50 am
If you feel there are distinctions I have overlooked, you are invited to address them point by point.

I have already addressed a large number of objections identical to yours at http://www.perrymarshall.com/articles/religion/godels-incompleteness-theorem/ – read the comments.

Any set of axioms is itself a system and therefore contingent on some other axiom. Eventually you logically arrive at the necessity of a single axiomatic assumption which cannot be further subdivided. The logical conclusion is that the universe is contingent on something that is indivisible, immaterial and boundless. A metaphysical entity. We can quibble about the details but regardless, it sounds an awful lot like God.

Again this is completely based on logic. You will find that the reasoning remarkably resembles that of thinkers like Aquinas and Aristotle.

My logic does hinge on the assumption that the universe is logical. I cannot prove that the universe is logical. You are welcome to assume that it is not. But if you do, then from that point forward you are forbidden to engage with me (or anyone else for that matter) on the basis of science or mathematics or logic, because your assumptions invalidate all of those things. Believe in an illogical universe if you choose.

If the universe is logical, if mathematics apply to the universe, then the universe is incomplete and contingent on a metaphysical entity.

Richard Russett @ 8:16 pm

OK, after reading through much of the discussion on the other page, I see that reader Matt has very patiently tried to point out several places where you engage in hasty generalization, non-sequiturs, false dichotomies and such. I see no evidence that you’ve ever slowed down long enough to even consider what he is trying to say to you. You seem to follow up with the same rhetorical flourish each time, challenging him to either agree with you, or give up on science altogether.
Let’s just take one distinction you’re missing — probably the main one. In Matt’s words:

“you appear, once again, to be conflating the universe with our model of the universe.” — comment 22 (this is like the 4th time he’s tried to point this out to you)

It very much seems that your argument HINGES on this mistake.

And I don’t see you even acknowledging the distinction, let alone the fact that you are relying on it.

Richard

Permamlink Reply
- July 29

Perry @ 12:15 pm

Universe:
2 rocks + 2 rocks = 4 rocks

Mathematical model of the universe:
2 + 2 = 4

Are both statements true, or not?

Does the latter correspond to the former?

Does mathematics, which is our model of the universe, tell us the truth about the universe, or not?

I am fully and acutely aware of the distinction. I am relying on it. I say it tells us the truth.

What say you?

Permamlink Reply
- July 29

Patrick @ 10:47 pm

Perry,

This was another point that bothered me about the proof.

You started by saying a complete
mathematical representation of the universe (a theory of everything) cannot exist, because it will always rely on something outside itself.

But the universe isn’t a mathematical representation. It simply IS – whether we model it properly or not doesn’t affect the nature of its existence.

The blow to the materialist argument was that a complete model is impossible, and therefore God’s existence cannot be disproved. That is not the same as proving God’s existence.

Moreover, Goedel’s proof shows that, if the assumptions of the mathematical are unprovable – and if you’re claiming THOSE assumptions is where God exists – then you’re acknowledging proof of God is impossible.

Patrick

Permalink
- July 31

Perry @ 7:07 am

I think you need to be very careful in trying to say that the universe simply “is.” It came into existence 13.8 billion years ago, along with space and time. Before then there was no time. Something that was not, came to be. The mathematical/logical position is that since it is a computational system, then if it is consistent then it depends on something outside of itself to exist. You can’t have an infinite regression of axioms so at some point you arrive at an original axiom. An axiom which simply “is.”

The cause and effect point of view says that something had to cause its existence. You can’t have an
infinite regression of cause and effect so at some point something has to be uncaused. The temporal nature of the universe says that the universe itself is not its own cause. Something outside of space and time has to be uncaused. God just “is.”

There is something in Christian theology which exactly corresponds to this, by the way. God appears to Moses. Moses says “who shall I say sent me” and God says “I AM” has sent you. Jesus, when challenged by the religious authorities, said, “Before Abraham was I AM” referring back to the Moses passage. The Alpha and the Omega, the First and the Last.

Gödel’s proof does show that you cannot prove God, yes, you are right. But it shows that you have to take God as axiomatic, otherwise you cannot form a coherent model of the universe. God is unprovable but a necessary assumption.

Permalink

5. July 28

Tom Doiron @ 9:18 pm

Perry,
Truth is always outside the individual seeking it; else opinion reigns. God reveals himself to those that hunger for truth. He doesn’t waste His time with the unbelievers. There is a much easier way to prove the existence of God and the resurrection of Jesus Christ than intellectual masturbation.

Wishing You Plenty To Live,
Tom Doiron
Atlanta

Permalink Reply
○ July 28
What some judge to be “masturbation” is active consideration and engagement for others. “God doesn’t waste his time with unbelievers” is a statement that would hardly stand up to a reasonably careful study of the Bible.

Tom Doiron @ 12:33 pm

Perry,
God can recognize a goat faster than any human, because He has x-ray vision of the heart and perfectly knows the future.

He calls His lambs home, but leaves the goats outside the fold. Show me in God’s Word where the hardhearted are born again of God’s spirit. They make their choice, not Him, He just knows the outcome ahead of time.

Is 40 years worth a reasonably careful study of the Bible? Just that, the Bible, God’s Word; not everybody’s opinion of it.

Perry the mind of man at it’s best is dummer than God at His worst. Reason does not cut it.

Daniel 4:

34 At the end of that time, I, Nebuchadnezzar, raised my eyes toward heaven, and my sanity was restored. Then I praised the Most High; I honored and glorified him who lives forever. His dominion is an eternal dominion; his kingdom endures from generation to generation.

35 All the peoples of the earth are regarded as nothing. He does as he pleases
with the powers of heaven
and the peoples of the earth.
No one can hold back his hand
or say to him: “What have you done?”

36 At the same time that my sanity was
restored, my honor and splendor were returned
to me for the glory of my kingdom. My
advisers and nobles sought me out, and I was
restored to my throne and became even greater
than before. 37 Now I, Nebuchadnezzar, praise
and exalt and glorify the King of heaven,
because everything he does is right and all his
ways are just. And those who walk in pride he
is able to humble.

Permalink Reply
- July 29

Nick Neilson @ 12:55 pm

John 7

15 And the Jews marvelled, saying,
How knoweth this man letters, having
never learned?

16 Jesus answered them, and said, My
doctrine is not mine, but his that sent me.

17 If any man will do his will, he shall
know of the doctrine, whether it be of
God, or whether I speak of myself.

Matthew 7

17 Even so every good tree bringeth
forth good fruit; but a corrupt tree
bringeth forth evil fruit.

18 A good tree cannot bring forth evil
fruit, neither can a corrupt tree bring
forth good fruit.

19 Every tree that bringeth not forth
good fruit is hewn down, and cast into
the fire.

20 Wherefore by their fruits ye shall
know them.
21 ¶ Not every one that saith unto me, 
Lord, Lord, shall enter into the kingdom 
of heaven; but he that doeth the will of 
my Father which is in heaven.

22 Many will say to me in that day, 
Lord, Lord, have we not prophesied in 
thy name? and in thy name have cast out 
devils? and in thy name done many 
wonderful works?

23 And then will I profess unto them, I 
ever knew you: depart from me, ye that 
work iniquity.

24 ¶ Therefore whosoever heareth these 
sayings of mine, and doeth them, I will 
liken him unto a wise man, which built 
his house upon a rock:

James 2 –

12 So speak ye, and so do, as they that 
shall be judged by the law of liberty.

13 For he shall have judgment without 
mercy, that hath shewed no mercy; and 
mercy rejoiceth against judgment.

14 What doth it profit, my brethren, 
though a man say he hath faith, and have 
not works? can faith save him?

15 If a brother or sister be naked, and 
destitute of daily food,

16 And one of you say unto them, 
Depart in peace, be ye warmed and 
filled; notwithstanding ye give them not 
those things which are needful to the 
body; what doth it profit?

17 Even so faith, if it hath not works, is 
dead, being alone.

18 Yea, a man may say, Thou hast faith, 
and I have works: shew me thy faith 
without thy works, and I will shew thee 
my faith by my works.

19 Thou believest that there is one God; 
thou doest well: the devils also believe,
and tremble.

20 But wilt thou know, O vain man, that faith without works is dead?

21 Was not Abraham our father justified by works, when he had offered Isaac his son upon the altar?

22 Seest thou how faith wrought with his works, and by works was faith made perfect?

23 And the scripture was fulfilled which saith, Abraham believed God, and it was imputed unto him for righteousness: and he was called the Friend of God.

24 Ye see then how that by works a man is justified, and not by faith only.

To me, these verses make it clear that our status as a “believer” or an “unbeliever” is as fluid as our next choice to “do his will” or to choose otherwise. In this fluid structure, it’s hard for me to even define what God “wasting his time with unbelievers” would mean.

It certainly doesn’t mean he prevents his prophets from preaching to sinners and warning them against their doom.

There’s also no space in the bible for it to mean that a man, or even an entire city, who was an unbeliever can’t hear and react to the message and become clean.

And I’m certainly not comfortable with the idea of God refusing to send a “wake up call” my way now and then because he’s deemed that he’s wasting his time with me.

So, I’m left to think that Tom’s criticism is directed at the use of logic and reasoning as a way of reaching out to unbelievers.

In the opening of the post, Perry states “I’m every bit as interested in science, philosophy and engineering as I am in
business.” This is his blog where generally like-minded folks come to engage in “active consideration and engagement” and thus I have strong doubt that Perry’s intent in posting the article was to draw out and convert every atheist who reads his Marketing Blog.

But, in the spirit of “active consideration and engagement” I would ask Tom for some clarity on the difference between “intellectual masturbation” and Christ’s use of parables, or the language of Isaiah’s prophecies. Both used language that require active study and intellect to decipher. And neither were addressed to those who openly opposed the gospel. They were directed to Jesus’ followers to increase their understanding.

So, if someone reading this post on Perry’s blog is staunchly against Christianity and unwilling to open themselves to the logic presented… the post will land somewhere on the scale between meaningless and offensive. But, the vast majority of people are not in open opposition. The majority of American’s do believe in God, but haven’t put a tremendous amount of time and intellect in to deciding what that means for them.

It is true that conversion to Christ happens by the simplest of means – humility and faith leading to a choice to obey God’s commandments – followed by confirmation from the spirit and the blessings of heaven. But, once we’re on that path… are we done? Certainly not.

So, I for one appreciate a good dose of “active consideration and engagement” even if others deem it to be “intellectual masturbation.”

Permalink

6. July 29
Richard Russett @ 1:35 pm

Your way of making the distinction seems wrong to me.

It’s more like:

Universe: simply contains 4 rocks that do what they do.

Model of the universe: “if you take two of those rocks and group them together with the other two rocks, you have 4 rocks in the group”

(Note: the term ‘model’ seems a little strong with this simple example, since there are no dynamics involved. I’d probably just use the term ‘description’ at this point.)

The Universe itself does not CONSIST OF a set of logical axioms. (or even Empirical generalizations)

It might be true that the Universe is more or less orderly, and follows our empirical generalizations fairly closely.

But this does not make it CONSIST OF a set of logical axioms.

It CONSISTS OF matter and energy that simply does what it does.

HOWEVER, . . .

There’s an even bigger problem with your argument.

Here is the rhetorical flourish you seem to keep coming back to people with:

“My logic does hinge on the assumption that the universe is logical. I cannot prove that the universe is logical. You are welcome to assume that it is not. But if you do, then from that point forward you are forbidden to engage with me (or anyone else for that matter) on the basis of science or mathematics or logic, because your assumptions invalidate all of those things. Believe in an illogical universe if you choose” [cited from this thread, but similar statements are all over your replies to others on the other page.]

People who “say the universe is not ‘logical’” are not claiming it is not orderly. They are simply claiming that the universe does not “CONSIST OF” a set of logical axioms. You have to keep that distinction straight.

Also, consider that arithmetic is either incomplete or inconsistent.
That doesn’t mean we have to throw it out. We can still do accounting. Why does a system of axioms that’s incomplete need to be completed at all?

I’ve never personally “completed” the axioms of arithmetic with an “outside” axiom, yet I am perfectly comfortable using arithmetic.

So if any axiomatic system instantiated in the universe (or read onto it), or whatever, never gets completed, so what?

As I read through the discourse on the other page, I spent time trying to figure out your MO, Perry.

You seem to start with a conclusion (God exists), find a neat mathematical result (Godel’s theorem, fractals, power laws), and then you do very quick free association strings of reasoning that conflate a lot of distinctions on your way to “deriving” your conclusion from the mathematical results.

Fair enough. We’ve all been caught up in the excitement of finding a compelling argument that quickly moves from high status intellectual premises to our favored conclusion, and *hoping* it holds water on closer scrutiny.

But when others come along and point out distinctions you’ve overlooked, you have to slow down and take a look. Especially when several smart people independently all seem to point out the same problems with your argument.

I don’t think you’ve shown a proper respect for your objectors. You brush past the meat of their criticisms, pick on some minor point, and then challenge them to agree with you or abandon logic (based on equivocal uses of terms like ‘logical’).

Here is an initial list of terms I think you equivocate on:

“logical” (orderly, vs operating according to a system of formal axioms)
“complete” (god “completes” the universe, vs. an assumption “completes” an axiomatic system)
“the universe” (the stuff that makes up the universe vs our models of the universe)

Your argument only seems to work because you are not seeing these different uses of terms as you move through your argument.

Are you familiar with the confirmation bias? Or motivated reasoning in general?

My hunch is that if you disagree with a conclusion, you are very good at making the needed distinctions to pick the argument apart.
When you agree with the conclusion (and have personally designed the argument), it seems you are very bad at seeing the distinctions that spell doom for an argument.

We are all susceptible to motivated reasoning. But good thinkers are aware of their susceptibility and try to take measures to compensate for it. They listen to others when they make the distinctions, and they try to keep the distinctions in mind in subsequent discussion.

Anyway. I’m sorry if this sounds harsh, but you strike me in other places as someone who prizes intellectual virtue, so I thought I’d suggest you take a closer look at how you’re conducting yourself in this debate.

Richard

Perry @ 8:54 pm

I did not say that the universe consists of a set of axioms. I said that the universe, if it is consistent, depends on an axiom.

When I say the universe is logical, I mean that in the universe, 2+2=4 and 2+2 never equals 5.

If you wish to say that the universe is orderly but not logical then you need to define precisely what you mean by that.

Arithmetic is either incomplete or inconsistent. You may not care that it is incomplete but logicians and mathematicians do. Because they seek to trace everything down to its roots and they find they always end up with an unprovable axiom. So it’s impossible to prove everything. You always have to make an assumption and then prove it out logically.

Atheists (the Infidels website in particular) have made an assumption that there is nothing outside the universe.

I have made an assumption that there is something outside the universe.

Gödel’s theorem contradicts the atheists and it confirms my hypothesis.

I work in advertising. I of all people understand confirmation bias. Everybody has confirmation bias. Not everybody clearly explains their views on their blog, backs
them up with mathematical statements and invites everyone in the world to challenge their logic.

I use the word “logical” in the same way that a logician would define it.

I use the word “complete” in the same way that Gödel used it.

I use the standard definition of “universe” – Wikipedia – The Universe is commonly defined as the totality of everything that exists,[1] including all physical matter and energy, the planets, stars, galaxies, and the contents of intergalactic space.

If you disagree with any of these definitions then you’re welcome to define your terms and construct an argument.

Permalink Reply

- May 1

bhabani @ 4:33 pm

Hi Perry. You have used very big words. and you sound very knowledgable also. And i am not very aware whether god is there or not . Not even an christian. (an Hindu) . Only thing i want to say here is looks like you have either missed or knowingly overlooked the difference between science and math. Whatever is happening is explained by science and not Math. Math is just a supporting block for science . Math doesn’t explain the universe.
I see you have repeated said 2+2=4 . But thats only in maths . But not in real life . Even taking that stone example . If one of the stone breaks it becomes 5 . now we have to say that one stone become two so we have 5 stones.
The point i am trying to make here is Whatever math deduces .. actual physical world is not oblized to follow that . Math is just another tool to understand what happened around us . So just proving something mathematical theorem and saying that physical world is bound to follow is just a very loose way of proving your point. And we should keep in mind the tool (here math) needs updation with changing times.
Again i am reitirating i am not here to prove god is there or not . Just saying they way you proved holds very little ground .
In the mean time i would suggest you to read “The grand desin” to see how god is not necessary in a
logical world. (which of course can also be very well questioned just like your’s)

Permalink Reply
■ May 1

Perry @ 7:25 pm

The only reason 2+2=5 in your example is because you changed what you were counting. In science, the real world always obeys mathematical laws.

Permalink Reply
■ May 1

Bhabani @ 7:51 pm

Thanks Perry, But again looks like you conveniently overlooked the point I was trying to make. I was hoping you will come up with more thoughtful answer. Anyway Science obeys whatever math deduce (and however it deduce) or Math only provides a logical explanation to it, is beyond my feeble mind (may be !!!). But it won’t be a big waste of time if you spare some time to ponder over it. But sorry to say this article will hardly help me have a greater faith in god or answer any of my unresolved questions. And sorry if I wasted you time. Thanks again for taking time and responding

Permalink
■ May 1

Perry @ 9:23 pm

I believe your point is that math is only a tool that science uses to model things. Math is not physical reality. I believe I understand your point.

You might be overlooking the fact that without math there is no science. Science itself is a
Godel's Incompleteness Theorem

mathematical construct of the world. So you are right, mathematics doesn’t prove, in the ultimate sense, physical realities. It only describes them. However if you believe in the reliability of the laws of logic – which is necessary to embrace science – then the conclusions of mathematics cannot be ignored.

Permalink

7. July 29

Tom Doiron @ 8:23 pm

Nick, Perry, & others,

God divides mankind into three groups: Jews, Gentiles(unbelievers), and Church of God. The rules have changed since the time of Daniel or even the Book of Matthew. God says He would have all men saved and come unto a knowledge of the truth. He also promised that any one that hungered for righteousness will be filled. Are all men saved, do all hunger for righteousness? Will some convert? Absolutely and God has called them by name. However there are others that will not accept the accomplished work of Jesus Christ. It is those I spoke of as the unbelievers God leaves to their own devices. Even Christ told his disciples as he sent them out two by two to shake the dust of their sandals and move on if a person was not hungry for truth.

Worshiping the human mind is no lesser a form of idolatry than worshipping money, sex, or drugs. The human mind is incapable of proving or disproving the existence of God because it can only record and process the information gather by one or more of the five senses. God is spirit which means He is extra-sensory or beyond the realm of the senses. God cannot be known through reason. It is believing that builds the bridge between the natural man’s mind and the heart of God. God’s Word states that the believing that builds the bridge comes from hearing God’s Word. It has stood the blows of all the critics throughout the ages and is still here to make know the heart of God for His people. Without it we would know little or nothing about God.

So spend time with your “active consideration and engagement” to delve into the literature of eternity and see what happens.

Wishing You Plenty To Live,
Tom Doiron
Atlanta
Tom,

Isaiah 1:18 “Come now, let us reason together,” says the LORD.

1 Peter 3:15 (New International Version)

15But in your hearts set apart Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have. But do this with gentleness and respect…

Romans 1:20
20For since the creation of the world God’s invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that men are without excuse.

I am not worshipping the human mind. The human mind is capable of perceiving the existence of God through the senses. Every single revelation of God to a prophet came through peoples’ five senses.

1That which was from the beginning, which we have heard, which we have seen with our eyes, which we have looked at and our hands have touched—this we proclaim concerning the Word of life. 2The life appeared; we have seen it and testify to it, and we proclaim to you the eternal life, which was with the Father and has appeared to us. 3We proclaim to you what we have seen and heard, so that you also may have fellowship with us. And our fellowship is with the Father and with his Son, Jesus Christ.

It seems to me that you are deriding something which you resent or perhaps to not relate to. Nowhere in scripture do I see any place where we are encouraged to throw our brains away or believe God on blind faith. Consider how Jesus reasoned with the teachers in the Temple even when he was 12. It makes no sense to speak of hearing without also speaking of the mind and its understanding of what it hears. Note in the passage I quoted to you about Nebuchadnezzar, God restored his mind and he returned to God.

8. July 29
Patrick @ 10:29 pm

Perry,

I’ve heard this argument before, although you stated it with more thoroughness.

We can agree that a mathematical explanation relies on fundamental assumptions, and proving each of these requires more math, and another set of assumptions.

The flaw in this argument is that the assumptions get smaller with each iteration, not bigger. Eventually we need to stipulate basic things like “I am alive – I’m not just imagining it.” or “The things I perceive with my eyes are real.”

Eventually we get to an assumption which is sufficiently small that we can all nod and say “I can live with that. This concept has been proven to my satisfaction.”

If we want name that uncertainty we feel, God, then I can live with that too.

What I can’t live with is when we assign, to that uncertainty, all manner of unproven and assumed traits, like a benevolent, watchful, caring Father Figure in the Sky who has a purpose for our lives we are intended to divine.

What I can’t live with is when we get handed a book full of mis-translated, second hand accounts about a man who claimed to be God’s son personified – who was happy to prove himself then, but is not willing to provide proof of himself now – and then we’re guilt-tripped into shaping our lives around it.

You and I have debated on this before, and you pointed out to me that religion’s purpose is to teach a moral code (I’ve always appreciated that observation, by the way).

Don’t you suppose there is an easier, better way to spread morality – and to provide the fundamental assumptions required for the rest of the world to exist – without relying on those contrivances?

I wonder if religion would be met with so much opposition from those who aren’t looking for something to believe in (ie. the atheist, the agnostics, and the materialists) if it endeavored ONLY to teach morality and explain the world, without restricting and trying to redirect our lives.

– Patrick

Permalink Reply
Patrick,

The logic that I used will get you to deism.

If you want to go further than that then you’re in the realm of theology. I think you’re misrepresenting the New Testament with your description of “second hand accounts” etc. A good starting point for this would be Anne Rice’s essay at http://www.coffeehousetheology.com/anne-rice-atheist-christ/

Proof of Jesus now – see http://www.coffeehousetheology.com/miracles/ – a recount of my own personal experiences and scientifically documented miracles that I’ve accumulated over the last few years.

You cannot teach morality without attempting to restrict or redirect peoples’ behavior. It’s inherent to the very idea of morality. That human behavior has certain obligations and that other people have the right to enforce those obligations. All laws do that. Even atheists who don’t want religion taught in classrooms are doing that.

I understand that atheists, agnostics and materialists are frustrated by religion and I understand their many legitimate objections. But morality always has to have some source of authority. I think that if you look at the world through a wide lens you will see that the atheist version of morality has largely failed. Is it merely a coincidence that the three worst tyrants of the 20th century (Lenin, Stalin and Mao) were all rabid atheists? Is it merely a coincidence that atheist governments killed more people in the last 100 years than all religious wars in all centuries combined?

Years ago I had an atheist friend Mark Vuletic (you can Google him), he said to me that the most perplexing problem with atheism is it has no basis for asserting any kind of absolute morality. Most atheists generally assume that the operating principle of the world is Natural Selection. And that’s about as amoral of a system as one can conceive of.

Permalink Reply

9. July 30
Viktor Kurakin @ 3:15 am

It’s a common mistake to apply Godel’s theorem to natural sciences. The theorem states, that a theory cannot be proved without accepting an unprovable axiom. In natural sciences a theory is derived by analyzing previously acquired evidence and is only considered valid for as long as it can accurately describe and predict new knowledge.

For example, for thousands of years geocentric theory of astronomy was considered perfectly valid, because it allowed to accurately predict the movement of visible planets and stars. When better optical devices were made, the geocentric theory became invalid because of new evidence suggesting that the visible universe was actually heliocentric.

There is no place for logical “proof” in natural science, because natural science is based on knowledge that was previously proved by reproducible experiments or observations. Mathematical theorems used in natural sciences are only formal descriptions of previously gained scientific knowledge.

We could say that mathematics is a “language” of science, a way to describe and extrapolate knowledge.

In a few words: Godel’s theorem is not applicable in natural sciences, and using it to prove the existence of God is the same as saying that God exists because there is a word “God”.

Permalink Reply

Perry @ 1:01 pm

Viktor,

Your statement is tantamount to saying “it is a common mistake to apply mathematics to natural sciences.” Is that a statement you’re willing to stand by?

The relationship between math and science runs both directions and both directions are valid. Mathematics makes true statements about science and vise-versa. You can derive an algebra or calculus equation for a falling object and in doing so you invoke both deductive and inductive reasoning, both mathematical proof and scientific inference.

Gödel’s theorem is a proof. My extension of it is not a proof, it is an inference based on the unprovable axiom that the universe is logical and mathematical. Mathematics is
more than a descriptive language, it is a predictive model.

In a few words: Gödel’s theorem is just as applicable to
natural science as any other mathematical proof ie those of
Euclidean geometry. I have used it to infer the existence of
God. If the universe is consistent it is incomplete, ie it is
contingent on something outside of itself.

Permalink Reply

July 30

Viktor Kurakin @ 3:25 pm

Perry,

As it happens quite commonly in religious debates,
you have distorted what I’ve said. I’ll say this again in
other words: mathematics doesn’t influence real
world. It is only a way to describe knowledge.
Mathematical model doesn’t affect the system it
describes: consistency of a mathematical theory
doesn’t make all the aspects of described system true.
If some data in that theory is wrong, then the whole
theory is useless.
Again, until there was a way to gather enough
evidence to contradict geocentric universe theory, all
the mathematical models describing it were correct.
Atoms were considered indivisible, alchemy was
considered scientifically possible – all these fallacies
were supported by consistent logical theories.
I’ll say this again: I am not saying that it is a mistake
to apply mathematics (or any other formal science) to
natural sciences. I am just saying that you can’t
PROVE reality of something by applying
mathematical theories. Please note, that I am talking
about natural sciences, where scientific method is
used.

Anyway, I don’t think that this is a productive
argument. I wrote my comment not to disprove the
existence of God, as it is impossible to both prove or
disprove His existence. I wholeheartedly believe that
everyone is entitled to an opinion and mine is that
Gödel’s theorem is not a valid proof of God’s
existence. If you are willing to argue that it is, I
always enjoy debating with a clever and educated
opponent.

Permalink Reply

July 30
Viktor,

You are distorting what I am saying. I did not say that mathematical models influence reality. I said that they describe reality.

And I didn’t say that I proved God existed. I said that if we accept the proposition that the universe is logical then according to the incompleteness theorem, we also must accept that the universe is incomplete.

Viktor Kurakin @ 3:19 am

Perry,

That’s right, you didn’t say that you proved the existence of God. In your post you said that belief in God is necessary from scientific standpoint. You also said that you “have used [Gödel’s theorem] to infer the existence of God”. The whole point of my comments was to point out that mathematical models only describe reality. They may be incorrect, if initial assumptions are wrong. If you infer something from a mathematical model it does not mean that your inference is correct until it’s proved.

But I think we are arguing about different kinds of mathematics. If we lived in a world of pure mathematics, then Gödel’s theorem would certainly require the belief in God. In the real world it doesn’t. To quote Einstein: “as far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality.”
I would like to know the precise context of Einstein’s quote. What I do know is that Einstein is famous precisely because he produced mathematical models that corresponded to reality better than the previous ones did. And the position I am taking is that the more advanced our math and science, the more exactly they will both correspond to reality.

Permalink

10. July 30

HI Perry,
I love to let God’s Word speak for itself. In my previous comments I was lazy and paraphrased the scriptures. Here I will quote them

1 Corinthians 2:12 Now we have received, not the spirit of the world, but the spirit which is of God; that we might know the things that are freely given to us of God.

1 Corinthians 2:13 Which things also we speak, not in the words which man’s wisdom teacheth, but which the Holy Ghost teacheth; comparing spiritual things with spiritual.

1 Corinthians 2:14 But the natural man receiveth not the things of the Spirit of God: for they are foolishness unto him: neither can he know them, because they are spiritually discerned.

Romans 10:17 So then faith cometh by hearing, and hearing by the word of God.

I never suggested we “throw our brains away and believe God on blind faith”. We need our brains to study His word because from the Word of God comes the believing that bridges the gap between the natural man and the believer.

2 Timothy 3:16 All scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness:

2 Peter 1:21 For the prophecy came not in old time by the will of man: but holy men of God spake as they were moved by the Holy Ghost.
Luke 1:15 For he shall be great in the sight of the Lord, and shall drink neither wine nor strong drink; and he shall be filled with the Holy Ghost, even from his mother’s womb. (speaking of John The Baptist and his mother, Elisabeth)  
Luke 3:21 Now when all the people were baptized, it came to pass, that Jesus also being baptized, and praying, the heaven was opened,  

Luke 3:22 And the Holy Ghost descended in a bodily shape like a dove upon him, and a voice came from heaven, which said, that ye heard the word of truth, the gospel of your Thou art my beloved Son; in thee I am well pleased.  
Ephesians 1:13 In whom ye also trusted, after that ye heard the word of truth, the gospel of your salvation: in whom also after that ye believed, ye were sealed with that holy Spirit of promise  
Ephesians 3:16 That he would grant you, according to the riches of his glory, to be strengthened with might by his Spirit in the inner man;  
Colossians 1:27 To whom God would make known what is the riches of the glory of this mystery among the Gentiles; which is Christ in you, the hope of glory:  

God’s Word has a number of different writers, but only one author. God can manifest Himself in the senses world as He sees fit. His Word is as much a part of Him as anything, but there are records of voices, visions, messenger angels, etc. Otherwise we must have His spirit for Him to communicate with us.  
God can speak to His spirit which He put upon the Old Testament saints, even Jesus Christ. Since the day of Pentecost which was the birthday of The Church of God, His spirit is within the believers.  

Perry, I am thankful you are bold enough to talk about God in your blog. The truth has never been popular and probably never will be. I mean to offer no derision or resentment. I do not defend the truth, but I am called to be an ambassador for Christ. It is the love of God that leads a man to repentance and I will concede that logic and reason at times can help. However, I do get bothered at times when people act like the Ford was smarter than Henry.  
Wishing You Plenty To Live,  
Tom Doiron  
Atlanta  

Permalink Reply

11. July 31

Anthony Silverthorn @ 3:57 pm

I think the existence of God can be verified by the fact that we live in an environment that recycles resources. That there is food for us to eat and air for us to breath.
There is an order and disorder to creation that is mathematically beyond our abilities to equate devised by a Being that surpasses our ability to comprehend.

Permalink Reply
12. August 10

väjeno @ 7:26 am

Nice thinking. It’s always fun to watch good minds at work.

However, if you just add another axiom to the system, it’s still either incomplete or inconsistent. You just apply Goedel to the new system including god, and nothing really changes.

Yours is basically a variation of the uncaused-cause proof. So the question is simply, why not apply the same logic to god as to everything else – what caused god?

Permalink Reply
  • August 10

Perry @ 7:41 am

The point is, sooner or later you have to stop regressing and arrive at a first cause. The first cause by definition has to be uncaused.

Permalink Reply
  • August 10

väjeno @ 10:35 am

Give a reason for having to stop the causation, please.

Permalink Reply
  • August 10

Perry @ 1:28 pm


Permalink Reply
13. August 10

Tom Doiron @ 4:27 pm
Perry & All,

Along this line, the first word in the bible is GOD. The ancient manuscript render Genesis 1:1 as “GOD created the heaven and the earth in the beginning.”

My pee brain deducts that if you are to explain something, then you must be bigger than it is in some way. I know of nothing bigger than GOD to explain what caused GOD.

Wishing You Plenty To Live,
Tom Doiron
Atlanta

Permalink Reply
14. August 23

Channing @ 1:41 pm

I agree this proves a metaphysical entity. I also agree there must be a Creator or First Cause.

But I don’t think this proves that this entity is necessarily equal to the Christian God nor that the Bible is completely correct.

Permalink Reply
○ August 24

Perry @ 3:10 pm

You are correct.

Permalink Reply
15. November 11

serp @ 12:26 pm

I believe your logic is mistaken, even before you get to the God part.

Godel’s proof shows that if we assume the basic axioms of arithmetic, there must be propositions which are true but not provable with that set of axioms. This does not tell us what the propositions are about, it only tells us that they must be true and that they are not provable.

The laws of science, because they hinge on these same axioms, require this same consequence, as you say. However it does not
follow that there are any propositions about the material reality that we can observe and interact with/ that are true but not provable from a finite set of axioms. Yes it is necessarily true that science will never exhaustively prove every true proposition. However it may be the case that all of these propositions are mathematical equations that have no particular relevance to the observable universe, and this would still satisfy Godel’s proof. The funny thing is even if you wanted to call one of those obscure equations God, you’d still be mistaken, because Godel acknowledges that new axioms can be adopted to account for hitherto unprovable facts. There is no one true fact that is and always will be “unprovable.” Rather, there will always be /some/ unprovable facts for any given set of axioms. This means we might have a different axiom-escaping God for every possible model of science.

Nonetheless, hats off for pursuing rational discourse instead of pure faith. I’m curious which one you’d choose if you ever had to.

Best Wishes

Perry @ 1:19 am

You can multiply unproven axioms endlessly if you want, but that’s contrary to the aims of mathematics. Mathematics searches for a minimal set of axioms.

What I have shown here is that if we take the existence of God as axiomatic, then in theory all else might be provable. Most importantly, we have grounds for assuming the universe is rational.

Rational discourse and faith are not an either/or. I think Gödel shows that you can pursue rational discourse to your heart’s content, but at the end of the line, you will have to take something on faith.

serp @ 12:52 pm

You ignored my first point though. The fact that science necessitates math, entails that science has the same consequences as math: that there are true but unprovable mathematical statements. Mentioning the
universe does not entail any additional incompleteness to what is entailed by math. If you don’t think that the incompleteness of math is enough to prove God, then your proof is invalid. If you do, why mention the universe?

And faith and rationality aren’t necessarily at odds. We have to take our memory and the consistency of the universe on faith to get anything done in a day, even though we have no absolute proof, but there are /some/ faiths, you must agree, that contradict rationality. What I’m asking then is what you would do if you came to suspect that your faith might be one of them.

Permalink Reply
- November 17

Perry @ 10:25 am

Great points, and questions.

Actually I think that Gödel does infer the existence of God, even in the strictly mathematical sense. But the physical universe is less abstract for most people and the connection between math and the physical world is an important one. What you said, “The fact that science necessitates math, entails that science has the same consequences as math: that there are true but unprovable mathematical statements” is a vital insight.

You are totally right, faith and rationality are not at odds and that is one of the main reasons why I wrote this. There is a very popular misconception (in some cases it’s driven to the point of prejudice) that faith and rationality are enemies.

I have considered the possibility that my faith might contradict rationality for most of my life. It’s why I pursue questions like this and invite all comers to comment. I started my site http://www.coffeeshousetheology.com about 7 years ago partly because I wanted to see if Christianity could stand up to intellectual scrutiny. I figured if I send a million visitors to my website, sooner or later somebody’s going to find the crack in the armor.
I see. Thinking more carefully about it, I want to posit to you the theory that your argument is no stronger that first-cause type theories and that the mention of Godel’s proof doesn’t really aid it.

Your argument seems to hinge on this assumption: “Facts which are true (even mathematical ones) are true for a some reason.” If this were not the case, incompleteness would be unsurprising and uninteresting. This causes, as you say, a problem of infinite regress. The thing is, that assumption was already a problem for the axioms. They need “reasons to be true” as well. Godel’s proof would only be of interest to you if you believed the following: “Some mathematical truths can be true for no additional reason, but those truths must comprise a complete and finite set.” But I doubt you, or anybody else, really believes that. People usually go one way or the other with these things.

That said, I think the first-cause argument that deals with physical events is a much stronger argument, since it also has the infinite regression problem, but deals with objects, which we can clearly observe. In mathematics, one might argue that infinite regress is a feature of the way in which imperfect humans have developed math, and that math is merely a tool, but this argument can’t be levied against material events.

To be a bit deflationary, I believe that your argument is almost entirely encompassed and surpassed by Aquinas’ arguments 600 years before Godel was born. The only addition that Godel’s proof really provides is to catch any peculiar stragglers who have said to themselves “Infinite regression of
material causes is not compelling, and mathematical facts can be true for no reason, but only if they’re axioms.”

Permalink

- November 17

Perry @ 3:06 pm

On my other page about this at http://www.perrymarshall.com/articles/religion/godels-incompleteness-theorem/ in the comments, I point out that my conclusions about God are remarkably similar to Aquinas’ Via Negativa. The thing that incompleteness adds to the first-cause approach is the fact that the entity that caused the universe and the laws of mathematics must by definition be infinite, immaterial and indivisible.

Information theory and the existence of codes further provide 100% inference that the source of the universe is conscious.

If I ask an atheist “What is the reason that mathematical and physical facts are true” and press for answers I eventually arrive at “they’re true just because.” It’s not unusual for them to say “we’re here so why does it even matter?” Everything hangs in mid-air.

Science was birthed in a belief that God ordered the universe to obey fixed, discoverable laws; that the universe is upheld by God’s command that it should be so. The assumption that it does obey fixed, discoverable laws is perhaps the most successful axiom in history. I propose to you that an assumption of a single indivisible infinite being allows you the smallest number of unprovable assumptions in math and physics.
(There’s a comment in the queue about this and it’s going to take me some time to get to it.) If we adopt the Judeo-Christian conception of the universe, which Solomon summarized this way – “Thou hast ordered everything by weight and number and measure” then even induction has a firm foundation.

If however, the atheists are right and the universe is a closed system with no transcendent cause, then the universe is necessarily irrational. Which makes sense. Is not the atheist metanarrative essentially “the universe is way too irrational and disappointing for me to believe that it is ordered by some kind of benevolent deity.”

You can be an atheist or you can embrace rationality but you cannot do both.

16. November 11

Teapot @ 3:11 pm

Firstly, this is not what Godel’s incompleteness theorems are about (you are extrapolating from descriptions of arithmetic to descriptions of the universe- a formally invalid inference), but lets focus on something that you’ve said:

“If the universe is incomplete, then it depends on something on the outside.”

This does not follow from Godel’s incompleteness theorem and I doubt that you would be able to derive this conclusion from any undeniable first premises. You must show that there is some entailment between incompleteness and contingency. Think about it this way: if God were complete before he made the universe, then he needn’t have created the universe. But he did. Does it follow from this that God depends on something outside of himself for his existence?
You don’t seem to have read my formal statement. It is as follows:

Gödel’s theorem says: “Any effectively generated theory capable of expressing elementary arithmetic cannot be both consistent and complete. In particular, for any consistent, effectively generated formal theory that proves certain basic arithmetic truths, there is an arithmetical statement that is true, but not provable in the theory.”

The Church-Turing thesis says that a physical system can express elementary arithmetic just as a human can, and that the arithmetic of a Turing Machine (computer) is not provable within the system and is likewise subject to incompleteness.

Any physical system subjected to measurement is capable of expressing elementary arithmetic. (In other words, children can do math by counting their fingers, water flowing into a bucket does integration, and physical systems always give the right answer.)

Therefore the universe is capable of expressing elementary arithmetic and like both mathematics itself and a Turing machine, is incomplete.

Syllogism:

1. All non-trivial computational systems are incomplete
2. The universe is a non-trivial computational system
3. Therefore the universe is incomplete

Let’s examine your last question in light of Godel. Does the completeness of system A exclude the possibility of system B existing – given that system B is contingent on system A?

I must further contest your comment that “belief that the universe is mathematical is the #1 assumption of modern science. Toss out that assumption and the whole philosophical framework of western civilization crumbles.” That is not the case. Rather, much
of modern empiricism uses mathematics to describe the universe. But to say that science operates as though entities in the world are ontologically identical to numbers and formula (ie, that they “are mathematical”) is an absurd equivocation that surely you yourself cannot believe to be true about how science operates.

Since this equivocation is the point on which your argument pivots, I assume you will be returning to the drawing board post haste.

Permalink Reply

- November 14

Perry @ 1:24 am

Please point out where said that entities in the world are ontologically identical to numbers and formula.

Permalink Reply

18. November 12

Jason @ 2:29 am

Exactly.

You have to first come to a conclusion that there is a God. Now you are in the realm where a God must exist. There are several religions that believe in God. It is up to you pick the right “door” i.e. religion. I would advise to be unbiased in your choice, but to try christianity even though it is publicly unpopular by the non-believers of a God. It must have to do with people who think that their duty is to save as many people as possible and when they confront non-believers they get annoyed thus with time we would be classified as “annoying” people.

It seems to me that there are Christians that say they believe and just because they say they believe doesn’t mean they are instantly granted access into heaven. God reveals himself to you if you are worthy.

Thus you “wake up”

I actually went to a psych ward because of this event and the non-believers tell me I am mentally insane while the believers praise that what they believe in means they are saved. I do not think God has it that easy. He will choose you somehow and you will know it.

I have a very long and deep history with God. I called him my best friend when I was a child. Sold my soul to the devil when I
was a child due to a very sad event in my life. Had a mental breakdown at age 20 after I followed down the wrong path. And here I am now confused about what God wants me to do. Tell my story and events with him to the world in hopes of saving others or be silent and wait for the world to end.

I am now trying to read the bible and decipher it. Much like Issac Newton I think God gave me a key to decipher the bible.

Anyways, Good luck in being chosen. It's really really weird when you do.

Best,

Jason

Ellas Typhon @ 3:47 am

Those christians… forever afraid of that dreaded infinite regress, that keeps hitting them on the back of the head nonetheless.

In no simulation are you guaranteed that that spoon is actually real. It might just be, but you will never know. God just adds another layer of spoonliness. If that helps you cope, you’re welcome – that doesn’t mean that you couldn’t go further. The axiom is always arbitrary.

It is all about the courage to start from an arbitrary point, and admit to it, that’s all.

Perry @ 7:56 am

I don’t avoid infinite regress because I’m a Christian, or because finite regress helps me cope. Almost ALL philosophers reject infinite regress because it becomes impossible to nail down anything. Any unanswered question just gets pushed back, back, back. You say you’re going further but I don’t see how you’re getting anywhere.

And I, for one, make the choice to assume that the spoon is real.

What are you hoping to avoid by pushing things further
back in time or further out in space or logic?

Permalink Reply
- November 18

Ellas Typhon @ 3:02 pm

That’s right. They think it’s more comfy to start at an arbitrary point. In fact, it’s the only way, because that’s how human thinking operates. But that doesn’t make the point you choose to start any less arbitrary.

It’s a choice, plain and simple. Wherever you start, there is always yet another onionesque layer behind it. You just gather all your strength and say, okay, here I start my thinking, and what lies behind it, I leave up to others.

Admitting to the arbitrariness is called courage. Can you guess what denying it means?

Ultimately, it’s just honesty to admit that we really don’t know. We cannot nail down anything, and that’s perfectly fine. We just have to deal with it, that’s all.

Permalink Reply

20. March 13

Roscoe @ 12:54 pm

Atheism is not equivalent to materialism, as the author implies but does not claim. Those things external to the material universe on which it depends may be something like a multi-verse, or simply that there is a limit to mathematical description of the universe, and that limit is the big bang.

Additionally, if one believed that the universe was based on some reality external to the universe, the unless and until we are able to investigate and test it, logical positivism dictates that any guess as to the nature of that reality would be invalid.

The fact that some logical positivists expected some unified theory and that they were wrong, does not make logical positivism wrong or worthless. It’s a great way to measure the validity of claims.

Religious faith is rarely based on logic. Apologetics is the field of using logic to justify faith, a faith that exists before logic is applied. For many, faith comes first and logic second. This is alright, but
people should be ware that placing faith in anything without FIRST evaluating that thing carefully is very dangerous.

Permalink Reply

21. May 29

Ben @ 9:14 pm

Your argument sounds reasonable. However, it is internally flawed because once you introduce a deity that can somehow know all (omniscient as per your definition/belief), the theorem then must be applied to this God as well. If you leave God out of the bounds of Godel’s theorem, then you do not accept the theorem. According to Godel’s Incompleteness Theorem, God can never fully comprehend himself, thus rendering the idea of an omnipotent, omniscient being scientifically impossible.

Essentially, there are only a few options. 1, that the universe contains everything (is infinite), in which case this argument is debatable at best; 2, that the universe is entirely finite, in which case what is it expanding into, what is outside of it and why does it not have bounds? All are important questions with multiple hypotheses. The problem you face there, is that no matter what is outside the universe, there is no reason Godel’s theorem would not apply. Infinity is a concept, but even if “God” is infinite, he cannot understand himself as things cannot explain themselves or their existence (as per Godel).

So either the God that is outside of the universe is not omniscient (and by implication omnipotent), or the God is not outside the universe at all, or there is something outside of God (other universes, multiverse theory etc). In any case, the argument you’re putting forth doesn’t really accomplish much. It IS an interesting logical experiment, though.

Of course, you did kind of gloss over the fact that mathematicians believed (some still do) for bulk of time since Godel proved his theorems that they were useless logical tricks and not mathematical ones at all. Only in 1977 did mathematicians even find a single “interesting” statement inexplicable in PA which brings the grand total up to two, I believe.

Many mathematicians still feel the theorems are useless in that they only raise questions in terms of themselves (the questions would never arise naturally as most important mathematical questions do and as in pure math).

Permalink Reply

May 30
God cannot comprehend Himself if God is complex. God can comprehend Himself if God is simple and indivisible.

Christian theology teaches that God exists in three expressions: Father (essence), Son (expression = word), Holy Spirit (understanding). Hebrews 1:3, speaking of Jesus: “And He is the radiance of His glory and the exact representation of His nature.” If you examine the logic of what you just said, it becomes evident why self-understanding and self-expression are necessary for God to be logical.

Christian theology also understands that there is no division or contradiction between these three expressions of God. God is community. This is why God IS love. Love is intrinsic to God, and not just something God is capable of.

Love can only exist when there is a plurality. Unity can only exist when there is agreement. The trinity is a complete unity within plurality of expression.

If God is love and love is perfect agreement between a plurality of expressions, then a perfect love is consistent with total self understanding.

You are right, no matter what is outside the universe, there is no reason Godel’s theorem would not apply.

Your statement “either the God that is outside of the universe is not omniscient (and by implication omnipotent)” is a non-sequitur, based on what I just said above. God is infinite and indivisible and therefore omniscient.

Permalink Reply

22. June 18

A fundamental flaw in your argument, which is insurmountable as far as I can see, is that Godel’s incompleteness theorems only apply to what are known as ‘computably enumerable’ axiom systems i.e. those systems whose axioms can in principle be listed out by a computer (even if this would take an infinitely long time). This is what the phrase ‘effectively generated’ means in your statement of Godel’s theorem.

Even if we accept that the universe is an axiomatic mathematical
system, there is no reason whatsoever why the universe’s axioms should be ‘computably enumerable’. It is easy to construct extensions of Peano arithmetic (one example is called ‘true arithmetic’) whose axioms are not computably enumerable, and Godel’s incompleteness theorems simply do not apply to axiom systems like these.

Before you can apply Godel’s theorems to the universe (assuming that the universe is an axiomatic mathematical system), you first have to show that the universe’s axioms are computably enumerable. There is no reason whatsoever why they should be, and therefore there is no reason whatsoever to presume that Godel’s theorems apply to the universe.

I cannot prove that the universe is computationally enumerable, I can only point out that the entire enterprise of science and mathematics implicitly presumes that it is. See the Church-Turing Thesis above. If you wish to reject science and math instead of accepting God as axiomatic, you are free to do so.

Your statement that science and math implicitly presume computable enumerability of the universe is completely false. It is not necessary for the universe to be computably enumerable in order to do science and math. To give a simple example, the set of all real numbers is an uncountably infinite set and therefore not computably enumerable. Despite this, we use real numbers constantly in science, math and everyday life. There is no need whatsoever for the universe to be computably enumerable in order to be able to do science and math in it. Science and math do not at all presume that the universe is computably enumerable.

You also seem to have a misunderstanding of the Church-Turing Thesis. The Church-Turing Thesis is a statement about the algorithmic computability of functions (it is an unproved hypothesis that all such functions are recursive). There are non-recursive
functions (one famous one is called the Halting Problem) which are not algorithmically computable. Again, this has nothing whatsoever to do with the computable enumerability of the universe.

In order to apply Godel’s theorems to an axiomatic mathematical system you must first show that the axioms of that system are computably enumerable. As I said in my previous message and repeated above, there is absolutely no reason to think this is true for the universe (even if we accept that the universe is an axiomatic mathematical system – if you could prove that you would win the Nobel Prize in physics and you’d be more famous than Einstein). We could still do science and math perfectly well even if the axioms of the universe were not computably enumerable.

I am afraid your whole case is based on assumptions which are just as huge as the assumption “god exists”. You are essentially trying to prove one huge assumption (“god exists”) by implicitly making other huge assumptions (“the universe is an axiomatic mathematical system with computably enumerable axioms”) which are just as huge. There is no reason whatsoever why the latter should be true.

Your whole case is fundamentally flawed I’m afraid.

Permalink Reply
- June 20

Perry @ 6:30 pm

There is no infinite set of real numbers in the universe, because the universe is finite. To the best of our actual knowledge, everything in the universe is finite. To the best of our knowledge, everything in the universe is also countable, measurable, weighable, quantifiable. Science always assumes this to be true.

A possible exception to this might be consciousness, in which case consciousness has a metaphysical component. Which brings us to the age-old “mind/body problem” and the question of free will, which I think we can set aside for the moment.

Outside of that, everything in the hard sciences is quantifiable and computable.
I reiterate that science and applied mathematics do presume computable enumerability of the universe. It’s not provable, though I certainly would love the fame and fortune that would come with proving it.

If you assume that it is not enumerable then there is nowhere left for science to go.

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**Christian Salas @ 1:07 pm**

I’ll try again, being fully explicit this time, because with all due respect I think you have some confusions which prevent you from grasping what I said earlier. I will leave no room for doubt now (I hope). For Godel’s theorems to be applicable to the universe you have to assume two main things, which I will show need not be true at all:

(a). That the universe is in reality an axiomatic mathematical system i.e. that everything in the universe we perceive as being real can be deduced mathematically from a set of axioms.

There is no reason whatsoever why this should be true. In science and applied math what we are doing is using OUR OWN axiomatic mathematical systems to approximate certain features of the universe (e.g. by means of differential equations). Just because we are able to use our own axiomatic systems to do this, it does not mean that the whole universe itself must therefore be an axiomatic system! The latter does not follow logically from the former. It is a logical non sequitur.

So the first insurmountable weakness of your case is that there is no need whatsoever for the universe as a whole to be an axiomatic mathematical system. Science and math do NOT presume this. In doing science and math we are just...
using OUR OWN axiomatic systems to approximate certain aspects of the universe’s behaviour. That does not require the universe itself to be an axiomatic system.

And note again that the Church-Turing Thesis has NOTHING to do with this. All the Church-Turing thesis says is that algorithmically computable functions are recursive. There are many non-recursive functions which are not algorithmically computable. This has nothing whatsoever to do with the question of whether the universe itself is an axiomatic mathematical system. The two things are completely unrelated.

(b). Even if (a) were true (which I have just shown you need not be the case at all), you also have to assume that the axioms of the universe form a computably enumerable set in order to apply Godel’s theorems. What this means is that, in principle, a computer could list out all the universe’s axioms fully, even if this required the computer to carry on listing forever. In principle, even if it took forever, the computer could list out all the universe’s axioms. This is what it means to be computably enumerable, and this is what is required to apply Godel’s theorems.

Again, there is absolutely no need for this to be true for the axioms of the universe. There are many simple things that cannot be listed out fully by a computer even if it carried on forever e.g. the set of all real numbers. The set of all real numbers is said to be ‘uncountably infinite’ because no matter how hard you try to create a list of all real numbers, you will always find that you have missed out real numbers from the list. A computer could not do it any better than we could, even if it carried on forever trying to produce the list. The set of all real numbers is ‘un-listable’. This is what it means to be non-computably enumerable.
Now, there is no need whatsoever for the axioms of the universe to be computably enumerable. Even if we perceive everything in the universe as finite (which again is an open question in science – it is by no means certain), this does not mean that the universe’s AXIOMS have to be computably enumerable. The axioms could be an uncountably infinite set, and still give us a universe in which we perceive reality as being finite. You simply cannot assume from the perceived finiteness of the universe that the universe’s AXIOMS themselves are computably enumerable. That is again a logical non sequitur.

And again, science and math do not in any way presume that the AXIOMS of a mathematical universe are computably enumerable. All we need in order to do science and math is that the universe can be approximated by OUR OWN axiomatic systems. The fact that we can approximate certain features of the universe using our own axioms in no way implies that the axioms of the universe must themselves be computably enumerable.

In summary, there is absolutely no need whatsoever for assumptions (a) and (b) to be true. We can do science and math perfectly well without them, because all we need in order to do science and math is that OUR OWN axiomatic systems allow us to approximate some features of the universe e.g. using differential equations. The fact that we can do this in no way implies that the universe itself must satisfy the assumptions of Godel’s theorem.

I repeat again, your whole case is fundamentally flawed because you are assuming that (a) and (b) are true when there is no need for this to be the case. We do NOT need (a) and (b) to be true in order to use OUR OWN axiomatic systems in science and math to
approximate some features of the universe. You DO need (a) and (b) in order to apply Godel’s theorems to the universe however.

Permalink
- June 22

Perry @ 7:52 pm

Christian,

Thank you for the cordial debate. I see from a Google search that you have credentials in mathematics and it’s great to have this discussion with a qualified individual.

You said,

This need not be true: (a). That the universe is in reality an axiomatic mathematical system i.e. that everything in the universe we perceive as being real can be deduced mathematically from a set of axioms.

I am not saying that the universe ontologically IS an axiomatic mathematical system. I am saying that it strictly obeys mathematical laws and the laws of logic. Mathematical models of physical systems are isomorphic with those systems.

We have two mutually exclusive choices:

1. The universe does not obey mathematical laws.

2. The universe obeys mathematical laws.

If you choose (1) then the foundations of science go out the
If you choose (2) then all mathematical truths also apply to the universe. If 1+1=2 in math then 1+1 also equals 2 when you’re counting rocks. It makes no difference. Integration, multiplication, division are all the same with numbers as they are with physical objects, magnetic fields, energy, etc.

If we discover a new property of algebra tomorrow, we can be sure that it works in applied mathematics just as well as the algebra we already knew.

Syllogism:

1. All mathematical truths apply to physical systems
2. Incompleteness is a mathematical truth
3. Therefore incompleteness applies to physical systems

Statement 1 above is an axiom, it’s not provable. But it’s arguably the #1 axiom in all of science. It’s simply a statement that the universe is logical.

Now to your second statement:

(b). Even if (a) were true (which I have just shown you need not be the case at all), you also have to assume that the axioms of the universe form a computably enumerable set in order to apply Godel’s theorems.

Again we have two mutually exclusive choices:

1. The axioms of the universe are not computably enumerable
2. The axioms of the universe are computably enumerable
If you choose #1, that means the universe relies on either an infinite number of axioms, or else a set axioms which are illogical.

If the universe relies on illogical axioms then once again you’ve kicked the stool out from under science.

If the universe relies on an infinite number of axioms then that’s infinite regress. “Turtles all the way down.”

So our choices are:

1. The universe relies on an infinite set of axioms

2. The universe relies on a finite set of axioms.

#1 violates parsimony. So #2 is the only workable assumption. In mathematics you can make an infinite number of statements from a finite set of axioms but you can’t do anything with an infinite number of axioms.

The assumption that (a) the universe obeys mathematical laws and (b) it relies on a finite set of axioms is the only scenario that honors the principles of both science and math.

Perry
24. May 29

Phill @ 3:37 pm

I just lost the game.

Permalink Reply

25. May 29

Phill @ 3:41 pm

I just won the game.

Permalink Reply

26. October 29

Jamie Anderson @ 11:20 pm

Entertaining OP and thread. I’ve just started looking at the topic of Godel’s proof and read how much it has been misused. The OP is a classic example. Thank you 😊

Permalink Reply

27. September 2

Ken Koskinen @ 3:38 am

Perry, I see you still do not understand Godel’s Incompleteness Theorem. You’ve misapplied it several times in your essay. Here are the essential feature of the theorem:

In simple terms, “complete” means that all the truths of the logic system can be reached from its axioms or starting statements. Incomplete means there will always be some result that cannot be reached from its axioms. Incompleteness does NOT arise in just any logic system but only to formal systems that are:

1. finitely specified
2. large enough to include full arithmetic i.e. Peano arithmetic
3. consistent

Only if these conditions are present can it be said the system is incomplete. Smaller systems like Euclidean and non-Euclidean Geometry are complete; just as is Presburger arithmetic that does not include the multiplication, x, operation.

Godel did not apply his theorem to theology. It was a theorem in
logistics and has been misapplied many times …

You quoted: “Any effectively generated theory capable of expressing elementary arithmetic cannot be both consistent and complete …” (This is poor wording. A system that is incomplete has to be consistent. It is one of the three requirements).

If a computer uses algorithms that are large enough to use full arithmetic, are finite specified and consistent then the algorithms will be incomplete in the Godel sense (not the computer).

The universe is also not subject to Godel’s theorem as it is not a mathematical or logic system. In simple terms the universe is not math. People use math in order to understand elements within the universe and the math we use can either be complete or incomplete in the Godel sense.

You have repeatedly mixed up and misapplied concepts trying to prove god exists. You are spreading and perhaps marketing false ideas/conclusions.

Permalink Reply
.tailbox

Perry  @ 9:02 pm

The universe is finite.

The known laws of physics can be expressed with Peano arithmetic.

Any mathematical model of the universe is incomplete.

Therefore if the universe is consistent (logical) it therefore must also be incomplete.

A computer can be modeled by an algorithm or emulator and the algorithm or emulator will be incomplete. Therefore the computer is incomplete as well. This is self-evident: No computer can account for its own existence without reference to something outside of it.

The fundamental premise of science is that the universe obeys mathematical laws. You are welcome to reject that premise and reject science itself, in which case you can maintain the position that incompleteness does not apply to the universe.

The above has been discussed at length in prior blog comments.
The laws of the universe are expressed with algebra alone and/or blended with non-Euclidean geometry as per Einstein’s General Theory of Relativity. The later is a blend of complete and incomplete mathematics. However this is besides the main points.

Some theorists think the universe is finite but others think it could be infinite in some sense. In any case you are confusing Godel’s concept of incomplete with the common usage of the term. Godel’s usage only goes to MATHEMATICAL systems that have the three qualities that I showed in my first post. The universe is not math and we use both complete and incomplete MATHEMATICS to model phenomena within it.

A computer is not conscious therefore is not aware of itself nor can it appeal to anything outside itself. You are really mixed up when you misapply the Incompleteness Theorem here. The theorem is descriptive of mathematical systems that have the three qualities. You can use an algorithm that is complete in a computer, such as one that does geometry (the later is complete in the Godel sense).

Things in the universe obey natural law that we model using mathematics. Our better models are seen as useful approximations. Still the universe is not MATH! So again you are misapplying Godel in claiming the universe is “incomplete.” The universe is complete, how could it not be? Again Godel’s Incompleteness Theorem only goes to mathematical or logic systems.

God in some sense may exist but it has nothing to do with Godel’s Incompleteness Theorem. If you want to use Godel in a discussion about god’s existence then use his Ontological Proof. At least that goes to theology. Perry wake up!
The universe is not ontologically math.

But the universe is mathematical. It is logical. All science implicitly presumes this to be the case.

If this is not the case then science itself is a failure.

All the theorems in a high school geometry book are not conscious but they still appeal to axioms outside themselves, like Euclid’s 5 postulates. A computer likewise need not be conscious to rely on systems outside itself.

The computer is not self existent. The computer can only do what it does because someone or something outside of itself built and programmed it.

Your statement “The universe is complete, how could it not be?” is telling. You need to think about what you have just said here. Are you really trying to tell me the universe is self-existent? Did it give birth to itself? The matter created the big bang from which the matter came? How does that work? How is that not circular logic?

Godel says if a system is consistent, then it HAS to be incomplete. Science assumes the universe is consistent. If so, it cannot be complete.
able to list them. (If you can’t then you cannot say the system you are referring to is incomplete. However, realize this is only about the axioms and not about all of the subsequent true statements that are products of the said system.

2. the system must be large enough to include full arithmetic i.e Peano Arithmetic. This means the said system must include all the axioms and symbols including the operators used in the said arithmetic.

Geometry in all of its forms and Presburger arithmetic do not and hence are complete mathematical systems. Godel showed as part of his doctoral thesis that Presburger arithmetic is complete.

Perry take notes and delete your mistakes on your websites about geometry and the silly talk about things inside and outside of circles. It has nothing to do with the Incompleteness Theorem and it makes you look like a fool to those who know better.

3. the system must be consistent or logically follow its axioms and operators.

To make a Godel analysis the subject has to be a mathematical system and you must be able to list its axioms. It cannot be applied to the universe as a whole. Wake up Perry!

Permalink Reply

Perry @ 3:40 pm

1. The physics profession presumes that there is indeed a finite specified set of axioms and you can find them in any physics book. F=MA for example. We have not discovered all of the laws but all the known laws can be contained by a fairly small book.

2. All the laws of physics can be expressed in Peano arithmetic.

3. So far as we know, the universe is consistent.

Mathematical truths also apply to the physics. If 1+1=2 in math then 1+1 also equals 2 when you’re counting rocks. It makes no difference. Integration, multiplication, division are all the same with numbers as they are with physical objects, magnetic fields, energy, etc.

If we discover a new property of algebra tomorrow, we can be sure that it works in applied mathematics just as well as the algebra we already knew.
Syllogism:

1. All mathematical truths apply to physical systems*
2. Incompleteness is a mathematical truth
3. Therefore incompleteness applies to physical systems

*There are some mathematical truths where no application in physics is yet known. But there is nothing in physics that is currently known to violate any mathematical law.

29. September 8

Ken Koskinen @ 3:09 am

Perry

You have repeatedly been saying and/or implying that geometry is incomplete and that is wrong. You wrote: “All the theorems in a high school geometry book are not conscious but they still appeal to axioms outside themselves, like Euclid’s 5 postulates …” The problem is that geometry is complete in the Godel sense. The axioms of a mathematical system are part of the system.

Perry @ 8:32 am

The axioms of geometry are not proven. You cannot prove that a line can be extended infinitely in both directions. In real physical space, infinite distance does not even exist. The mere possibility must be hypothesized. Euclid’s postulates are taken to be self evident.

Look in particular at the 5th postulate, which because of its complexity, many hoped could be provable from something simpler.

See http://en.wikipedia.org/wiki/Euclid%27s_fifth_postulate#History

From http://www.timstakland.com/2013/06/05/how-rhetoric-shapes-science/ “Finally, in the first quarter of the nineteenth century, a Hungarian and a Russian…Bolyai and Lobachevski…established irrefutably that a proof of Euclid’s fifth postulate is impossible.”
Perry that’s not the Godel issue of incompleteness. It requires that a formal system must be:(1) the axioms are finitely specified and this means list-able,(2) is large enough to include full arithmetic (3) the system is consistent.

Geometry does not meet condition (2)and therefore it is complete in the Godel sense.

The ultimate provability of the parallel line axiom is a separate issue. This means any attacks on it were not Godel’s issue. In any case people can show that the parallel line postulate does hold in any test that has been done. It is a given in astrophysics that it does hold true in a flat universe.


Again, you and others are are mixing up issues. You cannot use Godel in the same breath. I have tried to get you to see that … I hope this time it pierces your biases.

Euclidean Geometry is not a formal system (as discussed at http://math.stackexchange.com/questions/90393/why-euclidean-geometry-cannot-be-proved-incomplete-by-godels-incompleteness-the) in the Godel sense, so you are right.

In keeping with the point of my article, though, Euclidean geometry still rests on unprovable axioms; quite obviously so.

Perry
Schopenhauer argued the parallel line postulate is evident by perception even though it was not a logical consequence of the other Euclidean axioms. Forms of non-Euclidean geometry do not contain or use the postulate and are complete in the Godel sense and are not subject to the parallel line criticism. Forms of arithmetic that do not contain all the axioms and operators of Peano Arithmetic are also complete. The bottom line is all of mathematics is NOT incomplete like you claim in your articles.

Complete forms of mathematics as well as incomplete ones can and are being used to understand elements in the universe. Your syllogisms that treat the universe as a mathematical system are incorrect. Humans create or discover mathematical systems and use them to calculate and understand elements in the universe. However the universe isn’t math.

While we are speaking about proofs, no one has proven the universe is finite either. Yet you do not have any problem in claiming it is so.

In any case I am glad you are starting to understand the Godel’s Incompleteness Theorem and how it is distinct from the criticism of the Euclidean parallel line postulate. Unfortunately your articles imply that everything you suggest in your logic chains and your conclusions stem from Godel’s Incompleteness Theorem. It is not so.

Permalink Reply
  ○ September 10

   Perry  @ 8:44 am

 Ken,

Every logical system above a certain degree of sophistication is incomplete. Even some systems that do not qualify as formal systems in the Godel sense still rest on axioms you cannot prove but have to assume, which is my thesis.

You are free to reject the notion that the universe performs computation. But in doing so you are rejecting the most fundamental premise of science. If on the other hand we accept that the universe when subjected to measurement adds, subtracts, multiplies, divides, integrates etc. then it is necessarily incomplete.

If you insist that all kinds of algebraic logic and logical operations apply to the universe but also insist incompleteness is somehow an exception, you will have to
I am FAR from the first person to point this out, by the way. Stephen Hawking for example – 

**Permalink** Reply

32. September 10

![Manu „??“](https://www.perrymarshall.com/10043/godels-incompleteness-theorem-the-universe-mathematics-and-god/) @ 10:20 am

::: it’s done.

“God” is proven. 😊

>> Formalization, Mechanization and Automation of Gödel’s Proof of God’s Existence

Christoph Benzmüller, Bruno Woltzenlogel Paleo
(Submitted on 21 Aug 2013 (v1), last revised 25 Aug 2013 (this version, v3))

Gödel’s ontological proof has been analysed for the first-time with an unprecedent degree of detail and formality with the help of higher-order theorem provers. The following has been done (and in this order): A detailed natural deduction proof. A formalization of the axioms, definitions and theorems in the TPTP THF syntax. Automatic verification of the consistency of the axioms and definitions with Nitpick. Automatic demonstration of the theorems with the provers LEO-II and Satallax. A step-by-step formalization using the Coq proof assistant. A formalization using the Isabelle proof assistant, where the theorems (and some additional lemmata) have been automated with Sledgehammer and Metis. <<


**Permalink** Reply

- September 10

![Perry](https://www.perrymarshall.com/10043/godels-incompleteness-theorem-the-universe-mathematics-and-god/) @ 11:00 am

Excellent!

**Permalink** Reply

33. September 10
Ken Koskinen @ 3:23 pm

Perry you and others are assuming what humans do directly compares with what elements of the universe does. Firstly we do not have any formalism of the collective i.e. uni-verse.

Secondly all we can do is to tackle some select elements within the universe with our mathematical models. We can get good approximations in process and this is what keeps scientific inquiry alive. And so NO … I do not reject science. I understand it!

One mistake you and others make, is to confuse what we do in science with ALL of the universe. That is the unwarranted giant step that you and some others make. This is part of the reasons why your syllogisms that go to the universe are nonsense. Not to again mention your misuse of Godel’s Incompleteness Theorem as the false starting point in some of your essays!

You ignore and do not comment on the specifics of these criticisms and simply go on to cite some more nonsense. However this is common game playing on internet discussions. I get that. My guess is that you will probably not edit your internet presentations, even though, by now, you know you should.

To fool others is common but it takes a little more to fool oneself. When this is done it makes fooling others easier as it makes you look … well fill in the blanks … !

Reply

September 10

Perry @ 4:00 pm

Are you suggesting that “human mathematics” is some kind of subjective phenomenon that has no independent objective reality?

Are you assuming that the mathematical operations which humans do cannot be compared to machines? I refer you to the Church-Turing thesis.

You are free to assume that science and math only apply to certain parts of the universe. In that case you are postulating that the universe is inconsistent. In which case it can be complete as you claim.

If that is your position, don’t tell me you are still practicing science, because science has no framework for modeling behavior that defies logic and violates mathematical laws.
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Gödel's Incompleteness Theorem

most popular in the world.
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10/11/13

Godel's Incompleteness Theorem

What People Are Saying...

"Perry's techniques generate hot, responsive leads, build opt-in lists, and drive laser-targeted traffic to your website. His method beats the pants off other pay-per-click search engines by as much as three to one - on a consistent and predictable basis."
"One of the Absolute Best Investments I've Ever Made"

"I was getting about 2830 clicks per month with Google AdWords at $1.06 per click. I've spent about 8 hours total reading your stuff and implementing it.

Based on the results of my last few days I am on track to get 7815 clicks in the next month and spend the same $3,000 a month. A savings of $23,400 per year, or $2925 per hour for the 8 hours I have invested.

OK, I did have to buy the kit, but this is without doubt one of the absolute best investments I've ever made and I haven't even started!

And yes, I have done most of this while sitting at home in my underwear."

Keith Lee
TMS
Kent, WA