

Tarski Undefinability Theorem Terse Refutation

Both Tarski and Gödel “prove” that provability can diverge from Truth. When we boil their claim down to its simplest possible essence it is really claiming that valid inference from true premises might not always derive a true consequence. This is obviously impossible.

Formalizing this simple English:

A connected set of known truths necessarily always derives truth.

We derive the sound deductive inference model with:

[a connected sequence of valid deductions from true premises to a true conclusion]

This equivalent end result is achieved in symbolic logic:

[a connected sequence of valid inference from axioms to a true consequence]

When Axioms are construed as expressions of language having the semantic property of Boolean true.

This last part connects the semantic notion of Boolean values to the syntax of formal expressions. Rudolf Carnap proposed this same idea in his (1952) Meaning Postulates.

Now we have: [Deductively Sound Formal Proofs] -- $\text{True}(x) \leftrightarrow (\vdash x)$

True Premises Necessarily derive a True Consequence: $\Box(\text{True}(P) \vdash \text{True}(C))$

Defining a specification of the notion of formal systems having a universal truth predicate without undecidability, incompleteness or inconsistency.