Minimal Type Theory (MTT)

Minimal Type Theory (MTT) is based on type theory in that it is agnostic about Predicate Logic level and expressly disallows the evaluation of incompatible types. It is called Minimal because it has the fewest possible number of fundamental types, and has all of its syntax expressed entirely as the connections in a directed acyclic graph.

Minimal Type Theory (MTT) represents finite order Predicate Logic in a directed acyclic graph having only two basic types (units of sub-atomic semantic compositionality):
(1) Relation nodes
(2) Non-Relation nodes

Relation nodes represent the Relations (of some finite order) of Predicate Logic.
Directed paths from these Relation nodes link Relations to their arguments.
Non-Relation nodes have no outward directed paths.

When-so-ever an expression requires the insertion of a cycle in its otherwise acyclic graph this expression has pathological self-reference. Pathological self-reference causes the evaluation of an expression to form an infinite loop.

Seven is greater than five. "Greater-Than(Seven, Five)"
(1) Greater-Than --->(2)(3) // binary tree
(2) Seven
(3) Five

This sentence is not true. x = "hasProperty(~True(x))"
(1) hasProperty --->(2) // x is an alias for this node
(2) Not --->(3)
(3) True --->(1) // cycle indicates evaluation infinite loop

G = "~(∃x) | (x ⊢ G)" // Gödel’s first Incompleteness Theorem
(1) Negation ---> (2) // G is an alias for this node
(2) Exists ---> (3)(4)
(3) x
(4) Such-That ---> (5)
(5) Syntactic-Logical-Consequence ---> (3)(1) // cycle indicates evaluation infinite loop

// Defining Tarski’s (1933) Formal correctness of True: ∀x True(x) ↔ φ(x)
For-All x in finite strings True(x) if and only if x is a syntactic consequence within some formal system L of a set Γ of formulas if there is a formal proof in L of x from the set Γ.

∀x ∈ finite strings, ∃True ∈ L, ∃Γ ∈ L | True(x) ↔ (Γ ⊢ x)

Kurt Gödel (1944) // **This quote was the inspiration for my Minimal Theory of Types**
By the theory of simple types I mean the doctrine which says that the objects of thought are divided into types, namely: individuals, properties of individuals, relations between individuals, properties of such relations, etc. , and that sentences of the form: " a has the property φ ", " b bears the relation R to c ", etc. are meaningless, if a, b, c, R, φ are not of types fitting together.