



Truth™

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“Science is not a substitute for common sense but an extension of it”¹

- The essence of intelligence is reasoning, thinking through facts and drawing valid conclusions
- We all reason. We all say, “that’s illogical,” but we say it for the relatively simple situations. When a problem is too complex, we break it down into simple components.
- Complex ideas, solutions, discoveries require the power of formal logic to prevent errors, excess consumption of resources, and prolonged timeframes.
- But even relatively simple arguments and conclusions can be ultimately illogical. The transition from common sense to complexity is a slippery slope.
- Tools for using formal logic have existed for decades but they are tools in the form of programming languages; these were the cornerstone of Artificial Intelligence.
- Excel and other spreadsheets are not programming languages. They are computational productivity environments that can be used fairly easily, notwithstanding that spreadsheets can become complicated
- Truth™ is a logical productivity environment, it’s personal Artificial Intelligence, pAI

¹ Willard Van Orman Quine

We reason with language, which is like an iceberg. We see only the tip of that iceberg when we reason with only ordinary language.



Structured, rigorous reasoning is done using technical or professional language. Very complex reasoning is difficult with ordinary language or even technical language. Just like math, it requires symbols and formulas

**Ordinary
Language**

**Common, everyday
Reasoning**

**Rigorous
Structured
Reasoning**

**Professional/
Technical Language**

Complex Reasoning

**Symbolic Language,
Formulas**

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Complex reasoning needs automated help. Ordinary language is not precise enough and too time consuming.

- Complex problems require complex reasoning.
 - Especially where conditionals are intricate and difficult to follow.
 - IF – THEN language
- Complex reasoning is compromised, and the rough justice of simplification does violence to optimum solutions.
- Solutions on a large scale mean the cost of compromises can be steep and time to solution extended.
- Truth™, pAI, provides the muscle and precision in making decisions about the best solution by checking the logic of reaching the decision or problem solution.
- Truth™ automates the reasoning process in the same way Excel, spreadsheet software, automates the calculations that would be error prone, tedious and time consuming if done manually
- If it's too complicated we elect to not perform the task, preferring to use a simpler but less effective approach. This could mean the loss of profit, competitive advantage, a scientific breakthrough, or human life.

Artificial Intelligence (AI) is for machines; Personal AI, ρ AI, is for people

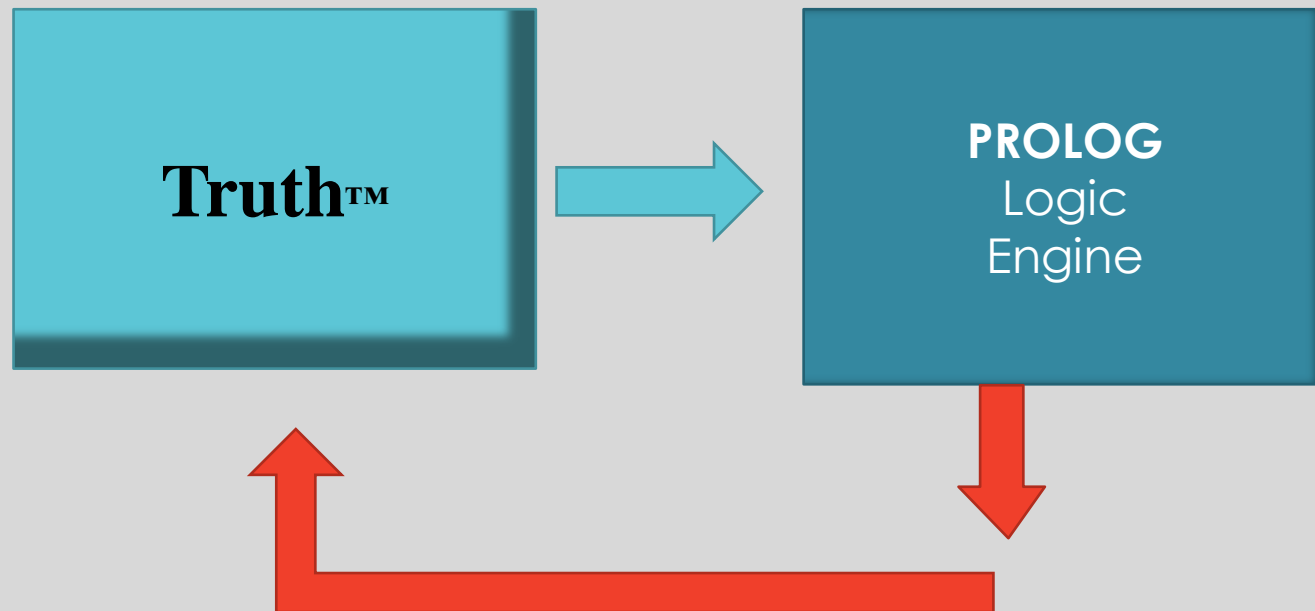
- Artificial Intelligence (AI) is the complex programming of machines to simulate human interactions and complex outcomes
- AI is not a tool for people, the real problem solvers, the real reason that machines exist.
- ρ AI is AI for people, like spreadsheet software is for people; it's a tool that can amplify human intelligence in a vast array of applications.
- Spreadsheet software helps automate the tedious compilation and calculation of numbers. It can apply to a vast array of applications.
- ρ AI helps automate the tedious validation of assertions, arguments, scenarios, and factual relationships
- ρ AI is used by the individual person to manage reasoning, the essence of intelligence, *human* intelligence
- “Quantity has its own Quality;” being able to calculate a large set of statistics in a split second qualitatively improves the process of solving a problem.

Truth™ is Personal Artificial Intelligence, pAI

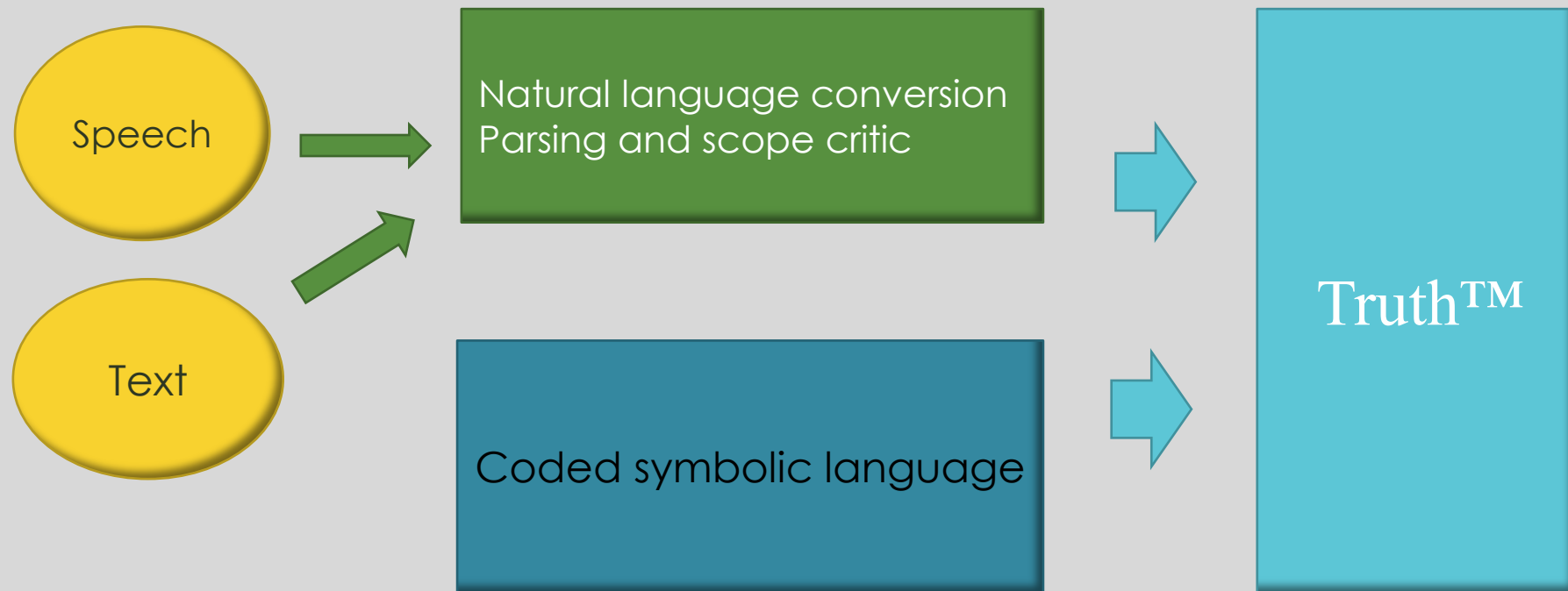
- Truth™ is a pAI tool that, like a spreadsheet, can determine if reasoning is valid.
- Human language is used formally and informally.
- Professions typically create very specific terms with very specific meanings so that communication between practitioners can be accurate and universally understood.
- Scientists and mathematicians developed a way to calculate the validity and the truth or falsity of statements
- Language relies on conditionals, typically the use of the words “IF” and “THEN”
- This transcends industries and applies to all aspects of human endeavour.

Truth™ is ρ AI

- Truth™ leverages established logic technology



Truth™ is the intelligent interface to automated reasoning



Facts are the foundation of valid reasoning; logic is the mechanism that allows you to draw conclusions from facts.

- Facts should be standardized, rated, and transparent; they aren't
- Even simple facts can be subject to debate and controversy
- Each problem exists within a Universe of Discourse
 - Facts
 - Local
 - Global
 - Rules
 - Entities
- There can be many Universes of Discourse. The facts and rules of one Universe of Discourse may not be the same in another Universe of Discourse.
- Rules can be approximately true. This is sometimes referred to as Fuzzy. For example,
 - All crows are black is approximately true within a Universe of Discourse even if there is one (1) white crow

Specific sets of facts form a Fact Place.

- Facts are collected and agreed as "TRUE."
 - Non negotiable facts
 - Negotiated facts
 - Certified facts
 - Fuzzy facts
- A Fact Place can be used by any community with a Universe of Discourse ("UD")

Truth™ can also discover facts in a Universe of Discourse

- People can easily draw simple conclusions from facts.
- Conclusions often constitute a new set of facts which we didn't realize.
- Data base management systems call specific logical relationships among entities "rules."
- Rules govern a specific set(s) of data describing entities
- Rules are often stated as generalities. For example, "All Men are Mortal." If I know Socrates is a man, then, because of the rule, I now learn that Socrates is mortal.
- Rules can be changed by observations. If I say, "All Virginians are patriotic," and I learn that Alice is NOT patriotic, I have learned that the rule should be changed to "Some Virginians are patriotic," or "Not All Virginians are patriotic." "All crows are black," can be upset by seeing that there is one white crow.
- Reasoning can become very complex very rapidly, for example in the law, where rules are stated in professional/technical legal language. Lawyers, hopefully, get good at dealing with more structured reasoning based on specific rules, in many cases, laws. The laws of science are similar rules.
- But just like we need Excel, spreadsheet software, to handle more complicated calculations, we need pAI to help with complicated/complex reasoning.