The Logic of Language
The discovery of natural intelligence, hard-coded in grammar

The downfall of the theory of evolution as the assumed origin of intelligence and language
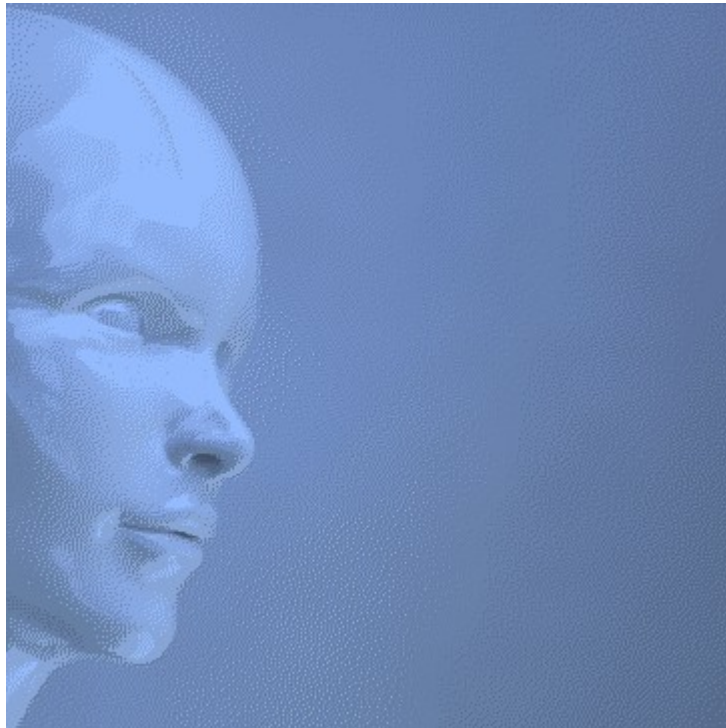
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Introduction

The field of Artificial Intelligence (AI) and knowledge technology was started around the year 1956. However, there are four reasons to believe that the current approach to AI and knowledge technology has a fundamental problem:

1. Intelligence and language are natural phenomena. Natural phenomena obey laws of nature. And laws of nature are investigated using (basic or) fundamental science. However, the field AI and knowledge technology is being developed using (behavioral or) cognitive science. This cognitive approach delivers a simulation of behavior (similar to a flight simulator), while a fundamental approach would deliver an artificial implementation of natural intelligence (similar to an airplane);
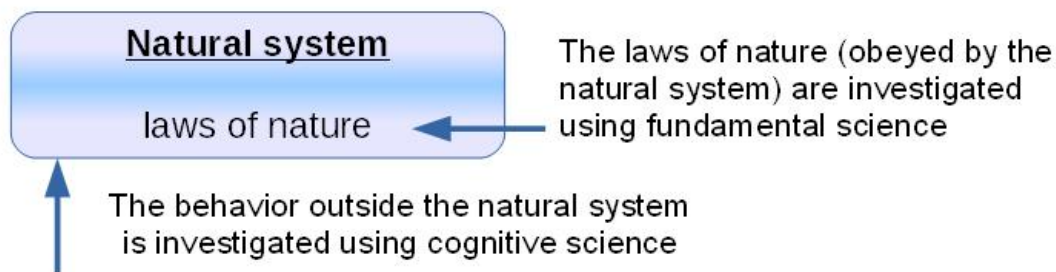
2. A science has a foundation in nature, which leads to generic solutions. But due to its cognitive approach, the field of AI and knowledge technology has no foundation in nature – nor a definition based on nature – 60 years after its start. Without foundation, this field is baseless. And being baseless, this field is limited to engineer specific solutions to specific problems, while a science delivers generic solutions;

3. As a consequence, in knowledge technology, **artificial structures** are applied to keywords, while the **natural structure** of sentences is ignored. By ignoring this structure provided by nature, the field of knowledge technology got stuck in processing of "bags of keywords" and unstructured texts, while scientists fail to define the logical function of even the most basic word types;

4. Moreover, a science integrates its disciplines. However, the field of AI and knowledge technology fails to integrate (automated) reasoning and natural language. In other words, this field has a blind spot:
    ◦ Reasoners (like Prolog) are able to reason, but their results – derived knowledge – can't be expressed in readable and automatically constructed sentences;
    ◦ Chatbots, Virtual (Personal) Assistants and Natural Language Generation (NLG) techniques are unable to reason logically. They are only able to select human-written sentences, in which they may fill-in keywords;
    ◦ Controlled Natural Language (CNL) reasoners are very limited in integrating both disciplines. They are limited to sentences with present tense verb "is/are", and don't accept words like definite article "the", conjunction "or", possessive verb "has/have" and past tense verbs "was/were" and "had".

1. The current state of AI and knowledge technology

In the years before the first flight of the Wright brothers, aviation wasn't scientific yet, because the attempts were "**inspired** by nature", using feathers, flapping wings, bird suits, and so on:
- YouTube: "Man's Early Flight Attempts";
- YouTube: "first attempts to fly by man";
- YouTube: "Death Jump - Franz Reichelt jumps off the Eiffel Tower".

However, the Wright brothers understood: A machine will only be able to fly if it is **based** on nature, obeying the Laws of Physics. So, apparently, using laws of nature is a fundamental approach, while being "inspired by nature" isn't.

This situation is illustrative for the current state of AI and knowledge technology:
- This field lacks a unifying, fundamental (=natural) and deterministic (=implementable) definition of intelligence, and the understanding how natural intelligence and natural language are related;
- Without natural definition, this field lacks a natural foundation;
- Without foundation, the techniques developed on AI and knowledge technology are in fact baseless. And without one common (=natural) foundation, its disciplines – like automated reasoning and natural language – can not be fully integrated;
- Being baseless, AI got stuck at a simulation of behavior (not necessarily intelligent behavior), and knowledge technology got stuck at linking of keywords.

Even after 60 years of research (at least 100,000 man years [1]), scientists are still unable to convert a sentence like "Paul is a son of John" to "John has a son, called Paul" – and vice versa – in a generic way (=through an algorithm).
Both sentences have the same meaning. So, it must be possible to convert one sentence to the other – and vice versa – as explained in 2.3.2. Fundamental flaw in the Turing test. However, such a conversion requires to understand what natural meaning is. Lacking a natural definition of intelligence, not a single scientific paper supports the mentioned conversion in a generic way (=through an algorithm).

Common knowledge:
- If problems are fundamental, one needs to repair the foundation. Actually, it is better to remove the old foundation, and to pour a new one;
- If two disciplines have different foundations, they can't be integrated, because a building can only have one foundation. If another foundation would be poured next to an existing one, both foundations will move relative to each other. Then the expanded building – resting on both foundations – will prolapse, and eventually collapse.

Only a fundamental approach – based on laws of nature – will deliver significant progress.

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1 60 years times 1,500 researchers on average

1.1. Fiction, science and engineering

The field of AI and knowledge technology is partly **fiction**: The belief that intelligence and meaning will emerge and evolve "by itself", as if there is magic – or a supernatural power – involved. As long as it can't be explained in detail, it isn't scientific.

Only a small part of this field is generic, and therefore **scientific**: Predicate Logic describes the function of verb "is/are" in a generic way, the way nature works. Proof: A science integrates its involved disciplines. And Controlled Natural Language reasoners integrate reasoning and natural language in regard to verb "is/are". However, Predicate Logic doesn't include for example the natural function of verb "has/have".

The remaining part of this field is **engineering**:

In most industries, quality standards are defined and implemented, to preserve and guarantee the quality of products. However, in the field of AI and knowledge technology, there is no foundation defined that guarantees to implement natural intelligence in artificial systems. Let alone, a quality standard to guarantee that the natural meaning (natural structure of knowledge) is preserved during each step of knowledge processing.

Unable to define the natural function in language of for example verb "has/have", scientists teach us that knowledge containing this verb needs to be programmed directly into a reasoner, like: has_son(john,paul). This is engineering (specific solutions to specific problems) instead of science (generic solutions).

2. Overview of the current approach

Being unable to define natural intelligence, the field of AI and knowledge technology implements **programmed intelligence**. It is clever engineering rather than an artificial implementation of natural intelligence. This video on YouTube separates clever engineering from the Science Fiction stories told on AI: "How Intelligent is Artificial Intelligence? - Computerphile".

In the following paragraphs, an overview on the current approach is listed. But first a brief introduction to the next chapter.

Autonomous systems: Mars rovers, autonomously flying drones and self-driving cars are examples of autonomous systems. They are able to use consistent sources to navigate, like radar, cameras and GPS. These sources are consistent with their maps and with their movement: If the vehicle moves, their radar, cameras and GPS will move accordingly. And marks on the map will eventually appear on radar and cameras when it comes near the GPS position of those marks.

Such systems are autonomous – but not autonomously intelligent – because the intelligence in such systems is programmed.

Autonomously intelligent systems: Grammar is a naturally consistent source. It is subject to Natural Laws of Intelligence. For example, each and every (human) language has an equivalent of conjunction "or", like in sentence "Every person is a man **or** a woman". This word has an intelligent function in language: It is used by our brain to separate knowledge, in this case to separate the words "man" and "woman".

By using grammar as a natural source of intelligence, it is possible to implement natural intelligence in artificial systems, by which these systems become autonomously intelligent (up to a certain level).

2.1. Evolutionary intelligence

Evolutionary Algorithms (EA) and Genetic Algorithms (GA) are obviously algorithms. Algorithms are intelligently designed by definition [2], while intelligent design isn't supported by the theory of evolution. So, EA and GA can't be supported by the theory of evolution.

Evolutionary Algorithms are useful though for finding an optimum value. They are comparable to the PID Controller found in central heating systems, which optimizes the burning time to avoid *undershoot* and *overshoot*.

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2   algorithm: "any set of detailed instructions which results in a predictable end-state from a known beginning"

2.2. Artificial / Deep-learning Neural Networks

First of all, neurons are not essential to intelligence, in the same way as feathers and flapping wings are not essential to aviation. So, neurons are not the source of intelligence.

Lacking an operating system with designed functions, **Artificial Neural Networks** (ANN) are limited to perform pattern recognition. And **Deep-learning Neural Networks** (DNN) are limited to perform trained tasks, based on pattern recognition.

ANNs are engineered to store an average pattern, based on a training set of patterns. Humans have to select the patterns of the training set. This selection process requires natural intelligence. ANNs are not based on natural intelligence. So, this selection process can only be done by humans. Humans are therefore the only intelligent factor in pattern recognition. Not the ANN.

The word "learning" is therefore a misfit term when used in regard to an ANN. To illustrate:

We don't have to feed a child thousands of pictures of a cat before a child is able to recognize a cat. One example of a cat may be sufficient for a child to distinguish this type of animal from other types of animal. At the moment the child sees another cat, it will point to the animal and ask "Cat?", in order to get a confirmation that it has learned to distinguish this type of animal from other types of animal correctly.

My father taught me: "Don't become a monkey that learns a trick". DNNs are engineered to perform a trick, based on pattern recognition. Humans design algorithms that describe the essence of the task. After a lot of training runs, the DNN has mastered to perform that trick, without understanding the essence of the task. Designing the algorithms, requires natural intelligence. DNNs are not based on natural intelligence. So, the algorithms can only be designed by humans. Humans are therefore the only intelligent factor in performing the trained trick of a DNN. Not the DNN itself.

The word "learning" is therefore also a misfit term in regard to a DNN. To illustrate:

We don't need to play a game thousands of times, before a child is able to play that game. Explaining the rules of the game may be sufficient for a child to play that game, while the rules of a game can't be explained to a DNN.

In our brain, pattern recognition doesn't provide the intelligence itself. Pattern recognition only provides the input for the intelligent (=hard-coded) brain. Self-driving cars work in a similar way: Pattern recognition provides the input on which the programmed logic responds.

The only way to improve pattern recognition in machines: To identify individual parts of each object, like the left ear of a cat, its right ear, its nose, its whiskers, its mouth, its tail, each eye, each leg, and so on.

2.2.1. Deep-learning networks applied to natural language

Deep-learning networks are able to recognize and to produce patterns of a language. But they are unable to grasp the meaning expressed by humans through natural language, because:

Natural language is like algebra and programming languages: It has "variables" (keywords) and "functions" (structure words).

In natural language, keywords – mainly nouns and proper nouns – provide the knowledge, while the logical structure of sentences is provided by words like definite article "the", conjunction "or", basic verb "is/are", possessive verb "has/have" and past tense verbs "was/were" and "had".

However, deep-learning networks are not hard-wired to process logic. So, this technique is unable to process the logic that is embedded in natural language. And therefore, this technique is unable to grasp the deeper meaning expressed by humans through natural language.

Deep-learning networks are based on pattern recognition. And therefore, they are limited to perform tasks based on pattern recognition.

2.3. Knowledge technology

The quality of a system is determined by the quality of its output, divided by the quality of its input. The quality of the current approach to knowledge technology is very bad: Rich, meaningful sentences in, artificially linked keywords out (which may be filled-in on the blanks of human-written sentence constructions).

To prove the poor state of the current approach to knowledge technology: You will not find any system – other than Thinknowlogy – able to convert a sentence like "Paul is a son of John" to "John has a son, called Paul" – and vice versa – in a generic way (=through an algorithm). Both sentences have the same meaning. So, it is possible to convert one sentence to the other, and back.

Only if the involved laws of nature are understood, one is able to convert light to electricity and back, motion to electricity and back, and so on. In the same way, converting one sentence to another – while preserving the meaning – requires to understand the (Natural Laws of) Intelligence embedded in Grammar. However, not a single scientific paper supports the mentioned conversion in a generic way (=through an algorithm).

In its infancy, Thinknowlogy only accepts a limited grammar. However, its output has (almost) the same quality as its input, which is a quality ratio of (almost) 100%. It proves: Thinknowlogy preserves the meaning.

2.3.1. Fundamental flaw in knowledge technology

Natural language is like algebra and programming languages: It has "variables" (keywords) and "functions" (structure words). However, in knowledge technology, only the keywords are used, while the structure words are thrown away. As a consequence, knowledge technology got stuck in "bags of keywords" and unstructured texts.

In natural language, keywords – mainly nouns and proper nouns – provide the knowledge, while the logical structure of sentences is provided by words like definite article "the", conjunction "or", basic verb "is/are", possessive verb "has/have" and past tense verbs "was/were" and "had". My challenge document describes some basic reasoning constructions, based on the logical structure of sentences.

Scientists are ignorant of the logical structure of sentences. Instead of preserving this natural structure, they teach us to throw away the natural structure, and to link keywords by an artificial structure (semantic techniques). Hence the struggling of this field to grasp the deeper meaning expressed by humans, and the inability to automatically construct readable sentences from derived knowledge.

Moreover, this field has a blind spot on the conjunction of logic and language:

A science integrates its involved disciplines. However, the field of AI and knowledge technology doesn't. It is unable to integrate (automated) reasoning and natural language:

- Reasoners (like Prolog) are able to reason, but their results – derived knowledge – can't be expressed in readable and automatically constructed sentences;

- Chatbots, Virtual (Personal) Assistants and Natural Language Generation (NLG) techniques are unable to reason logically. They are only able to select human-written sentences, in which they may fill-in keywords;

- Controlled Natural Language (CNL) reasoners are very limited in integrating both disciplines. They are limited to sentences with present tense verb "is/are", and don't accept words like definite article "the", conjunction "or", possessive verb "has/have" and past tense verbs "was/were" and "had".

Some people believe that meaning will emerge "by itself" (see Evolutionary intelligence), while others believe that the meaning is preserved by parsing all words of a sentence. But they all fail to integrate reasoning and natural language, and to solve ambiguity.

2.3.2. Fundamental flaw in the Turing test

The Turing test has a fundamental flaw: The quality of the jury isn't specified. So, any chatbot can pass the Turing test if a jury is selected who is easily impressed, or if the subject (chatbot) is presented as a foreign child who may have problems to understand the given sentences.

Besides that, chatbots are unable to reason logically. So, it is extremely simple to determine whether the subject is a person or chatbot: Let the subject perform an intelligent reasoning task, as described in the challenge to beat my Controlled Natural Language reasoner.

For example, provide the subject with a sentence like "Paul is a son of John" and the following algorithm:
- Swap both proper nouns;
- Replace basic verb "is" by possessive verb "has" (or vice versa);
- Replace preposition "of" by adjective "called" (or vice versa).

Now ask the subject to apply the given algorithm to the given sentence, which should result in a different sentence with the same meaning. The outcome must be: "John has a son, called Paul", as described in the first block of my challenge. To be sure, ask the subject to apply the given algorithm in the opposite direction, to convert "John has a son, called Paul". The outcome must be of course: "Paul is a son of John".

Not a single scientific paper supports the conversion a sentence like "Paul is a son of John" to "John has a son, called Paul" – nor vice versa – in a generic way (=through an algorithm). So, it would become immediately clear if the subject is a person or a chatbot.

Another way of separating humans from chatbots as a jury, is to only present confusing phrases that are not finished, completely out of context and not related to each other. If the subject initially responds despairingly – and stops responding after a while – then the subject is human. But if the subject keeps responding cheerfully with full sentences, then the subject is a chatbot.

2.3.3. Predicate Logic

Predicate Logic (algebra) has a fundamental problem when applied to linguistics: It doesn't naturally go beyond the present tense of basic verb "to be". For example, when we encounter a calculation containing possessive verb "has/have", we have been unconsciously taught to convert it into a verb "is/are" problem, as illustrated by the following example:

> Given: "John **has** three apples."
> Given: "Paul **has** four apples."
•
• A logical conclusion would be:
< "John and Paul **have** seven apples (together).".
•
• However, we convert calculations into a basic verb "is/are" problem:
< "Three apples and four apples **are** seven apples (together).".

This generally accepted workaround solves the calculation. But it is unable to draw the logical conclusion.

So, the current algebra is not equipped for linguistics. It describes logic expressed by present tense verb "is/are" in a natural way. But it doesn't describe the logic of the complimentary function of verb "is/are", namely verb "has/have", neither does it describe the logic of their past tense functions, namely verb "was/were" and verb "had".

As a consequence, automated reasoners are unable to read and write sentences with possessive verb "has/have" and with past tense verbs "was/were" and "had".

Words like definite article "the", possessive verb "has/have" and past tense verbs "was/were" and "had" have a naturally intelligent function in language. However, their naturally intelligent function is not described in any scientific paper. Apparently, scientists don't understand their naturally intelligent function in language.

Being unable to describe possessive logic in a natural way, another workaround is created, by adding possessive logic in an artificial way:
  • Possessive logic must be programmed directly into the reasoner, like "has_son(john,paul)";
  • Besides that, lacking a generic solution, the same logic needs to be programmed for each and every new noun. So, separate functions must be programmed for "has_daughter", "has_father", "has_mother", "has_teacher", "has_student", and so on;
  • Moreover, in order to enable multilingual reasoning, all existing knowledge described in one language, needs to be translated to each and every new language.

This is engineering (specific solutions to specific problems) instead of science (a generic solution). Actually, it is a bad example of engineering. This is madness. We need to uplift the field of AI and knowledge technology from engineering to a science.

2.3.4. The function of word types in reasoning

Another fundamental problem when Predicate Logic is applied to linguistics: It doesn't specify word types.

For example, instead of "All **humans** are mortal", it is perfectly fine in Predicate Logic to write "All **blue** are mortal". But this sentence construction is grammatically invalid for any adjective. It is only valid for plural nouns.

In order to be applicable to natural language, Predicate Logic should describe the word type of each variable. In this case, it should define that the first variable (second word) should be a plural noun, and that the second variable (last word) should be an adjective.

Let's consider the following equation: "Every car has an engine" equals to "An engine is part of every car". I state that this equation is true for any singular noun. However, unaware of the function of word types in language, scientists try to prove my fundamental approach wrong by using a proper noun, like: "John has a son" equals to "A son is part of every John", which is nonsense of course.

So, despite of using different types in common programming languages – such as booleans, integers and strings – scientists are ignorant of the function of the different word types when it comes to reasoning in natural language.

The algebra of language that I used in the challenge to beat my Controlled Natural Language reasoner repairs both problems: Preserving word type information, as well as reasoning beyond the present tense of basic verb "is/are" (see Predicate Logic). Abbreviations can be used later, in order to make the notation compact.

2.3.5. Controlled Natural Language

Controlled Natural Language (CNL) reasoners allow the user to enter Predicate Logic as a natural language-like sentence. However, Predicate Logic doesn't naturally go beyond the present tense of basic verb "to be". So, also CNL reasoners doesn't naturally go beyond verb "is/are".

As a consequence, CNL reasoners are unable to convert a sentence like "Paul is a son of John" to "John **has** a son, called Paul" – and vice versa – in a generic way (=through an algorithm), because the latter sentence contains verb "has". As a workaround, this conversion needs to be programmed for each and ever relationship:

- First of all, a rule must be added: "If a man(1) is-a-son-of a man(2) then the man(2) has-a-son-called the man(1)";
- In order to trigger this rule, the relationship between "Paul" and "John" needs to be written with hyphens between the words: "Paul **is-a-son-of** John". And the outcome will also contain hyphens: "John **has-a-son-called** Paul";
- And the above must be repeated for each and ever similar noun: for "daughter", for "father", for "mother", for "teacher", for "student", and so on.

This engineered workaround is clearly not generic, and therefore not scientific.

Besides that, while predicate logic describes both the Inclusive OR and Exclusive OR (XOR) function, CNL reasoners don't implement conjunction "or". So, CNL reasoners are unable to generate the following question:

> Given: "Every person is a man **or** a woman."
> Given: "Addison is a person."
•
• Generated question:
< "Is Addison a man **or** a woman?"

As a workaround for lacking an implementation of conjunction "or", CNL reasoners need three sentences to describe sentence "Every person is a man **or** a woman" in a similar way:
- "Every man is a person.";
- "Every woman is a person.";
- "No woman is a man and no man is a woman.".

Even though their workaround sentence "No woman is a man and no man is a woman" describes an Exclusive OR (XOR) function, scientists still fail to implement automatically generated questions in a generic way (=through an algorithm).

Both problems mentioned above – the inability to convert a sentence through an algorithm and the inability to generate a question through an algorithm – make clear that scientists fail to integrate reasoning (=natural intelligence) and natural language in artificial systems.

Lawyers have no problems to write down logic in legal documents, using natural language. So, why do scientists fail to integrate logic and natural language in artificial systems?

Legal documents are of course accurate in their description: "either ... or ..." is used to describe an Exclusive OR function, and the combination "and/or" is used to describe an Inclusive OR function. In daily life, instead of the combination "and/or", we add "or both" to the sentence. In most other cases of conjunction "or", we mean an Exclusive OR function.

So, in daily life, "Coffee or tea?" – short for "**Either** coffee **or** tea?" – describes an Exclusive OR function, while "Warm milk or a sleeping pill? **Or both?**" describes an Inclusive OR function.

Note: In these examples, the conjunction separates a series of words of the same word type. In these cases, a series of singular nouns. But also in imperative sentences like "Do …, **or** you'll have to face the consequences", conjunction "or" implements an Exclusive OR function. Because the sender gives the receiver an exclusive choice: "**Either** do …, **or** you'll have to face the consequences".

2.3.6. Search engines

Being keyword-based, search engines are limited to search for keywords (and citations). Nevertheless, it surprises me for years that search engines don't provide a list of options when the search string of the user is ambiguous. It is technically possible, using current semantic techniques.

For example, when the user enters ambiguous word "Boston", search engines will show all results. Only when the user enters "Boston UK", it will filter down on Boston as city in the UK. But why don't search engines ask the user for that specification? Like:

Please specify more clearly what you mean?
- Boston, city in the USA
- Boston, city in the UK
- Boston, rock band
- Boston Red Sox
- Boston Company
- …
- *I would like to add another option.*
- *Don't bother me with a selection, just search.*

In case of selection "Boston, city in the UK", a search engine only has to replace "Boston" in the search string by "Boston UK". Job done.

So, why isn't it implemented then? Not surprising that the hype of the Semantic Web died a silent death in November 2012, without delivering its high promises of becoming the web that would finally make sense.

3. The fundamental approach of Thinknowlogy

Since the origin of life is subject to discussion, the starting point of all research involved with the origin of life depends on the world view of the researcher. So, one's world view also effects the way the field of AI and knowledge technology is researched, in regard to the assumed origin of natural intelligence and natural language:

- Despite centuries of exhaustive research, the theory of evolution still hasn't provided a satisfying explanation for the origin of intelligence and language. Let alone, how both are related. Evolutionists consider the origin of intelligence as one of the biggest mysteries. And regarding to research on the origin of language: "One problem makes the topic difficult to study: the lack of direct evidence" [3];

- According to the biblical world view, God is the creator of life and the universe. Which includes intelligence and language. And according to the biblical world view, God has created laws of nature to make his creation run like clockwork, in a unified, structured and deterministic [4] way. It means, all natural phenomena must obey these laws of nature, including language. And because both phenomena – intelligence and language – are present in humans, they might be related too. If so, it must be possible to define intelligence in a unifying, structured and deterministic (=implementable) way. And it must be possible to identify (Natural Laws of) Intelligence embedded in Grammar, as a set of natural laws. Furthermore, according to the biblical world view, life was designed once. And no improvements were made afterwards. So, if intelligence and language are related, current languages still must share a common logic. Regardless of all their differences [5], they still must obey the same laws of intelligence, as was designed in the beginning.

The one with the world view nearest to the way nature works, will have the best results.

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3 I own a printed copy of the Encyclopædia Britannica, the 1990 edition. On both topics, intelligence and language, it praises the founding fathers of the theory of evolution for their contribution to these topics. But why praising the founding fathers, while their theory can't explain "one of the biggest mysteries" (intelligence), and while it has "a lack of direct evidence" (regarding to language)?

4 deterministic: "the doctrine that all facts and events exemplify natural laws"

5 The existence of entirely different languages today, is explained in the bible: "At one time all the people of the world spoke the same language and used the same words" (Genesis 11:1). During the building of the tower of Babel, God confused the tongues: "Come, let's go down and confuse the people with different languages. Then they won't be able to understand each other" (Genesis 11:7).

3.1. Natural intelligence

In order to contribute to science, intelligence need to be defined in a unifying, fundamental (=natural) and deterministic [6] (=implementable) way:

Natural intelligence basically means: **self-organization**.

It is the extent to which one is able to independently:
- group what belongs together;
- separate what doesn't belong together;
- archive what is no longer relevant;
- plan future actions;
- foresee the consequences that the planned actions will have;
- learn from mistakes.

Assuming that language is an intelligent system, predictions can be made on the intelligence that will be found in language.

In all languages, there will be specific words (or constructions) for:
- grouping knowledge that belongs together;
- separating knowledge that doesn't belong together;
- archiving knowledge that is no longer relevant;
- planning future actions;
- foreseeing the consequences that the planned actions will have;
- learning from mistakes.

And this natural intelligence applied to natural language is called: **natural meaning**.

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6   deterministic: "the doctrine that all facts and events exemplify natural laws"

3.2. (Natural Laws of) Intelligence embedded in Grammar

Grammar provides information to our brain how to structure the gained knowledge. These clues include specific words for grouping, separating and archiving (see definition of natural intelligence). By using these clues provided by grammar – or (Natural Laws of) Intelligence embedded in Grammar – we are able to implement a self-organizing (=intelligent) knowledge technology, similar to the way nature works in the language center of our brain:

- Conjunction "and" has the intelligent function in language to group knowledge;
- Conjunction "or" has the intelligent (Exclusive OR) function in language to separate knowledge;
- A definite article (in English: "the") has the intelligent function in language to archive knowledge;
- An indefinite article (in English: "a") defines a structure, which is already known for a few centuries;
- Basic verb "am/is/are" defines present tense basic logic, which is already known for a few centuries;
- Basic verb "was/were" defines past tense basic logic;
- Possessive verb "has/have" defines present tense direct and indirect possessive logic;
- Possessive verb "had" defines past tense direct and indirect possessive logic.

Besides that, grammar also provides logical reasoning constructions, as described from paragraph 2.3.1 Specification Substitution Conclusions of the Theory document.

These Natural Laws of Intelligence embedded in Grammar drive a set of structuring algorithms [7] in my system, in order to independently group, separate and archive knowledge in its knowledge base.

To me, nature is like an intricate and highly structured machine, driven by designed rules, running as accurate as Swiss clockwork. By observing, I have already learned the function of a few "cocks, rods, sprockets, tubes and wheels", as listed above. And I am able to rebuild these few functions in an artificial machine.

However, evolutionists don't believe in machine designers. To them, the "machine" I observe – nature – is just a chaotic "metal scrap yard". They don't want to observe [8] – nor to learn – any logical (=designed) function of this natural machine. To them, there are no functions, only chaos, complexity and evolution. So, they tend to deny logic and even nature itself.

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7 algorithm: "any set of detailed instructions which results in a predictable end-state from a known beginning"

8 The theory of evolution doesn't include observable phenomena, as listed in 4. The theory of evolution is not scientific

3.2.1. Example: Autonomous generation of questions

Not a single scientific paper describes automatically generated questions in a generic way (=through an algorithm), like:

> Given: "Every person is a man **or** a woman."
> Given: "Addison is a person."
•
• Generated question:
< "Is Addison a man **or** a woman?"

The implementation of this kind of automatically generated questions is extremely simple when (Natural Laws of) Intelligence embedded in Grammar are used:
- A Natural Law of Intelligence embedded in Grammar: Conjunction "or" has the intelligent (Exclusive OR) function in language to separate knowledge;
- Given "Every person is a man **or** a woman" and "Addison is a person";
- Substitution of both sentences: "Addison is a man **or** a woman";
- Conversion to a question: "Is Addison a man **or** a woman?".

Note: In most cases, a conjunction separates a series of words of the same word type. In the case, a series of singular nouns.

3.2.2. Improve your ontology system towards a grammar-based approach

Why wait for scientists to accept a grammar-based approach? You can improve your own ontology system gradually towards a grammar-based approach:

- Start to implement the algebra of language listed in the challenge I launched to beat my Controlled Natural Language reasoner;
- Expand your algebra of language by implementing the reasoning constructions – listed in the design document – that are not listed in the challenge document;
- Contact me for more improvements.

3.3. The algebra of language

The logic of language can be written as algebra. Each of the 6 blocks of <u>my challenge document</u> shows the algebra of the described logic. As an example, let's consider the first algebraic equation of <u>the first block</u>:

"{proper noun 1} is {indefinite article + singular noun} of {proper noun 2}"

equals to

"{proper noun 2} has {indefinite article + singular noun} called {proper noun 1}"

If you like:
- "equals to" can be written as '=';
- The unknowns {proper noun 1} and {proper noun 2} can be written as 'pn1' and 'pn2';
- And a short notation for {indefinite article + singular noun} can be invented, as well as a language independent short notation for the words "is", "of", "has" and "called".

But I leave the honor of inventing abbreviations and short notations to the one who describes my fundamental approach in a scientific paper.

In this case (of a conversion), both sides of the equation are interchangeable, like: $x = x'$. So, the left side of the equation can be converted into the right side – and vice versa – from one sentence to another sentence. Both sides (both sentences) are equal in natural meaning. But the algebra described in <u>my challenge document</u>, is not described in any scientific paper yet.

In order to make the system language independent:

- Logic / algebra itself is language independent. By embedding one set of logic / algebra / universal reasoning rules, the system will be (almost) language independent;
- During start-up, the system will read grammar configuration files, which will configure this universal logic for the corresponding language. One configuration file for each available language;
- On **reading**, the input sentence is converted to a language-independent knowledge structure, using the grammar rules of the corresponding language, as described in paragraph <u>4.1.1 Reading a Sentence</u> of <u>the design document</u>;
- Then the universal reasoning rules are applied to that language-independent knowledge structure;
- On **writing**, the derived knowledge – the results of the reasoner – are written as readable sentences, by applying the grammar rules of the same language as the input sentence.

3.4. Intelligence – more into depth

Intelligence is a natural phenomenon, which can be described as the extent to which one is able to organize independently. More specific, to independently:

- avoid chaos;
- create order;
- restore order.

Basic capabilities of intelligence are:

- Grouping (combining) of individual or separate objects, with the aim of achieving a goal that can not be achieved by either of those objects separately;
- Separating (differentiating) compound or intertwined objects, with the aim to clarify the situation, by putting them in their own context;
- Archiving of obsolete information, separating current from obsolete information;
- Planning future actions, setting goals and anticipation to changes;
- Foreseeing possible consequences: Using knowledge and experience to predict possible consequences of planned actions (own plans and planned actions of others);
- Learning from mistakes: Using knowledge and experience to determine the course of a mistake, and to avoid making this kind of mistake in the future.

These capabilities of intelligence can be applied to basic concepts like: numbers, language and spatial objects. Grouping of for example numbers, we call: adding. Separating of numbers, we call: subtracting.

Deepening:
- Creation starts with grouping;
- Understanding starts with separating;
- Omitting starts with archiving;
- Governing starts with planning;
- Anticipation starts with foreseeing;
- Improvement starts with learning from mistakes.

I am implementing grouping, separating and archiving as much as possible, while leaving the implementation of the remaining capabilities to future generations.

3.4.1. Autonomy / independently

In the definition of natural intelligence, the word "independently" is used. So, we need to define that word – or the word actually "autonomy" – as well:

An autonomous system relies on the consistency of a **natural** source, or a consistent artificial source like GPS (Global Positioning System). So, an autonomously intelligent system relies on the consistency of a natural source of intelligence.

In contrast, current information systems rely on **artificial** sources of intelligence, like semantic vocabularies, ontology databases and statistics. Only Thinknowlogy uses a natural source of intelligence: grammar, or more accurate: (Natural Laws of) Intelligence embedded in Grammar.

Scientists have no clue how nature works in regard to intelligence and language. So, they implement "something" that looks like nature. But they have no proof that nature works that way. "Inspired by nature", scientists in this field are engineering specific solutions to specific problems, while a science deliver generic solutions. So, I know that their approach in fundamentally wrong.

The "scientific" approach is comparable to an old-fashioned car, in which the driver needs to operate most functions of the car manually, and in which the driver needs to navigate him/herself to an unknown address. My fundamental approach is comparable to a self-driving car, in which more and more functions are automated. It is based on the logic of language, which is a natural – and thus a consistent – source of intelligence.

3.4.2. IQ test

When comparing the assignments of an IQ test to the definition of natural intelligence, it becomes clearly that IQ tests are focused on the capabilities grouping and separating, rather than archiving, planning, foreseeing and learning from mistakes.

But more important than a high IQ score, is the question how close one's world view is to the way nature works. One can have an extremely high IQ score and develop many new theories. But what is the contribution of those theories, when they explain a biased world view rather than the way nature works?

3.5. Noam Chomsky's Universal Grammar theory

In his [Universal Grammar theory](), [Noam Chomsky]() proposes that the ability to learn a language is hard-wired in the brain. This theory is heavily debated amongst evolutionists. But deniers of this theory have no alternative explanation that is supported by experimental evidence.

According to me, universal rules of logic – (Natural Laws of) Intelligence embedded in Grammar – are hard-wired in the language center of our brain. When children learn a language, the grammar of this universal logic is "configured" for a language, which is called their native language or mother tongue.

My Controlled Natural Language (CNL) reasoner works in a similar way: Logic / algebra itself is language independent. By embedding one set of logic / algebra / universal reasoning rules, my reasoner is (almost) language independent. During start-up, the software reads four grammar configuration files, which configure this universal logic for four languages. After start-up, my reasoner is able to read, reason and write in [English](), [Spanish](), [French]() and [Dutch]():

Each input sentence is converted to a language-independent knowledge structure. Then the universal reasoning rules are applied to that knowledge structure. After which, the derived knowledge is written as readable sentences, in the same language as the input sentence.

Semantic techniques require each word to be defined in a words list, while we don't feed a words list to babies and toddlers, in order to learn their mother tongue. Illustrated by a well-known Chinese saying "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime", my CNL reasoner has no extensive words list. It only has a few basic words defined upfront. Instead, it has grammar definitions [9], and an algorithm [10] that determines the word type of each unknown word, like adjective, singular noun and plural noun.

3.6. Versatility and intelligently designed systems

Computers and smart phones are the most versatile machines we know. Their hardware as well as operating system is intelligently designed, in such a flexible way, that the users are free to decide on the purpose of their machine. By installing (hardware and) software / apps, the users decide to use it for purposes like office work, school work, scientific research, gaming, socializing (social media) and watching a movies.

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9 See download, sub-directory: data/grammar/
10 See source code: class *AdminReadCreateWords*, function *createReadWords*

3.7. Other sources of intelligence

Language is not the only source of intelligence. Animals like dolphins, crows and chimpanzees show intelligent behavior regarding to spacial information. So, spacial information is another source of logical information (intelligence). An example:

If a room has only one entrance, and there are no temporary entrances, and there is an object inside that room, then we can conclude: Either that room is built around that object, or that object must have entered the room through that one entrance:

So, if we see a classical miniature ship in a bottle, and this bottle has no temporary entrances like a separate bottom, either the bottle is built around that ship, but more likely, the ship has entered the bottle through the bottleneck.

More derived spacial information: The miniature ship consists of multiple components, leaving the audience in awe which of those components were already attached, and which were attached later on. (But its party trick is of course the unfolding of the masts and sails.)

Creating a miniature ship in a bottle requires capabilities of natural intelligence, like grouping, separating, planning and probably also learning from mistakes. Not only the creator, but also the audience watching the end result, will need capabilities of natural intelligence in order to analyze the problems involved with this peculiar object. A curious person who sees a miniature ship in a bottle for the first time, will not just say "nice" and walk away. Apparently, the laws of nature involved with spacial information are already present in the brain. They will trigger the brain of a curious person when the spacial information doesn't add up.

M.C. Escher was a master in using – and abusing :) – spacial information in his work. And illusionists are masters in hiding spacial information that is crucial to their tricks, by which the spacial information – visible to the audience – doesn't add up.

A lot of daily activities – like anticipation in traffic and sports – require capabilities of natural intelligence in order to process a lot of spacial information in a fraction of a second. It includes capabilities like grouping, separating, planning, foreseeing and learning from mistakes. Experience (training) helps to use as much spacial information as possible within a short time frame. In self-driving cars and trucks, the processing of spacial information is more and more automated to our benefit. In fact, these are also artificial implementations of natural intelligence (within a limited domain). Prefix "self" in "self-driving" refers to the natural origin of the spacial information.

3.8. Summary

Fundamental science (researching logic and laws of nature)	**Cognitive science** (researching behavior)
Wright brothers: Laws of Physics, based on nature	"Inspired by nature": feathers and flapping wings
Airplane	Flight simulator
Definition required	No definition required
Artificial implementation of natural laws of intelligence	Simulation of behavior
Natural intelligence: to independently group, separate, archive, plan, foresee and learn from mistakes.	Programmed intelligence: Humans are the only intelligent factor.
In natural language, knowledge and logic are combined: Keywords – mainly nouns and proper nouns – provide the knowledge, while the other word types provide the logical structure.	In knowledge technology, **artificial structures** are applied to keywords, while the **natural structure** of sentences is ignored.
Natural meaning: to independently group, separate and archive knowledge.	Trying to reconstruct the meaning by linking keywords.
Integration of disciplines: > Given: "*Every person is a man **or** a woman.*" > Given: "*Addison is a person.*" • • Generated question: < "*Is Addison a man **or** a woman?*"	No integration of disciplines
Disambiguation	Ambiguity

4. The theory of evolution is not scientific

Any Code of Conduct on scientific research endorses: *Science is observable, testable, repeatable and falsifiable*. However, none of the claimed phenomena of the theory of evolution – and its derivative theories – is ever observed.

Examples:
  - **String theory**, the assumed strings can't be observed by definition;
  - **Dark energy theory**, the assumed dark energy can't be observed by definition;
  - **Dark matter theory**, the assumed dark matter can't be observed by definition;
  - **Multiverse theory**, the assumed "other universes" can't be observed by definition;
  - **Black hole theory**, the assumed black holes can't be observed by definition. The origin of the observed phenomenon can only be assumed;
  - **Oort cloud theory**, the assumed Oort cloud isn't located, and can't therefore be observed;
  - **Extraterrestrial life theory**, the assumed extraterrestrial life isn't located, and can't therefore be observed;
  - **Inflation theory**, the assumed *inflaton* particles can't be observed;
  - **Macro-evolution theory** or **Transition of Kinds theory**, the assumed transitions (rock minerals → microbes → vegetation → animals → humans) can't be observed due to the assumed hundreds of millions of years that it could take before another transition occurs.

And the phenomena that are claimed to be detected – like the Higgs boson and gravitational waves – are debunked.

Not being observable – and therefore not testable, not repeatable and not falsifiable – the theory of evolution and its derivative theories are not scientific. **It is a religion.**

Science is about observable phenomena, while religion is about unobservable phenomena.

Furthermore, the origin of life and the universe lies in the past, while no scientist was present to gather hard and direct evidence. Moreover, we – humans – are not even able to create life from dead material. So, the origin of life and the universe can't be observed, tested, repeated and falsified. It can only be believed. Therefore, the origin of life and the universe itself can't be part of science.

And since the field of AI and knowledge technology deeply relies on the theory of evolution as the assumed origin of intelligence (AI) and language (knowledge technology), also the field of AI and knowledge technology is not scientific.

4.1. The theory of evolution is a religion

Science is about observable phenomena, while religion is about unobservable phenomena.

God himself can't be observed, neither can the claimed phenomena of the theory of evolution – and its derivative theories – be observed. So, both are religions.

Evolutionists keep on inventing new theories – in the hope to fix problems with existing theories – without ever implementing practical solutions based on these theories. In this way, evolutionists keep themselves occupied. Therefore, they don't have time left to research the way nature works. So, they won't make real discoveries. As a consequence, their theories will never contribute to daily life. Their work is idle.

The theory of evolution is nothing more than an interpretation of the past, that fails to contribute to the future. It only contributes to itself: An even more complex theory.

In contrast with evolutionists, creationists are aware that their religion is not scientific. So, they don't have to spend time on proving the existence of God. They are focused on researching the way nature works – with an open mind – not being hindered by theories that must survive at all cost. Creationists will eventually make new discoveries, and apply them to daily life.

Creationists expect to find logic, order, structure and micro-evolution in nature, while evolutionists expect to find chaos, complexity, micro-evolution and macro-evolution. So, evolutionists are not prepared when creationists find logic, order and structure in nature, like the (Natural Laws of) Intelligence embedded in Grammar that I have discovered.

Moreover, evolutionists are not motivated to investigate logic, order, structure, language and intelligence. Because deep at heart, they fear that one who investigates logic, order, structure, language and intelligence, investigates the work of an intelligent designer.

4.2. Overwhelming evidence...

Evolutionists claim there is "overwhelming evidence" for the theory of evolution. But they just take ordinary observations, and claim they are proof of macro-evolution, while the assumed macro-evolution itself can't be observed. For example, no one has ever observed the hatching of a turkey from a chicken egg.

To illustrate how this unscientific method goes wrong, we can claim there is "overwhelming evidence" for Santa Claus too:
   • Advertisements forecast his coming;
   • Then he appears everywhere at once;
   • Presents are given;
   • His address is known: North pole 1;
   • You can meet him in person;
   • And if you post/mail/text/app a message, you will get a response.

But we all know: Santa Claus is just a belief. So is macro-evolution, and the rest of the theory of evolution. It is a belief.

4.3. If you do not believe in cows...

We all know: milk contains components like water, living bacteria and fungi.

If you do not believe in cows – and you would examine a glass of milk – you will have to conclude: The living bacteria and fungi have created the milk from water.

Scientists go wrong that easy when it comes to the origin of the life and the universe.

But if you do believe in cows, you will know that these animals produce milk from grass and water. Furthermore: You will know that the living bacteria and fungi actually degenerate the milk, instead of creating it. So, evolution is in fact: degeneration [11].

4.4. Mona Lisa

When I look at the Mona Lisa, I know it is a master piece of a genius. And exactly one person has claimed to be the artist: Leonardo da Vinci. I believe him, because he has left a detailed description how he has created this painting. We can learn from this artist how to use Natural Laws of Geometry in order to create beauty.

When I look at nature, I know it is a master piece of a genius. And exactly one person has claimed to be the artist: God. I believe him, because he has left a detailed description how he has created nature. We can learn from this artist for example how to define intelligence in a natural way (as a set of natural laws), and how to use (Natural Laws of) Intelligence embedded in Grammar in order to implement natural intelligence through natural language in software.

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11 This example originates from Peter Scheele. More info on Wikipedia: Devolution (biology). The cows are of course a metaphor for God, who has designed and created the laws of nature, the universe and life.

4.5. Self-organizing systems

According to the theory of evolution, evolution has self-organizing properties. Therefore, evolutionists sometimes call an intelligently designed system: self-organizing. A contradiction in terms.

Prefix "self" in "self-organizing" deeply refers to the natural origin of the observed system: "organizing by nature". So, if an artificial system is able to organize, it only deserves prefix "self" if it implements the involved laws of nature. Otherwise, the organizing capabilities of that system are designed and implemented by humans (intelligent design). Such a system is "programmed to organize". It is not "self-organizing" (organizing by nature).

In order to find the laws in nature involved with organization, we should define intelligence in a unifying, fundamental (=natural) and deterministic (=implementable) way. Because intelligence is synonym to self-organization.

Nevertheless, let's put some topics to the test:
- Genetic algorithms are certainly not self-organizing. In contrary, these algorithms are designed to search in an unorganized way: at random. So, genetic algorithms have nothing to do with intelligence;
- Evolutionary algorithms are not self-organizing, because they are designed to find an optimum value. They don't implement the laws of nature involved with intelligence, like grouping, separating and archiving;
- A human-selected test set (ANN) or human-designed algorithm (DNN) is required for Artificial / Deep-learning Neural Networks to recognize patterns, by which humans are the intelligent factor, not the ANN / DNN itself. So, also an ANN / DNN isn't a self-organizing system;
- Fractals are static algorithms, delivering the same pattern every time. They have none of the active capabilities of intelligence. So, fractals are certainly not self-organizing self-organizing, and have therefore nothing to do with intelligence;
- Also the forming of ice crystals and ice crystal patterns is passive: The involved water molecules just obey the laws of physics, without showing any active capability. So, ice crystals have no self-organizing capabilities;
- Speech detection (from speech to written text) maps an input pattern to a defined output pattern (character or word). Mapping is a one-on-one peer connection. It isn't grouping, nor separating. So, speech detection has nothing to do with intelligence;
- Artificial Life simulations and swarm robots show the **behavior** of living creatures. But the conditions are programmed upfront. To illustrate: A flight simulator simulates the **behavior** of flight, without leaving to room. Adding random, doesn't provide Artificial Life simulations any of the active capabilities of intelligence. It is just another variety on the same theme.

Improvement requires natural intelligence, while none of the above implements self-organizing capabilities. Neither do genes themselves have self-organizing capabilities. Let alone: self-improving capabilities. They must have been organized by an intelligent being.

4.6. Complex systems

According to the theory of evolution, evolution leads to increasing complexity. But increasing complexity defies all rules of common sense:

- *"The ability to simplify means to eliminate the unnecessary so that the necessary may speak"* (Hans Hofmann);
- *"Things should be as simple as possible, but no simpler"* (Albert Einstein);
- *"If you can't explain it simply, you don't understand it well enough"* (Albert Einstein);
- *"Any intelligent fool can make things bigger, more complex, and more violent. It takes a touch of genius – and a lot of courage – to move in the opposite direction"* (Albert Einstein).

If an observer considers a system to be complex, it is the observer who lacks overview and knowledge. (Only if the observer considers the system unnecessarily complex, he/she has a better overview than the designer of that system.)

Natural language is considered to be a complex system, too complex to be processed by current techniques. However, an example like the Autonomous generation of questions doesn't exceed secondary school level. So, it must be a lack of overview and knowledge of scientists, by which they fail to understand the childishly simple meaning (intelligent function in language) of conjunction "or".

4.7. Super-intelligence (machines surpassing human intelligence)

First of all, it is funny that some believers of the theory of evolution believe that super-intelligence can evolve in machines:
- while all machines are (intelligently) designed;
- while both intelligence and design originate from the bible;
- while the theory of evolution has no satisfying explanation on the origin of intelligence;
- while scientists fail to define intelligence in a natural way (as a set of natural laws);
- and while some evolutionists even deny the existence of intelligence.

Besides that, we really need to distinguish "machines surpassing human capabilities **in a limited domain**" from "machines surpassing **human intelligence**".

Humans are able – to a certain extent – to play chess, to play the game Go, to move an amount of sand, to contribute to business meetings, to cook diner, to clean the house, to babysit, to tell bedtime stories, and so on.

Super-intelligence requires a machine to surpass humans in all human capabilities. Otherwise, it is only surpassing humans in a limited domain.

First, let's consider a few systems that surpass human capabilities **in one only domain**:
- [Deep Blue](#) was able to beat humans in playing chess, but not in playing the game Go;
- *[AlphaGo](#)* is able to beat humans in playing the game Go, but not in playing chess;
- Bulldozers are able to beat humans in moving an amount of sand. But they are unable to play chess, unable to play Go, unable to cook diner, unable to babysit, and so on.

Now, let's assume we want to build a machine that surpasses humans **in a more than one domain**. Let's consider to integrate a chess computer with a bulldozer. In this way, we will get a chess-playing bulldozer, or a sand-moving chess computer, that surpasses humans in both playing chess and in moving an amount of sand. It is possible. But it has not been done yet, because such a machine – integrating the capabilities of **different domains** – is very unpractical.

Even if we try to integrate systems of **domains that are less different** – like a car and an airplane – we will eventually discover that the design of the integrated vehicle is weaker than the individual designs of the car and the airplane. So, it is possible to make a road-legal airplane, or a car able to fly. But the integrated vehicle will always be **weaker than the individual designs** of the car and the airplane.

Apparently, we are limited to design systems that surpass human capabilities **in a limited domain**. To me, It proves to me that we have a divine origin.

4.7.1. Spreading fear for super-intelligence

Evolutionists are unable to define intelligence in a natural way (as a set of natural laws), and they are unable to design super-intelligence. Instead, they hope – or fear – that evolution will eventually evolve super-intelligence in machines. So, in their world view, evolution can accomplish things that they can't do. In their world view, evolution is supernatural. And believing in a supernatural entity is called: a belief, a religion.

Actually, the theory of evolution is the only religion that spreads fear for super-intelligence. Religions like Judaism, Christianity and the Islam officially believe that respectively Yahweh, God and Allah has created life and the universe. On the other hand, Hinduism and Buddhism have no explanation for the origin of life and the universe. In search for an answer, some of them combine their religion with the religion of evolution, including the fear for super-intelligence.

Nevertheless, let's assume that we should fear super-intelligence because of [Moore's Law](#). In that case, super-intelligence will first operate in slow-motion, and getting pace later on. Then we have enough time to "pull the plug".

But what if a robot gets out of control? A robot has no mind of its own. It is just a machine. And machines have a manufacturer. So, it will be same as any other machine getting out of control: You switch it off and sue the manufacturer for delivering an unsafe product. The only problem: How to insure damage caused by autonomously operating machines?

4.7.2. Free will and morality

First of all, it is funny that some evolutionists believe that machines can have morality, while morality originates from the bible, and while the theory of evolution has no satisfying explanation on the origin of morality.

According to the bible, humans separate from animals by having a spirit, which provides humans **a free will** and **a set of morals**. Spirits – being supernatural – are by definition not bound by laws of nature. Therefore, spirits can't be captured in machines, which are bound by laws of nature. So, a machine will never have a spirit; a free will and an autonomously controlled set of morals like humans have.

So, I agree with John Searle on his Chinese room thought experiment, that computers will never have a mind and consciousness.

But I only agree to a certain extent on his claim that computers can at best simulate intelligent conversations: "if there is a computer program that allows a computer to carry on an intelligent conversation in a written language, the computer executing the program would not understand the conversation either". He clearly didn't think of the possibility that (Natural Laws of) Intelligence embedded in Grammar can be used to artificially implement natural intelligence in computers through natural language, by which the machine is able to organize knowledge autonomously.

Testimony: I don't have this wisdom of myself

During my young childhood, God asked me if I wanted to become rich or wise. I chose wisdom, because I like the stories about the wisdom of King Solomon. (It wasn't a catch-question: If I had chosen wealth, I had to give everything away, like I give away the results of my wisdom now.)

A few years later, I offered my life to God, as in giving up my own life and desires, and fully dedicate my life to Him. Initially, nothing special happened. I became just another Software Tester. I am talented in software testing, but my talent has its limits. I am not a genius.

A few years ago, God gave me an assignment to prove the theory of evolution wrong, which I have accepted. As promised, God provides wisdom to me as long as I work on this project. If I use the given wisdom for my own good, it will be taken from me. And I was explicitly ordered: "Give everything away. Keep nothing behind".

While I was criticizing the current approach to AI and knowledge technology on LinkedIn for not having a (natural) foundation, nor a (natural) definition of intelligence, someone asked me what definition I used. Then I had to admit to myself that I didn't have a definition of intelligence either. I prayed and ask for an answer: Ten minutes later, I could write down a unifying, fundamental (=natural) and deterministic (=implementable) definition of intelligence provided by God. Later I also discovered how this definition is related to language through (Natural Laws of) Intelligence embedded in Grammar.

Appendix: Genesis hidden in the Chinese language

The Chinese language is the oldest, continuously written language in the world. It was first written over 4,500 years ago. And some Chinese characters seem to refer to first book of the bible (Genesis). A few examples:

The Chinese character for "to create" consists of four components, and seems to refer to the creation of "Man" – later called: Adam:
  · dust or mud: God has created Adam from dust;
  · mouth or breath: God breathed into the nostrils of Adam;
  · movement or life: Adam became alive;
  · able to walk: Adam was directly able to walk (and to speak).

"Then the LORD God formed the man from the dust of the ground. He breathed the breath of life into the man's nostrils, and the man became a living person." (Genesis 2 verse 7)

(See on YouTube: "Genesis hidden in the Chinese language? Part 2")

The Chinese character for "to covet, to desire" consists of two components, and seems to refer to the Fall:
  · two trees: the tree of life, and the tree of the knowledge of good and evil;
  · a woman: "Woman" – later called: Eve – desired the fruit of the only forbidden tree.

(See on YouTube: "Genesis hidden in the Chinese language? Part 3")

On YouTube: "Genesis Code Hidden Within The Ancient Chinese Language", amongst all:
  · The Chinese character for "first" consists of three components: alive, dust and man. (Adam – created from dust – was the first man to become alive);
  · The Chinese character for "to talk" consists of three components: dust, breath/mouth and alive. (Adam – created from dust – was able to talk);
  · The Chinese character for "naked" consists of two components: man and fruit. (After Adam and Eve had eaten the fruit from the forbidden tree, they felt naked);
  · The Chinese character for "pain" consists of two components: a piece and two trees. (Pain was a punishment from God for Adam and Eve after they had eaten a piece of fruit from the forbidden tree).

On YouTube: "How Chinese Characters confirm Genesis & Bible stories", amongst all:
  · The Chinese character for "flood" consists of four components: eight, united, earth and water. (Noah, his wife and their three sons with their wives, all eight were united in their boat, while the surface of the Earth was flooded with water).