Everything on Nothing

A Kruger

A logician's nightmare, or, a logician's question

Abstract

This is a short writ of Everything on Nothing, therefore on everything, and on nothing. An approach to many of the salient concepts of Nothing is shown, and how language should, perhaps, be used more precisely. Infinity (as a concept) is used to relate Nothing and Everything, and is used without a specific definition in many cases. This is not a writing on nothingness (which is typically a state), nor on Nihilism.

An Introduction to Things

Referring to 'things' in everyday language refers to a number of concepts that can be more precisely defined. If one reads the "Few Thoughts" papers, then one finds that *to do* is the basis of the verbs used and defined. Therefore let us start with 'that thing that you do'. This leads directly to basic existence, and *What about Loops?* from "A Few Thoughts on Creativity" defines an **e** as the basic form and representation. If one does not do an **e**, then there is no thing[1]. Is an **e** sufficient for arguing about basic existence and Nothing?

Suppose that 'all possible forms of existence[2]' is the dual of Nothing. All possible forms of existence does not mean that said existence is in existence, nor that is not. Then, conceivably, there are forms of existence that does not depend on Nothing (either the Concept or the underlying reality). And, for those forms of existence, one can find that some forms will always remain in existence, whether those forms of existence started, or did not start (one does not have to assume sequence, such as time). This then means that Nothing does not leave nothing, since there are forms of existence that always are. To follow through on the argument, then there are dual forms to all possible forms of existence, that is not Nothing, and Nothing is then not the dual of all possible forms of existence. This argument then shows that, for the ordinary person, that it is entirely fine to consider basic existence, since basic existence can leave nothing[3]. One also notes that all the words in this paragraph, except for possibly, ordinary, can be defined in terms of "A Few Thoughts".

One now proceeds to define the concepts in the Scratch Pad. Things can refer to both living and dead objects or entities, to concepts and even existence and totality, as well as to function. An object is a verb that is at rest (in terms of the "A Few Thoughts" papers). To view entities and concepts as 'To do' is valid for both. Existence is treated as an **e** (in terms of the "A Few Thoughts" papers), which leaves defining totality and function.

Totality, or the whole, is the entire Construct, and since the Construct can be extended with any Concept[4], one can assume that the Construct[5] is sufficient for a discussion on basic existence.

Function, is use of the Construct, and is also a proof and a construct. In *Noting Nothing* from "A Few Thoughts on A Few Thoughts", one uses a definition for Nothing that does not clash with all possible forms of existence, by using the concept of does not exist (DNE).

The rest of this paper is then aimed at using the above definitions to relate to natural language use

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[1]An **e** is a placeholder and can be replaced with any Concept from "A Few Thoughts on a Few Thoughts".

[2]The concept itself implies infinity; see also "A Few Thoughts on Paradox and Being".

[3]One does not specify what form such existence would take, but one notes that some forms of Algebra make similar assumptions (that the underlying reality is infinite) about underlying realities.

[4]See the definition in "A Few Thoughts on a Few Thoughts".

[5]See all the proofs in: "A Few Thoughts on Creativity", "A Few Thoughts on Paradox Points", and "A Few Thoughts on Paradox and Being".

of nothing. When denoting Nothing, one indicates the definition in *Noting Nothing*; however, for certain commonly used phrases, one may use a definition local to a paragraph.

No Thing

If one does not have an **e**, then one has none of: objects, entities, existence, the whole, function(ing). Neither does one have an empty set or other Concept that encapsulates *e*'s. Comparing with **Every and No Thing** in the Scratch Pad, one finds that 'no thing' can refer to an entity that is alive, which contradicts a strict understanding of existence (of a 'thing'). In such a case one can relax the definition to, one has none of: dead objects. This relaxed definition then means that 'no thing' can refer to, for example, 'live objects'.

Zero, 0

The zero, 0, is very well defined in terms of sets or Algebra. "A Few Thoughts on Creativity" shows how to use the basic existence of an empty set {} to deduce a concept in infinity, and "A Few Thoughts on a Few Thoughts" shows how to use circles (and therefore semi-rings) to deduce a concept of Nothing.

Does Not Exist

If Nothing means that the underlying reality does not exist (DNE), then *Noting Nothing*[6] holds. Mathematicians regularly use the concept of DNE when proving that certain concepts can not exist within a certain frame of reference, by using the basic concept of a set: included or not included[7].

However, how does one deduce that a certain concept does not exist in the general? For it seems that one has to know every possible existence to deduce such a truth. The study of DNE is then very much the study of existence.

Can Not Exist

Can not exist is a special case of DNE, and is often used in conjunction with: must exist. In terms of **e**s: there is no way to generate an **e**.

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[6]See "A Few Thoughts on a Few Thoughts".

[7]Note that this basic concept of a set leads naturally to certain forms of logic, such as proof by contradiction

No Object

No **e**, that is, no Concept, since objects do not exist (See "A Few Thoughts on Paradoxes and Being").

Non-existence

See "A Few Thoughts on Paradoxes and Being".

Absence of a Thing

See "A Few Thoughts on Creativity", specifically **Teleportation**.

Not Used

Natural language as used by most (see the Scratch Pad) can be used as an alternative to the Construct.

No Thought

Deconstruct the Construct until non-functional (see Not Used above).

No Concept

See **Noting Nothing** in "A Few Thoughts on a Few Thoughts".

No Intellect

The Construct is the intellect; remove the Construct (See No Thought above).

None

Suppose a set; 'None' is left when the set is empty.

Conclusion

The contexts listed in the Scratch Pad can be translated into contexts in the Construct defined in "A Few Thoughts on Creativity".

Scratch Pad

The table below lists common uses of the words Nothing and Everything, and the author *stresses that this Scratch Pad is based on natural language.*

A question the author asks, is:

1	**Nothing**	**Everything**
2	*no* thing or,	*every* (possible) or *all* thing(s) or,
3	0 or,	A or,
4	does not exist (DNE) or,	does exist, or,
5	can not exist or,	must exist or,
6	no object or,	all objects or,
7	something that is nonexistent or,	something that exists, or,
8	no entity or,	all entities or,
9	non-existence or,	existence or,
10	absence of a thing or,	presence of all things or,
11	not used or,	always used or,
12	DNE or,	totality or,
13	no thought or,	all thoughts or,
14	no concept or,	all concepts or,
15	no intellect	intellect
16	nothing	all possible forms of existence
17	not being	being
18	none	some, all

Table 1: "something that is non-existent" is quoted from `dictionary.com` - really bad logic. 0 and A are from the various forms of set theory, specifically Russell's Paradox, where A is the set of all sets. Saying that Everything encompasses Nothing is true in some cases, but not, for example, when DNE holds.

A Summary on "A Few Thoughts"

When one says in language, that one concept or thing *is* another, then one is adding the properties of the one to the other. For example, if one says that existence is work, then the properties of work and existence are related, and the properties that are related are simply understood. Therefore, existence is then work, and work is existence. However, not all the properties of the one is related to the other, for then the difference in words would be unnecessary, and nothing more than one of the words (the shortest one) would be written. If existence is work, then one can say that to work is to exist, and to exist is to work. The word 'to' then relates a specific set of properties between work and existence. If Nothing is work, and work is Nothing, then one ends with an uneasy feeling that something is wrong. Saying to do Nothing is to do work is an entirely different concept.

Symbols are usually used as a representation of some underlying concept or object. One can, by using a binary alphabet in sets, map to every possible symbol. A special case is all mathematics that use set theory, where the basic assumption is containment. These mathematical forms all use the concept of 0 and then a counting of some sort over a subset of A, the set of all sets. 0 is a definition that arises naturally from counting, and this 0 is then expanded on in mathematics to be an abstract concept.

One can easily say that a concept depends on (the same) concept, which is existence; but, not as easily that one symbol depends (for its existence) on itself.

Infinity in terms of logic, is usually reached from the point of view of the finite. That is, count a concept (such as natural numbers), and then use an unbounded repeat. Another way, is to define symbols in such a way that it exhibits behaviour that reminds of infinity. One is limited to using symbols, which means that it may be possible to deduce interesting properties of the underlying concept without having to represent the underlying concept completely in symbols. This means in turn that we are limited by symbols in our communication. The infinity discussed (that of natural numbers), is sufficient to map every possible combination of symbols that we can write down, to a set of symbols (words). Infinity is therefore used to 'connect' Nothing and Everything.

Every concept is a verb, that is, a form of 'to do'. This means a complex verb, such as *running* can be seen as a combination of verbs and nouns used in action, and since we are interested in Nothing, one does not need to consider complexity, but simplicity (for the one determines the other).

Every and No Thing

Things are usually considered to be unintelligent and dead (without life) objects. According to this definition, one can view no thing as a concept or living entity that is alive, or with consciousness. Therefore no thing does not mean no concept or no consciousness. As a corollary this leads naturally to the defini-

tion of Concept given in "A Few Thoughts on a Few Thoughts". The question that then arises is, can consciousness just pop into existence on its own? Consider a (general) definition of objects given in "A Few Thoughts on Paradoxes and Being", specifically the property that objects do not exist, but is a manifestation of the general definition[8] of a wave[9].

Animate or living objects are then not things, for objects do not exist as such, but is a consequence of mind. This allows animate objects to self-exist (from the definition of Concept). Inanimate objects are then things (from `dictionary.com`). Inanimate objects can be analagously considered to be the equivalent of an element of A, but a question remains: does this element depend for its existence on animate or conscious objects?

Every thing then means inanimate objects. The consequence of this thought yields that every thing has a wider existence than the concept of 'object', but also a lesser, for every thing is merely thought (by animate). Counting every thing is then the equivalent of counting thought, and this process is infinite. Suppose an infinite[10] concept, since we can map words (symbols) on $\mathbb{N}$. If all things form a finite set, then mind is infinite, for understands more than the finite. If all things form an infinite set, then all things as a group is intelligent[11], and independent mind is also intelligent.

One notes that "A Few Thoughts on Creativity" generalises waves[12] in the abstract[13]. If one considers Fourier Transforms, then objects can deduce objects' form, that is, objects are a manifestation of mind, and objects can manifest from objects, because Fourier Transforms are objects.

The Set of All Sets, and 0

The reason for Russell's Paradox, is that the set of all sets is asked to contain concepts that are not containable. This means that the language can be changed to: The Set of All Containable Sets, and this is an easy way to abstractly define symbologies that does not result in a contradiction in the symbology itself. This in turn means that the uncontainable does not necessarily result in a 0 being a counting of the uncontainable. An example is Extain[14], where one retains infinity, and no finite number. One notes that it is impossible to use symbols to write down infinity (i.t.o. $\mathbb{N}$), for infinity is never reached. Written in a different way, the right curly brace is never written down[15] – simply writing . . . does not mean the infinity was written down. We have therefore determined that 0 (i.t.o. sets) is not well-defined when one encounters infinity (and this correlates with definitions found in mathematics). In Algebra, one often finds that 0 is defined in terms of undefined symbols. These undefined symbols in turn indicates that there are infinite concepts underlying the symbols. One can then say that 0 is close to no thing, if one assumes that it is possible to remove all forms of infinity (doubtful). However, the set of all containable sets is not close to every thing, since there are valid concepts outside of sets, and therefore valid things outside of sets.

Encountering, in natural language, a phrase such as *a* thing, or *some* thing, means in terms of mathematics, an x such that . . ., or x is an element of . . .. No thing would mean there is no x such that . . ., and every thing mean for all x, such that . . .. This characterisation is not complete, but gives an indication that the general population (i.e., non-mathematicians) do think in terms of sets[16].

Does Exist or, DNE

Existence need not be static; compare the neutrinos that moves into and out of existence. What exists or does not exist may then depend on both existence and non-existence. Then, non-existence need not be static. Simply the act of saying (say) x does not exist, may bring x into existence, and saying x does exist may well destroy x. Can do not exist (DNE) move existence to exist, or does existence do all the work? Considering does exist and does not exist seem to be closer to the ideal in Nothing and Everything, and perhaps the word Nothing is used simply because it is shorter, and similarly for Everything.

Existence does not imply knowledge, for, if some existence does not, then existence must ask every existence for knowledge of that particular existence's

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[8]See the Teleportation proof in "A Few Thoughts on Creativity".

[9]And hesitantly called a wave.

[10]See the proof for negative natural numbers in "A Few Thoughts on Creativity".

[11]Simply because a living organism's building blocks can be counted; intelligence is considered to be 'what persons do'.

[12]Fourier Transforms promises that any wave can be written as a sum of square waves, and from there one can play with teleportation blocks.

[13]See also **Extain** from "A Few Thoughts on Paradoxes and Being".

[14]See "A Few Thoughts on Paradoxes and Being".

[15]There are other ways of considering a set.

[16]The empty set is still a set.

existence. That is, existence must ask every existence for knowledge, and even such a step does not guarentee an answer. This leads to an answer such as Nothing or do not know to a question that should not necessarily be answered as such.

Does not exist is definitely no thing, but no thing is not does not exist (DNE).

Suppose a particular existence depends on repeating a particular thing, infinitely. Then that existence is dependent on a thing. Invert the concept, and a repeated existence results in a thing. Which is dependent on which? Or is the infinity sufficient for existence? See "A Few Thoughts on a Few Thoughts" for a more formal treatment of vicious regression, and "A Few Thoughts on Paradox Points" on how paradoxes can be started and used.

Must Exist or, Can Not Exist

The previous paragraph points to some interesting properties of existence. However, if x can not exist, then one makes a statement about all possible forms of existence. Cannot exist, and must exist is then a subset of DNE/does exist, but also depends on all of existence for the statement to be made. Again, knowledge of a specific cannot exist or must exist, is not guarenteed, since, for example, one may be misunderstanding the assumptions underlying the system.

A point to note, if one moves through all the cannot exists and must exists by using infinity, then one's concept of cannot or must exist depends on the concept of infinity one uses. In Algebra, one avoids this issue by assigning variables to (for example), a ring, and then assuming that there are underlying infinities that satisfies the ring.

All Objects or, No Objects

Suppose all objects can be placed in a container. Then, if the container is empty, one can say that there are no objects (or Nothing) left. Strictly speaking, the container is still left, but using Nothing as a contraction is completely understandable. In "A Few Thoughts on Creativity", the author builds a definition of what an object is, and this definition can, for example, be adapted for use with fractal objects. Infinity is then used to generate all objects within that definition, resulting in a larger concept (of what an object is). One notes that the definition of an object used, is that of placing all objects within one another, causing all the objects to be containers. However,

these containers is a (mental) construct. Saying all objects can then also be read as all containers. This means in turn that if one says Nothing, or no object, that all the containers have been removed.

Something that Exists or, Something that is Non-existent

"Some thing that is nonexistent" can be written as "Some thing that is no thing"[17]. This means that if spoken naturally, that Something may be no thing, and yet, that that is not the standard understanding. Better language may be 'That is non-existent', or, 'There is no (such) thing, ...' Something that exists, is merely an example of an element of all of existence, and, if one uses mathematical understanding, then 'Something that exists' indicates all of existence.

All entities or No Entity

Entities are considered to be (an) existence or also (intelligent) beings, with a distinct existence from other existences. If one says there are no entities left, then it indicates the end of intelligence. This can be stated in natural language that there is Nothing (no entity) left, but, is rarely used as such. One can then consider everything said on existence to fit in this paragraph (see the various paragraphs on existence). Once again, if every entity is removed, and no entity remains, then that does not mean that no thing is left.

Existence or Non-existence

Please see "A Few Thoughts on Paradoxes and Being" for a formal treatment of existence in terms of infinity and higher order logic. See also the paragraphs on non-existence. What is the difference between DNE and non-existence? There seem to be scant difference between the two concepts, except for a possible temporary non-existence. Does exist and existence, however, shows a larger difference, for does exist shows sure existence. Existence, indicates possible existence as well as does exist.

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[17]See dictionary.com.

Presence of All Things, or Absence of a Thing,

Saying 'there is nothing left' shows absence of a thing. Saying 'there is something left' shows presence of a thing. Everyone 'knows' that there is always some thing left[18]. If one assumes the existence of things, then these concepts depends on some form of containment. Remove the container, and things may cease to exist. However, if one removes things, and ends with no thing, as well as no containment, then one touches on the presence of all things. Absence and presence are well defined concepts, and are similar to element of and not an element of. Note that absence of a thing does not necessarily imply non-existence of the same, since absence can imply position. Presence and absence of a thing or concept therefore does not imply no thing, but Nothing and Everything is used as a synonym in these concepts.

Always Used or Not Used

By looking at function one finds that no thing, DNE, no object, no entity, non-existence, absence (of a thing), no thought, and nothing, is always used when communicating, since we communicate within a universe. These concepts are usually used implicitly as paradox points (See "A Few Thoughts on Paradox Points" for detail), even though the underlying may not exist. Similarly, one finds that one or more of all things, does exist or must exist, all objects, all entities, existence, presence, totality, all thoughts, all concepts, possible forms of existence, intellect is used as context for communication. Specific things or objects or existences, entities or thoughts or concepts or intellect may not be in use, because of a difference in context.

Totality or Does Not Exist

Entirety, or the whole includes: all things, A, all objects, existence (all entities), presence, always used, all thoughts, all concepts, intellect. Removing all from totality is not possible, since 'all' is a concept which does not depend on does not exist. Concepts of does not exist depends on actualities that does not exist. Everything 'outside' the whole does not exist, and is an easy way to define does not exist. Defining the whole, is a little more involved, since by the same argument as calling an x into existence by denying

its existence, one finds concepts (for example) that depends on denying the concepts' inclusion in the whole. The reason for using totality as the context for does not exist, is that there are concepts (things), that are true, whether does not exist (as a concept) exists or not. This is a form of infinity.

All thoughts or, No Thought

The phrase 'I know nothing', can not indicate no thought. If one wishes to start with no thought, it seems one has to start with death[19]. A thought can be thought of as a process of some form of machinery. This definition is not necessarily complete, and the machinery may be biological. If one accepts physical machinery (things) as the only way to generate thoughts, then all thoughts would be all states based on things (which is a form of infinity). If all thoughts are based on existence, then there are thoughts based on infinities that are not understood (such as this one), and this sentence is an example of how to use such an infinity. This infinity can then be used as context for no thought, and all thoughts can be used as context for the infinity.

All Concepts or No Concept

Things or objects have an underlying existence that does not necessarily depend on an observer having a concept of the object or thing that exists. This means that the observer may lose or forget the concept, and can retrieve the concept at leasure by studying the thing or object, or can retrieve the concept in some other way. All concepts (as a concept) can serve as context for the observer and things both, and is a use of infinity in terms of concept. For an example of using concept as a context for concept, see "A Few Thoughts on a Few Thoughts". Therefore, if there is no concept, then it does not mean that there are no concepts possible - the context or understood context is merely deficient in such a case. One notes that a concept may exist where an underlying reality does not, such as DNE.

Intellect or, No Intellect

One notes that if someone's intellect is removed, that there is 'nothing left' of that persons intellect, is a perfectly valid and understandable way to indicate

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[18]Some thing may be any thing or concept or existence

[19]For it is said: In death there is no thought.

cessation. In this wise, it is possible to say that intellect is a thing. Note that one can say intellect as opposed to no intellect, indicating that intellect is infinite in some way.

All Possible Forms of Existence, or Nothing

All possible forms of existence seems to be the closest to the opposite of Nothing from all the opposites considered in this writing. Obtaining Nothing from such an approach is quite hard, since all possible forms of existence would include a form that does not allow removal. One then has to start with Nothing, and move to all possible forms, but then one will miss a form of existence. Since certain forms of existence depends on infinity being true, and not dependent on traditional (cardinal) infinity, one has to find the possible infinities from the point of view of both Nothing and all possible forms. This is similar to saying: infinity is infinite, because it is a valid infinity based on all possible existences.

Being or, not being

Being assumes existence, therefore the previous paragraph is sufficient.

None, or some, all

Using none instead of nothing seems to the author to be much more precise, since none is based on inclusion, and therefore on some idea of a set.

Summary

One thing that is clear, is that Nothing is not a thing, or, what a thing is not. Finding a definition of what some thing or concept is not, is a rather large definition. If one considers Russell's Paradox, then one is forced to, to at least!, use the universal set. We know that the universal set cannot be written down (this is the basis for Russell's paradox). One should perhaps consider infinity only as far as one can use infinity, and not as far as infinity goes. One notes that the words in this writing is not as well defined as those in the "A Few Thoughts on ...", because it is a writing on how Nothing and Everything is used. This is also the reason that some definitions of Nothing can lead to contradictions.

Nothing

Can Nothing cause Nothing? For if possible, then Nothing exists, and is not DNE. There is then a difference between understanding the concept[20] of Nothing and the actuality of Nothing. One has shown that Nothing is used in various contexts, and that it is perhaps better to use the concepts pertaining to the context. Almost all the contexts use some form of a set to indicate the context, and some contexts are contradictory.

Everything

The various Everythings listed all use a different context, except for 'all possible forms of existence', where one assumes that existence is all there is. One notes that there are forms of existence that removes the possibility of DNE from Nothing. Everything then serves as context for Nothing (no thing?), since Nothing is a lesser concept than Everything.

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[20]See also "A Few Thoughts on a Few Thoughts".