On Nothing

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Abstract

This article is the posthumous publication of a fundamental work of the late genius M.U. Newtral. Little is known of his life, upbringing, education and his golf handicap. Whether he enjoyed flyfishing is still a matter of scientific controversy. From his style of writing and the locations where his manuscripts were discovered one might conclude that he spent a reasonable time of his life in India and the United Kingdom, where he presumably worked under the influence of many such famous people as Luke Withstone, Rudinch Kipling, Morten Haydagger and, last but not least, Petula Farnsbath-Wellworth, 31 Rosebud Drive, Eightashgreen, Devonshire (ring and knock thrice to be admitted). Newtral disappeared under nebulous circumstances somewhere in South-America. Some of his belongings were discovered by Leumas Reltub on the Island of Erewhon, and the here partially reprinted manuscript was not discovered by a nihilist. Yet, the editors wish to keep the exact location of the original a secret. Newtral probably received the impetus for writing his treatise upon the following occasion.

In his 2011 paper on "Constructions Around Partialities" Gunther Schmidt discussed a partiality of quite unique character. It is known as the smallest part or piece of a whole, and it is unique in the way that it seems there is only exactly one instance and interpretation of it: nothing. *When the editors became involved in the production of a Festschrift for Gunther Schmidt they decided to finally publish Newtral's work, which happened to have been in their hands for quite some time without them knowing what to do with it, as a tribute to Gunther in the hope that it will further or at least subtract nothing from the growth of relational mathematics. The original manuscript (partially handwritten) has been typeset with greatest care; so for all the mistakes, only M.U. Newtral himself is to blame.*
Helpful comments by R. Berghammer, P. Höfner and M. Winter are gratefully acknowledged.

$\mathcal{O}$. Introduction

[...] however, the question coming to mind of a mathematician, when it comes down to sharing things among friends, is whether *nothing* actually is *some-thing* or if it is not. Or, if nothing *is not*, anyway. Or, finally, if *no-thing* is not nothing but not something, either.

By x, we shall refer to an arbitrary *thing* that lives (or *is*) within our world W. For example, x could be an apple. x could also be a heap of apples. But could x be *no-thing*, *nothing*, or does the usage of x imply that it *is something*?

Since we all did our homework, we shall keep in mind that there might be a few traps there. But these are traps that we can carelessly yet safely neglect for now since we care for nothing. And, also, since we want to make a point here, the question of whether having not-a-point or not having a point is anything but pointless.

> *[Obviously, as we shall see later on, Newtral was an impressively literate person. For this reason it seems quite astounding that, especially in questions concerning apples and bags thereof, he did not refer to the problem of types as it has been thoroughly studied in the last century. The reason is unknown to the editors—it is hard to believe that Newtral did not know about it. The only thing we can imagine is that this paradox has been dealt with on the 357 pages that were attached to this manuscript. Another, although not as obvious explanation, could be that it appears irrelevant to him to assign a type to nothing. In the Newtral research community it is currently discussed whether the colloquial term "nope" actually was introduced by Newtral to denote "*no-thing-type*". —The editors.*

$|\{\{\}\}|$. Foundations

... in which we discover the perils of playing with knives and apples.

By /, we shall denote the operation of *slashing*. Let x be an apple. We slash an apple and get

one piece a and another piece b.

Obviously, the apple has been divided into two parts and no part intersects with the other and, using a reverse operation (\, "glue") would yield the original apple $x = a\backslash b$ (and no more and no less). Also, a is what remains when slashing b away from x and vice versa: $a = x/b$ and $b = x/a$. At the same time, slashing an apple results in

one piece a and another piece b *and no-thing* c *else.*

This means that slashing an apple delivers *three* things: the first piece, the second piece, and one piece that *is-not-there.*

Let us now put a and b on a balance. Of course, the added weights result in the weight of the entire apple x. Supposing an ideal cut and denoting the weight of an object by $|\cdot|$, we have $|a| + |b| = |x|$. Again, we also have $|a| + |b| = |x| = |a| + |b| + |c| = |x| + |c|$. Obviously, there appears to be no difference whether an apple is slashed into two or three pieces. Good to know if you are expecting a dozen of guests for dinner and you have only one apple in your fridge. On the other hand: You don't have to slash something at all to get nothing from it. (Good to know, if you don't even have an apple in your fridge with your friends showing up unannounced). Also, we derive a very important lemma from this observation:

Nothing is for free.

Let x be a bag containing n apples $a_1, \ldots, a_n$. Obviously, we have $n + 1$ objects, where n objects reside in the $(n + 1)$-st one. We slash the bag carefully (without slashing any apples in that process). We get: a heap of n apples on the floor and *two* torn pieces of cloth. So one bag became two non-bags y_1 and y_2, and n apples. Does this make $n + 2$ or n things? Let us try the scales experiment:

$$|x| + \sum_{i\in\mathbf{n}} |a_i| = |y_1| + |y_2| + \sum_{i\in\mathbf{n}} |a_i|$$

But since neither y_1 and y_2 are bags, they are *no-bags*. They are *not* bags. Somehow, the bag disappeared. And if something *is-not*, how can it be of any mass? Therefore, y_1 and y_2 have no bag-weight:

$$|x| - |y_1| = |x| = |x| - |y_2| \text{ which requires that } |y_1| = |y_2|.$$

So if the two parts of the bag had a weight then they would have the same weight—which means that there can't be slashes that separate a bag into two pieces of different weight. On our table we now have objects that in sum have the weight

$$|x| + \sum_{i\in\mathbf{n}} |a_i| = |y_1| + |y_2| + \sum_{i\in\mathbf{n}} |a_i| = 2|y_2| + \sum_{i\in\mathbf{n}} |a_i| = \sum_{i\in\mathbf{n}} |a_i|.$$

So while we first got *one* bag, we now have $0 + 0 = 0$ bags plus apples

$$a_1, a_2, \ldots, a_n$$

which gives n things plus two pieces of cloth (and no bag). This result supports the intuitive solution that comes to mind when wondering about the fact that any cut through a bag always results in two pieces of same weight: It is hardly ever the case that we can evenly cut any object into exactly similar (volume, weight or taste) pieces. In the case of the bags the immediate consequence is the following corollary:

Bags have no weight.

The interesting thing is that if the bag was empty, we are left with *two* pieces—which seems perfectly all right: slashing something results in more things. But if we now take the two non-bags and slash each of them again, we get an arbitrary number of pieces (theoretically) but not a single bag.

We conclude: Under certain, wise circumstances (preservation of things and least effort Ockham-razors) slashing turns out to be monotone and idempotent. Together, it means that slashing is rather pointless: we can cut as often as we want or we can not cut as often as we want—we always yield something: nothing.

But somehow, there ought to be a difference about not cutting something or cutting off nothing from something. Otherwise, we'd all be living a life of ease without worrying that nothing might be a not big enough piece of something.

$|\{\{\},\{\{\}\}\}|$. Section 3

... which rather should be called "Section Naught".

Talking about apples does not require the existence of apples—all it takes is to have a symbol or word or sign that we agree upon to denote (the idea of) an apple. So if we agree that a denotes an apple, "a is rotten" is a proposition that we can work with.

Since actual existence (whatever that may be) is *not* required, we can talk about things that are not there—as long as we can name them.[1] It seems perfectly alright to assume there are many no-things out there (there is neither Santa nor a unicorn but there are No-Santa and No-Unicorn). But why do we only speak of "nothing" instead of "nothings"? Is it that not-being is some kind of unique property that makes No-Santa the same as No-Unicorn?

Obviously, the term "nothing" also denotes a *generalisation* over all those things that share the common property of not being there. That makes "nothing" also the set of all "nothings". Which in turn means that "nothings" are not there. The immediate and infallible consequence would be that there are no nothings!

No apples

Counting is a useful *measure* for things or no-things. An apple and a pear together in a bag {} make two things in the bag:

$$|\{a,p\}| = 2$$

Not adding anything else to this set of things leaves the set unchanged and thus its cardinality, too. Adding nothing to this set means to put something non-existent into the bag, for example the present king k of France:[2]

$$\begin{aligned} |\text{putinto}(k,\{a,b\})| &= |\{a,b,k\}| \\ &= \begin{cases} 3, & \text{if the thing referred to by } k \text{ exists} \\ 2, & \text{if the thing referred to by } k \text{ does not exist} \end{cases} \end{aligned}$$

This is somehow unsatisfactory: repeatedly putting things into the bag (may they exist or not) results in a repeated (and exponentially growing!) number of possible of cardinalities that we can only resolve by checking for the very existence of every thing that we put into the bag.

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[1] One scary corollary is that any name therefore denotes something: either something that is or something that isn't. But it means that any sentence of correct grammatical structure becomes a "meaningful" sentence, since we can assume any word in it to be grounded in the real world. Colorless green ideas sleep furiously!

[2] We make a very important assumption here: Either a thing is in a bag or it is not: We cannot put something into a set if it's already in there. Schrödinger's cat is not both in the set of living things and not. It is just that Schrödingers cat and Not-Schrödingers-cat are in both the sets of living things and not-living things—until one finds out that either the living cat exists or the dead one.

We could try a trick: put everything into an empty bag of its own before putting it into the larger bag:

$$\begin{aligned} |\mathrm{putinto}(\mathrm{putinto}(k, \{\}), \{a, b\})| &= |\mathrm{putinto}(\{k\}, \{a, b\})| \\ &= |\{a, b, \{k\}\}| \\ &= 3 \end{aligned}$$

The problem is: What is in {}? What does "*empty*" mean? Either, there exist no things that are in this bag. But again, there is a thing (e.g. "foob", see footnote 3). To be precise, there are as many non-existent things as we can find non-equivalent names for them. Or, since we agreed that "nothing" is a generic concept (i.e. a bag of all nothings...), the empty bag is the bag that contains the bag containing all nothings. Which in turn makes the empty bag not really empty. The next method would be to deconstruct an empty bag from an arbitrary bag by taking away from it everything that is in it. This appears to be a pretty nice method: We can take away things that exist *and* we can also take away things that do not exist. We cannot take away anything from an empty bag, which is good, too, as it leaves us with a fixed point: an empty bag from which, when we try take anything away from it, remains an empty bag. As an example, removing all barbers from the bag containing all barbers that do not shave themselves simply results in the empty bag. This could have saved Profs. Ruse-Sell and Blackfoot many sleepless nights.

Interlude: a or b or neither and $\{F|K|M\}\,oo$

Yet, there is a big problem: Consider the bag

$$\{a, b\}.$$

What does it mean to take away b? Or, what is *left* after we took away b?[3] There are two possible answers:

$$\mathrm{takeaway}(b, \{a, b\}) = \begin{cases} \{a\}, & \text{if removal implies non-existence} \\ \{a, \ \}, & \text{if removal implies disappearance.} \end{cases} \tag{1}$$

But what happens if we want to take away something that is not in there—may it exist or not? The dual method is to postulate that an empty bag is a bag where no-one ever has put anything into it. It requires us to postulate that all bags are initially empty.

In order to avoid confusion for the remainder of the paper, we shall use the following terms: For any set x, we say that $\mathtt{koo}(x)$ is true, iff x is empty:

$$\mathrm{koo}(x) = \mathbf{1} \quad :\Longleftrightarrow \quad x = \{\}. \tag{2}$$

In other words, "koo" denotes the unique property of empty sets and is called "emptiness".

In contrast to this, "moo" is a property of things that do not exist. A thing is "moo", if it is not there—yet we can speak of it as we can name it:

$$\mathtt{moo}(x) = \mathbf{1} \quad :\Longleftrightarrow \quad |\mathrm{putinto}(x, y)| = |y| \tag{3}$$

Mooish things do not exist, but they do well exist in our universe of reference. They all are "no-things" and the property they share is no-thingness.

Finally, "foo" is a function that for a given thing x delivers its counterpart: for an existing thing x it delivers it's mooish version and vice versa:

$$\mathtt{foo}(x) \quad :\longleftrightarrow \quad \begin{cases} x' \text{ with } \mathtt{moo}(x) = \mathbf{1}, & \text{if } \mathtt{moo}(x) = \mathbf{0} \\ x' \text{ with } \mathtt{moo}(x) = \mathbf{0}, & \text{if } \mathtt{moo}(x) = \mathbf{1} \end{cases} \tag{4}$$

[3] To avoid confusion please recall that "," is just a syntactical means to distinguish one thing ab from two things a, b.

From our definitions it follows immediately that

$$|Koo| = |\{x : \texttt{koo}(x) = \mathbf{1}\}| = |\{\{\}\}| = 1 \quad (5)$$

$$|Moo| = |\{x : \texttt{moo}(x) = \mathbf{1}\}| = \infty \quad (6)$$

$$|Foo_s| = |\{x : \forall x : x \in s \longrightarrow \texttt{foo}(x)\}| = \infty. \quad (7)$$

This means that there is exactly one empty set in our world: there is something that we call empty and there is only one such thing. From this we gain the definition of "1": it is the property of all sets that have the same number of elements as the set *Koo*. It also gives us an idea of the meaning of "∞": it is the number of elements of a set that remains the same when putting something (truly) additional into it. Since there is just one thing of which we know that it exists (namely {} and $\texttt{moo}(\{\}) \notin Moo$), and since the bag containing all such things therefore has exactly one element (*Koo*), we can safely put it into add it to the set thereby increasing its cardinality by 1:

$$\infty + 1 = \infty \quad (8)$$

[We spent a lot of research to resolve the question whether there is a corresponding `boo`*. It was when we discovered that a Japanese Kanji writing of "Moo" is pronounced "Boo" in some Chinese dialects (but also as "Woo") that we wondered why Newtral chose these function and set names. The Kanji symbol for "Moo" (or Boo or Woo) itself has, surprisingly, the meaning of "nothing" or a "negligible set of things". The fact that "Foo" and "Koo" phonetically resemble the meanings of a negating prefix ("non-...") and void or vacuum is, of course, pure incident.—The editors.]*

Between $[-\infty, 3]$ and $[3, \infty]$.

Nothing is what is contained in *Koo*. This is what reminds us of the definition of a hole:

A *hole* is nothing with something around it.

Nothing is trivially written as   , and something around (and enclosing) it means (to draw) something around it (i.e., something around   ). Traditionally, in a nicely curved and rounded style, this is depicted as 0 rather than [   ]. This is perfectly right since 0 is a symbol that we talk about and, therefore it is there—no matter whether its meaning actually exists ($\texttt{moo}(0) = \mathbf{1}$ or $\texttt{moo}(0) = \mathbf{0}$ both imply the existence of their counterparts $\texttt{foo}(0) = 0'$.) This, finally, justifies the notation of

$$\{\}$$

as a hole and therefore the set with nothing in it.[4]

The symbol "0" is commonly pronounced as "zero", sometimes also as "nil" or "nul" or "naught". Whether this explains the common sense meaning of the adjective "naughty" for a wicked problem arising from talking about nothing or making much ado about nothing (i.e. common sense romantic naughtiness) is left as an exercise for the interested reader.

`NULL` is also used as a name for a pointer into the void where a pointer is nothing else than the interpretation of the value of a value: the assignment

```
p=NULL;
```

means that henceforth `p` means nothing: evaluating the pointer (i.e. referring to the object to which it points to) yields   , which, in turn is written as "0"; in other words, `p` is now a pointless pointer. `NIL` also denotes the *empty list of things*:[5].

$$[\qquad] = (\qquad).$$

Clearly, $|[\ \ ]| = |[\qquad]| = 0$, but is $[\ \ ] = [\qquad]$?

[4]An interesting point beyond the scope of this article is how to measure different kinds of holes. Undoubtedly, there are small holes, big holes, deep holes and shallow ones, or even black holes. One might, for example, ask, whether a big hole is just the same as a small hole with less around or whether a small hole is a big hole with less nothing or even less than nothing in it.

[5]Both in Prolog and LISP notation.

Foor. Talking about “”

The word “zero” has an interesting etymology: It originates from “zefiro”. It was one of Fibonacci’s great accomplishments that he brought nothing with him from Africa, where he was raised in his early childhood: “zefiro” is just the medieval attempt of using an already known word meaning “a wind blowing from the west” whose pronunciation came closest to the Arabic word for just nothing (transliterated “*sfr*”). First, it is noteworthy that the west wind is dominant for the spring climate in the Mediterranean and that it is the wind of *least* force bringing about the blooming and, hence, all life. The wind was called after the Greek god $Z\varepsilon\varphi\upsilon\rho o\varsigma$ who, in turn, is known for his rather naught–y lifestyle.

The word (when written *sfr*) has several meanings according to the various forms it may appear in: As a noun, it refers to the second month of the lunar calendar which has the property of beginning with *new moon*—i.e. the very day on which the calendar itself is based is not present in the sense that it is not visible and therefore has no sign. It, too, could be written as , since we can’t see it. As a verb, *sfr* has several similar meanings with slightly different connotations: “to empty” means to take something out of something, “to vacate” means to leave, “to (e)vacuate” means to remove everything leaving nothing, i.e. a void or vacuum as a state of deprivement, and finally, “to free” means to get rid of something. All of these meanings have their counterparts when constructing the perfect form of the verb: we have the emptied, the left (over), the evacuated and the freed.

Yet it is not as simple to speak about the void as it is to speak about a hole: The latter is nothing with something around it, but the former is simply nothing. So evacuating a bottle results in an empty bottle—but not in a bottle containing a vacuum (for the vacuum does not exist: it is what is *inside* the empty set):

$$\texttt{woo}(x) = \mathbf{1} \quad :\Longleftrightarrow \quad \forall s : x \in s \longrightarrow \texttt{koo}(s). \tag{9}$$

The vacuum, so to say, is the only thing that does not exist, it is a thing that negates existence in the sense that one cannot even say “there is a vacuum inside the bottle”. It has been evacuated and now there is nothing left over so there is nothing in it any more so it’s empty. It is interesting to spend another thought on the meaning of “freedom”: it is the former content of the bottle that is freed from its surroundings. Also, the volume of the bottle is free from some kind of physical restriction. A bottle of wine is not as much a bottle as an empty bottle because it is determined by its content whereas an empty bottle is a bottle with the potential of keeping anything (as long as it fits through the neck and into the volume).

Sfr itself was imported to the African-Arabic world from Asia. In Sanskrit, the adjective *sunya* means “nothing”. Its corresponding noun *sunyata* means emptiness or voidness on the one hand but also describes ultimate openness or unlimitedness. Now we find two seemingly dual concepts to be covered under one and the same name. But again, emptiness on the one hand and unlimitedness on the other nicely correspond to the ideas of vacuum and ultimate freedom.

Sunyata is a fundamental term in Buddhism. Buddhism spread all over asia, first to China and then, via Korea, to Japan. Over time many flavours emerged but they all share the fundamental concept of nothing.

From many sutras we can learn that we can’t tell the difference between a thing that is not there and a thing that we can’t perceive. The problem (or rather *the* problem that causes all the trouble) is that nothing is just a thing that is not there and even if it were, we couldn’t perceive it. Just look at the following . Is there a or is it that you just can’t perceive the gap? Either way we seem to be speaking about it, so it is moo. But if we put into a bag, we have

$$\{\quad\} \stackrel{?}{=} \{\}\,.$$

Imagine $\{\quad\} = \{\}$. Then, $\{\quad\} \in \mathit{Koo}$, and, hence, $\texttt{koo}(\{\quad\}) = \texttt{koo}(\{\})$. So far, so good, but let us take a copy of each set and put it into the other one:

$$A := \text{putinto}(\{\}\,, \{\quad\}) \;=\; \{\quad, \{\}\} \tag{10}$$

$$B := \text{putinto}(\{\quad\}\,, \{\}) \;=\; \{\{\quad\}\} \tag{11}$$

They do not only look different, they are: Since we do not know anything about the existence of   , we do not know the cardinality of $\{\quad\}$ (except that it is less than two). Hence the set A may contain 1 or two elements whereas B contains exactly one element and no more and no less. The only difference is whether the set contained in B contains something—but that is not the question. The consequence is that gaps like   are something different than gaps which are not there (it is easy to see that $\quad\neq$). As a result, we have a contradiction to our initial assumption. We conclude that

$$\{\quad\} \neq \{\}\,. \tag{12}$$

V. Void

So not-being is different from being-nothing: it's just that we cannot perceive the difference between an absent being and a (present) not-being. This problem arises from the simple duality inherent to our understanding of the world: *Something is or it is not.* Obviously, this is *wrong*.

Let us now take a look at *Foo*, *Moo* and *Koo* from a philosophical point of view: Just as we described the difference between the an empty bottle and a bottle of wine regarding their respective potential of representing the "ideal bottle", *Sunyata* interpreted as "emptiness" refers to a state of being or a perceiving entity, whereas *sunya* is simply nothing. For an empty mind (or, say, an empty bottle) there is no difference in not being able to perceive its own content (it contains   ) or postulating that there is no-thing in it (it "contains" a *vacuum*) or that it does not contain anything (all it contains are *moo*-ish things).

The problem of discriminating between all these different concepts only arises by the mere attempt to talk and reason about it.

IIIIX. Independence and relating nothing

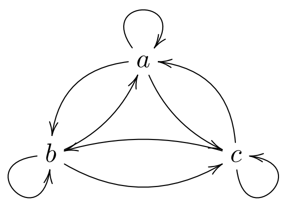
We now come to one interesting part that I do hope will be topic of future research as it concerns not only the very core of mathematics but also every science and, if I might add, the entire life of beings altogether. It is the question of whether nothing can be related to nothing else and, if so, whether it is the same as not relating some-things or no-things.

> *[The author of the manuscript has found posthumous appreciation—even if not directly influenced by his manuscript as it is presented here, but by the individual research of such great mathematicians as Frank Harary, Ronald Read and, of course, Gunther Schmidt.—The editors.]*

Let us consider two sets A, B and C. Imagine that $\texttt{koo}(C) = \mathbf{1}$, i.e. $C = \{\}$. Similarly, imagine that $A = \{a, b, c\}$ with all a, b, c not being `moo`. And finally, assume that $B = \{\texttt{foo}(x) : x \in A\}$.

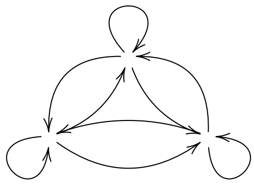
We now consider the relation $\top\!\!\!\top_A := A \times A$. Of course, it is the universal relation on A:

	a	b	c
a	1	1	1
b	1	1	1
c	1	1	1



What does $\top_B = B \times B$ look like? It relates for all x in A the non-existing counterparts `foo`. It becomes what is known as a rather pointless argument: It relates nothings and makes a whole lot ado about nothing:

	1	1	1
	1	1	1
	1	1	1



As one can see, the graph of $\top_B$ is *not empty*; it is not `koo`-ish—it's just that is seems not to have any nodes. This is hard to be put into a formula, because $G_{\top_B} = \langle B, \top_B \rangle$ appears to be

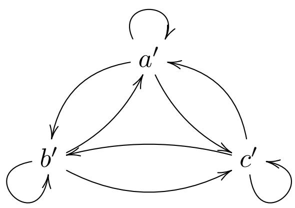
$$\langle \{\}, \{\langle\rangle, \langle\rangle, \langle\rangle, \langle\rangle, \langle\rangle, \langle\rangle, \langle\rangle, \langle\rangle\}\rangle . \tag{13}$$

Since elements of a set occur only once, this would be the same as

$$\langle \{\}, \{\langle\rangle\}\rangle . \tag{14}$$

So, a relation on an empty domain has at least one element! On the other hand, $\top_B$ is a subset of $B \times B$ and B appears to be quite empty. So how can a set with at least one element in it be a subset of an empty set? The answer is simple: It can well be, if all the elements do not exist. Therefore, let us formally precisely redefine $\top_B$, and we shall see that all cumbersome side-effects will disappear:

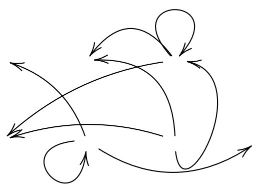
	foo(a)	foo(b)	foo(c)
foo(a)	1	1	1
foo(b)	1	1	1
foo(c)	1	1	1



where all $x' \in$ Moo and $x' =$ foo(x).

Obviously, the graph that we achieve by `foo`ing $\top_B$, is isomorphic to the original one, and we even have that $x'R'y' \iff xRy$. Also, by using oof := foo$^\smile$ we call the result of applying the existential negation `foo` the graph G_{oof}. The problem is that by definition of `foo` and `moo`, the set G_{oof} contains only non-existing things which means that B's cardinality is 0.

To be precise, the according matrix and graph representations then are



where the wild arrangement of arrows is just to indicate that there are many arrows with unknown domain and codomain. But still, everyone would agree that this graph is different from the graph

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Hence, a relation between non-existing things is not necessarily an empty relation.

Let us, finally, consider $\top_C$. It is $\{\} \times \{\}$ and the arrows in there are the arrows connecting x and y for which koo(x) = koo(y) = $\mathbf{1}$, i.e. $x, y \in \{\}$. Trivially, there are no such arrows—and, obviously, $\{\}$ does not contain anything either. So its proper graph representation actually is

.

But since $\mathbb{T}_C$ connects *all* such entities that are in $\{\}$ the relation matrix becomes

$$\begin{array}{c|cc} & & \cdots \\ \hline & 0 & \cdots \\ & \vdots & \ddots \end{array} .$$

which is a possibly infinite matrix with 0s denoting that nothing is connected to anything but height and width, since there is just one `koo`.

We conclude:

$$G_A = \langle A, A \times A \rangle = \langle \{a, b, c\}, \{\langle x, y \rangle : x, y \in \{a, b, c\}\} \rangle \tag{15}$$

$$G_B = \langle \{\}, \{\} \times \{\} \rangle = \langle \{\}, \{\langle x, y \rangle : x, y \notin A\} \rangle \tag{16}$$

$$G_C = \langle \{\}, \{\} \rangle \tag{17}$$

Therefore, relating nothing is similar to speaking about nothing: A comes into existence by its naming. Hence, a relation between nothings is *different* from all the ways one *could* relate nothing. So there is a difference between a graph without nodes, a graph without edges and a graph without both and an empty graph: The latter one is the "purest" graph in the sense as it does not contain points, no edges and, most importantly, no intention of relating anything with anything else. The only consequence of this is the following: The distinction becomes pointless as soon as we do not distinguish between non-existent and non-perceivable points and the lesson learned is that all those problems are simply a-void-able by not trying to distinguish.

[With these remarks, Newtral unknowingly also sheds some further light on the notion of an unsharp relational product, a topic that has been tackled by Gunter Schmidt from various angles: relating nothing to something that itself is related to nothing seems to be properly more than relating nothing to nothing.—The editors.]

|World miracles|. Not the end.

... in which we shall deal with nothing
and the question whether this is would be the same
as not dealing with something.

Having an "empty mind" (Mu shin) means to have no self (for the self is just a creation of something having not an empty mind: "it" starts thinking and as such is able to recognise itself).

Cogito ergo sum

is one common phrase trying to grasp this idea. Another one is that

Being no-one

is the only way to perceive the world as it really is: If we are, there is also some "I" that perceives the world. However, how should "I" perceive myself without having my perception of myself being influenced by I's perception process? Therefore, it is impossible to have a reliable image of the real world unless the perception is *transparent*. But then, again, if it *really* is (absolutely) transparent, it is not perceivable. And that means, that some "I" would be incapable of perceiving itself. "I" is always deceived by its being. And a true "I" is there only if it is empty—just as an empty bottle is a true bottle (in contrast to a bottle of wine (or a bottle of Klein, for which the emptiness problem is even more tricky)).

Trying to give “I” a meaning means to put some sense into it. This again leads us to two famous western philosophers: Heidegger and Wittgenstein.

Heidegger stated that “Dasein” is the state of mind of a being that realizes its thrownness into the world. The only thing one can say for sure about conscious beings is that they know about their existence as a result of being thrown into the world. From this there follows the fear of being taken away from the world again—i.e. to die. As an immediate consequence, every such being tries to find some comfort and it does so by trying to find a sense or reason or justification for its being there. And this is, where, by trying to make life bearable, all the trouble actually starts: Bottles try to give themselves (among all others) a justification by holding something, e.g. some wine, and in this process becoming a bottle-of-wine. This is a strong limitation (and alienation) from a bottle’s true nature as being something that *can* hold many different things (unless it is filled).

Wittgenstein made many attempts to understand Human language and its meaning. It would be far beyond the scope of this small paper to give a satisfying summary. Therefore, we shall just conclude with one famous quote by him:

The meaning of a word is its use.

So, the meaning of “nothing” is: . And since we cannot speak of nothing without speaking, the story about nothing better remains untold:

[At this point the original manuscript abruptly ends. However, it continues in the sense that there are 357 more sheets of paper attached. After several years of intensive research, the editors are still unable to determine whether these pages are empty or whether nothing has been written on them.]