

About Being

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Résumé : Dans cet article c'est la question pérenne de l'être qui est discutée. On esquisse une nouvelle espèce d'ontologie, appelée « ontologie des événements », selon laquelle les objets naturels peuvent être construits comme des événements avec une dimension spatiale. Ce cadre ontologique est utilisé pour introduire quelques-unes des modalités réelles et pour en donner les conditions de vérité. Les modalités discutées sont les attributions modales comme, par exemple, « Néandre peut nager » et les prédications modales comme, par exemple, « Néandre est possible », « Néandre est (= possède l'être) » et « Néandre est actuel ». Pour les modalités prédicatives intemporelles il est démontré 1° que la possibilité est équivalente à l'être, mais non à l'être (ou l'existence) actuel et 2° que le quantificateur existentiel n'exprime pas l'existence actuelle.

Abstract: In this paper I discuss the perennial question of being. I sketch a new kind of ontology, called “event-ontology,” according to which natural objects can be construed as events with a spatial dimension. I use this framework to introduce some of the real modalities and to give the truth conditions for modal attributions such as, for instance, “Neander can swim,” and modal predications such as, for instance, “Neander is possible,” “Neander is (= has being),” and “Neander is actual.” For the untensed predicative modalities it is shown that (1) possibility is equivalent to being, but not to being actual (or actual existence), and (2) the existential quantifier does not express actual existence.

1 Introduction

Tí τὸ ὄν; Qu'est-ce que c'est que l'être ? What is being? The wording of this question is extremely simple, but the debates that it has provoked through the centuries show that to judge it by the number of its syllables would be to underestimate it.

Since the question of being has been under attack from analytically minded philosophers for a long time now and is widely believed to have been done with for good, I'd better explain at the onset what interest I take in it. It is this very question that I investigated in my PhD thesis. In 1969 my PhD supervisor, the late Fernando Inciarte, proposed that I explore the possibilities and assess the chances of renewing the question of being from the practical point of view proposed by Ernst Tugendhat in an article on *the analytical criticism of ontology* [Tugendhat 1967]. Thus, the following pages may be seen as the eventual outgrowth of my sustained efforts to comply with this task ever since. I am going to outline a powerful theory I've developed during the past decade in order to answer the question of being. I choose to call it event-ontology, because it treats natural objects as temporal events with a spatial dimension. And I'll stick to this name when I expand the theory to include matter as an additional component of objects.

2 Natural objects : a rudimentary sketch

Let me begin my exposition of event-ontology by explaining some of the intuitions I have concerning natural objects.

According to John Locke, every natural object which is not a person can be thought of as given by its origin in space and time, the stuff it consists of, and its temporal career in space. He holds that masses like ice, beef, or wood have an identity that consists in their being composed of the same atoms, "let the parts be never so differently jumbled : But if one of these Atoms be taken away, or one new one added, it is no longer the same Mass, or the same Body." [Locke 1639, 330 (II.xxvii.3)] Locke On the other hand living creatures, due to their metabolism, can survive a change of matter so that animals, *fauna and flora*, as well as humans might aptly be called metabolists.

In order to get my theory started I would like to ignore the material dimension of objects. What remains of impersonal objects is their temporal career, including the time and place of their birth. The full theory will eventually contain a device assigning a place to each moment in the

temporal career of a natural object. But to keep difficulties to a minimum, I'll restrict the spatial dimension of natural objects to birthplaces. I am aware of the fact that the term "birth" is an anthropomorphism. But since I shall not be exploiting it theoretically, it will be only a harmless means for the exposition of my theory. There is something more serious about this term. It may convey the idea that every object has a first instant of being. But that need not be so. There may be objects which don't have such a clear-cut beginning. We can conceive of objects which don't have a first moment of existence, although there is a last moment of time before they begin to exist. What I have in mind, then, when I'm talking of the time of birth of an object, is the initial phase of its existence which condensates to the very first moment of existence if there is one. Accordingly, when I am talking of the birthplace of a natural object I have in mind the whereabouts of its initial being.

Neglecting the material composition as well as the whereabouts of a natural object during its further temporal career leads to a focus on the temporal dimension of natural objects. This dimension is composed of three ingredients : genericity, handlikeness and, what I propose to call, entelicity.

2.1 Generic events

The first expression to which I'd like to give a technical meaning is "occurrence." Let's take repeatable events such as, for instance, sunrise or sunset. In the morning the sun rises and in the evening it sets. It has done so every day since time immemorable. Therefore, what occurs every day are particular sunrises and particular sunsets. Let's call these particular episodes "occurrences." An occurrence is a particular stretch of time which may be thought of as a temporal interval. This interval can be modelled as a segment of the real time axis or defined as a non-empty set of moments of time which doesn't contain any fusions, fissions, loops, or gaps. Here are some diagrams of episodes which are *not* occurrences :

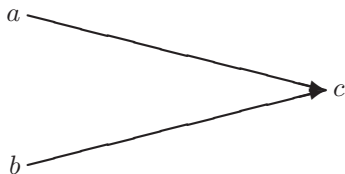


Fig. 1 : $\{a, b, c\}$ contains a fusion (two beginnings)

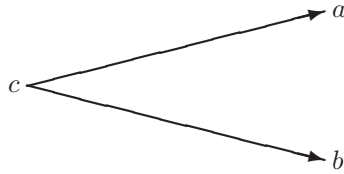


Fig. 2: $\{a, b, c\}$ contains a fission (two endings)

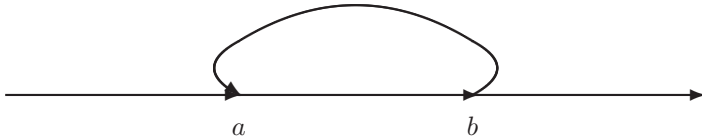


Fig. 3: $\{a, b\}$ contains a way back in time (a loop)

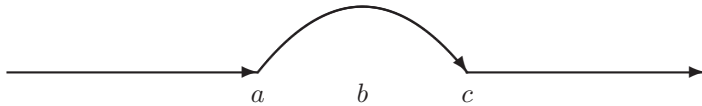


Fig. 4: $\{a, c\}$ contains a gap

Of course, I could precisely define what I mean by “fusion,” “fission,” “loop,” or “gap,” but visualizing occurrences as intervals should be sufficient for our intuitive considerations.

Now, all particular sunsets can be collected into one big set to form what has been called “generic event.” This is how we arrive at the event named “sunset.” In general, generic events are simply sets of occurrences.

2.2 Handlike events

So much for genericity. Let’s proceed to what we can learn from Aristotle about the temporal properties of natural objects. In his *Metaphysics* he distinguishes between different ways of being; among his many distinctions is the modal one between $\delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota\ \delta\upsilon\nu$ and $\acute{\epsilon}\nu\tau\epsilon\lambda\epsilon\chi\acute{\epsilon}\iota\alpha$ or $\acute{\epsilon}\nu\epsilon\rho\gamma\acute{\epsilon}\iota\alpha$ $\delta\upsilon\nu$ (*Met.* Δ 7, 1017a35ff.), between being able to be (to become, to do, to refrain from doing, or to suffer) something and being at work. The correct translations of the Greek phrases don’t matter here because it is only the structural properties behind these distinctions which are important to us.

The temporal structure of a being with abilities or possibilities can be pictured as a hand. Aristotle illustrates what he has in mind by

the example of wheat standing on the field and ripening there. It can keep on growing there until it is harvested in summertime; but it can be destroyed by hail in April, or eaten up by a swarm of grasshoppers in May, or burnt down by the farmer's envious neighbour in June. If we draw a picture of these possibilities we get a diagram like this:

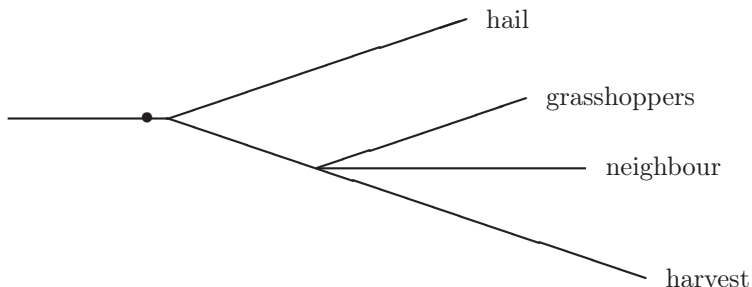


Fig. 5: wheat as a $\delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota \acute{\omicron}\nu$

The bullet marks one of the moments at which the wheat still has all four possibilities; on the line between the branching points lie the moments at which it has only three of them. Since the temporal structure of the wheat resembles that of a hand (in our case one which is lacking in a finger) I propose to call this temporal structure handlike. A generic event is handlike iff (a) it is non-empty, (b) any two of its occurrences have exactly the same past, and (c) any two of them have a non-empty intersection. This is a very general notion which admits handlike events with any number of fingers, from one to infinity, which may be hands in turn which may have fingers of their own, and so on. The important thing about a handlike event is that all of its occurrences have a common past and any two of them have a non-empty intersection.

2.3 Entelic events

An $\acute{\epsilon}\nu\epsilon\rho\gamma\epsilon\acute{\iota}\alpha \acute{\omicron}\nu$, a being at work, is much easier to characterize than a $\delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota \acute{\omicron}\nu$. Aristotle uses several examples, each of them worthy of intensive discussion, but let me pick just one of them, life. He uses an aspectual criterion to characterize what is so special about life; he says $\zeta\eta\acute{\iota} \kappa\alpha\iota \acute{\epsilon}\zeta\eta\chi\epsilon\nu$ (*Met.* Θ 6, 1048 b 27), he is living and he has lived. In order to see what Aristotle has in mind we need only to adorn the conjunction a little bit and say: he is living *at his 50th birthday* and he has lived *for 50 years*. Now, whoever is living at his 50th birthday has had to live

from his birth through this very day, so that the second conjunct follows from the first one. (Obviously this implication cannot hold at the very first moment of life, if there is one.) If we draw a picture of the interval between the time of birth and each moment at which such a being at work exists we get the following diagram:

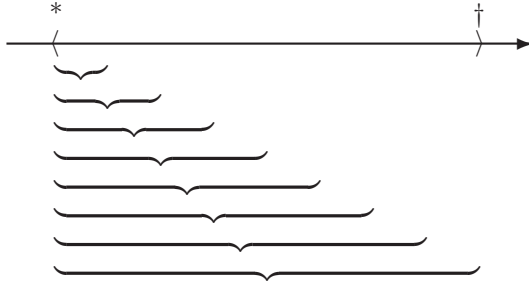


Fig. 6: temporal structure of an ἐνεργεία ὄν

Let's call a generic event entelic iff (a) it is non-empty, (b) any of the initial segments of one of its occurrences is among its occurrences. An initial segment is an occurrence which, in addition to being an initial phase, shares the same past with the occurrence it initiates.

2.4 Natural objects and their identity

Having explained what I understand by genericity, handlikeness, and entelicity, I can give the informal definition of what I call a temporal kernel or, for short, a kernel. It is a non-empty set of occurrences which is both handlike and entelic. As we take a natural object to be determined by its birthplace and its temporal career we can identify it with the ordered pair consisting of a temporal kernel and a birthplace.

Since our wheat is a living being, it is a natural object consisting of a temporal kernel and a birthplace. Therefore, it has the structure of a generic event which is handlike as well as entelic, and thus turns out to be both a δυνάμει ὄν as well as an ἐνεργεία ὄν.

Our definition of a natural object as an ordered pair consisting of a kernel and a birthplace is the key to the event-ontological construction of many kinds of natural entities, including lindividuals (= linear individuals), cosmoi, and many more. Since all of these entitites are set-theoretical constructions there seems to be no problem concerning their identity; for identity of sets is sameness of extensions.

But this sameness is not the only kind of identity that holds between natural objects. Socrates on the day of his birth is younger than Socrates on the day of his death, but he is the same object:

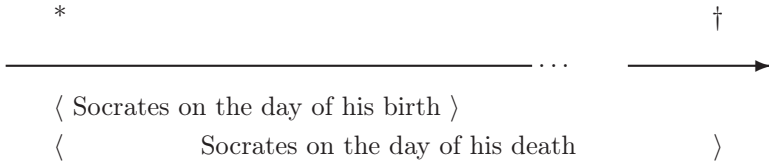


Fig. 7: Socrates on the days of his birth and death

Note that despite their non-branching temporal structure, each of these people harbours again a temporal kernel according to the definition given. So they are generic, handlike and entelic events with a spatial dimension.

Moreover, Socrates who actually died in 399 B.C. from drinking hemlock could have died ten years later or in bed or he could have died abroad while in exile. All of these possibilities have to do with one and the same Socrates:

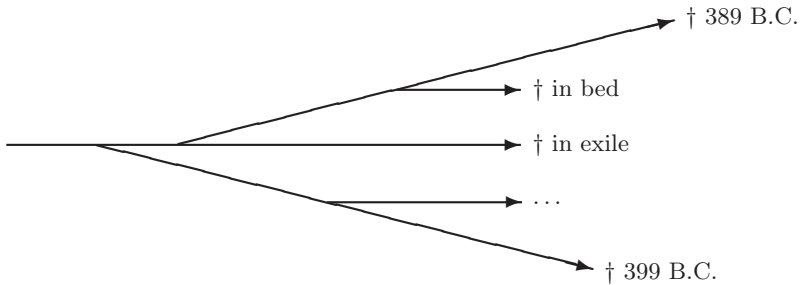


Fig. 8: Socrates and his death in several world histories

In order to cope with all these possibilities, event-ontology assumes several extensionally different Socrateses and collects them into one and the same natural object by the relation of objective identity. Objective identity is an example of taking relative identity seriously.

The idea that underlies the concept of the objective brand of relative identity is rather simple. Two natural objects are the same object iff they have the same birthplace and their kernels fuse to yield a temporal kernel. According to this idea, Socrates on the day of his birth is the same natural object as Socrates on the day of his death because they have the same birthplace and their kernels fuse to yield a temporal kernel—in this case the temporal kernel of Socrates on the day of his death.

Unfortunately, the precise definition of objective identity is not that simple. For Socrates will end up as a huge object whose kernel even contains the present moment of time if we allow the fusion of arbitrary kernels as long as they contain the same birthday. Here is a picture of what could happen in case of uncontrolled fusion:

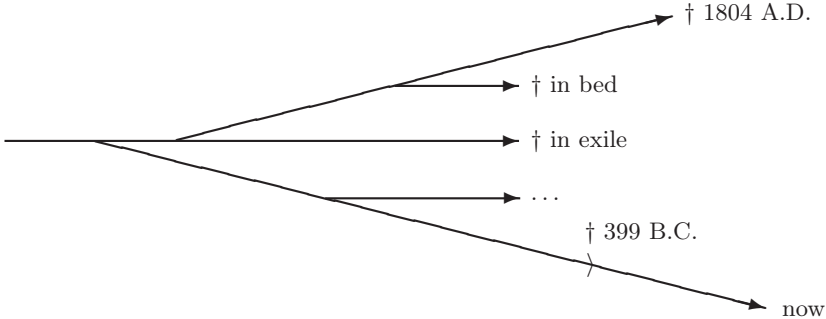


Fig. 9: Runaway Socrates in case of uncontrolled fusion

In order to get an intuitively plausible notion of objective identity we must take steps to prevent the objects whose identity is under discussion from growing into monsters uncontrollably. This can be done by including them within the confines of a suitably chosen natural object. So we get the triadic relation of objective identity: Two ordered pairs, each consisting of a temporal kernel and a birthplace, are the same object within the confines of a given natural object iff their birthplace is the same and their kernels fuse to yield a temporal kernel whose occurrences are made of the moments at which the confining object is occurring. According to this definition, Socrates on the day of his birth is the same object as Socrates on the day of his death within the confines of good old Socrates. Eventually, we can introduce the dyadic relation of being objectively identical by defining that two natural objects are the same object iff there is a natural object within whose confines they are objectively identical.

Including objects within confines can do more than prevent them from growing too large. It also provides us with a means to distinguish between an animal and its body.¹ Since Socrates and his body begin to exist at the very same time and place and share the same temporal career

¹This was pointed out to me by Niko Strobach, Rostock, to whom I am indebted for many additional helpful comments and suggestions. Needless to say that the responsibility for any mistakes remains solely mine. Thanks go also to Renée Flibotte-Lüskow for improving my English style and grammar.

up to his death, they are temporally and spatially indistinguishable until this event. But since his body lasts longer than Socrates himself, there must be a temporal difference between them. This difference can be brought to light by suitably choosing two confining objects, one for him and one for his body. Thus the distinction between an animal and its body does not need to rely on the concept of matter, let alone on a dualistic ontology of matter and form.

In order to answer the question of being event-ontologically we need three more concepts: the concept of a world history, of a lindividual and of a cosmos. A world history is just what you expect it to be, an occurrence of maximal length, an occurrence, that is, such that there is no proper superset which is also an occurrence. A lindividual is a linear individual, to wit, a natural object such that the union of all occurrences in its kernel belongs to its kernel again. We have already encountered such lindividuals: Socrates on the day of his birth and Socrates on the day of his death. Finally, a cosmos is a natural object such that for every occurrence in its kernel there is a complete world history in its kernel containing it. Cosmoi may be flat as lindividuals, in which case they may be regarded as something like an animated world history with a spatial dimension; but they may as well be thick from containing many lindividuals of maximal length, in which case they may be regarded as developments of a whole branching time order seen at one glance. So event-ontology eventually leads to radically abandoning any container theory of time. Time is not a huge box where one can find everything temporal but the temporal stuff which a whole cosmos is made of. Here is a diagram picturing several cosmoi (and I could even have distinguished many more):

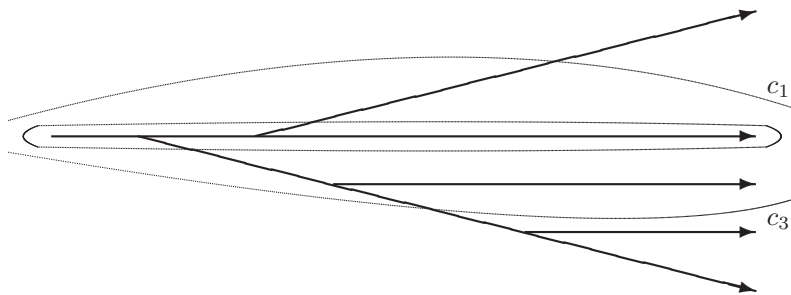


Fig. 10: Cosmoi and cosmic identity

Cosmos c_0 is the one represented by the complete picture; cosmos c_1 is the one below the curve c_1 ; cosmos c_2 is the one in the elongated oval;

and cosmos c_3 the one above the curve c_3 .

Note that all these cosmoi are like the different Socrateses distinct set-theoretical entities, although they are one and the same object. For fusing their kernels results in a temporal kernel so that they are objectively the same within the confines of the cosmos which has the same birthplace as they do and comprises all of their kernels.

So much for objective identity of cosmoi. Cosmic identity, on the other hand, consists of two cosmoi having the same birthplace while their temporal kernels unrestrictedly fuse to yield a temporal kernel.

You may notice that middle-sized natural objects behave like microcosms, or, to put it the other way around, an entire cosmos resembles a huge natural object so that we could consider it to be a macro-object.

2.5 Janus

I propose that we call the natural object whose temporal kernel is the actual world history and which has the same birthplace as our cosmos “Janus.” What is our cosmos? There are many ways the actual world history could have been, but neither was nor is, and many other ways it can be, but will not. If we collect all these possible and actual world histories together we get a huge temporal kernel, the kernel of what I mean by “our cosmos.” The reason for attributing actuality to it is that its kernel contains the actual world history. And the reason not to classify it as a world is that semanticists think of worlds as sets of instants. (For an exception see [Belnap 1992, 392].)

In comparison to our cosmos Janus is not thick, but flat; in fact, it is a lindividual cosmos with the characteristic feature that it is going through the present moment of time. It can be thought of as a huge natural object which is developing in the actual time. Being a lindividual, every two of its occurrences are contained in one another; that’s what makes it flat. And being a cosmos, its kernel harbours a world history; this is what bestows maximal length upon it. Going through the present moment it exists right now. Not only does it contain the actual present but also the whole actual past; and if there is going to be an actual future it must be Janus’s. That’s where its name comes from: from facing the past and the future at the same time. But although Janus has both a definite past and a definite present, its future is still open and undetermined. This is to say that it is Janus which is the object of everybody’s concern about his future. It is Janus which is the object of our investigations in science. So the term “Janus” refers to one and only one actual entity which, nevertheless, is ontologically indeterminate.

Notwithstanding its indeterminacy, Janus possesses at least four kinds of identity: set-theoretical identity, objective identity, lindividual identity, and cosmic identity. Since the term “lindividual identity” is new let me first explain what it means. Two entities are the same lindividual within the confines of a given natural object, lindividual or not, iff they are lindividuals with the same birthplace and with temporal kernels which fuse to yield a lindividual kernel whose occurrences are built from the moments of time provided by the confining object. And now we turn to Janus’s multiple identities. First of all, it is a set-theoretical object, an ordered pair consisting of a kernel and a birthplace, and therefore it possesses a set-theoretical identity; it is at least the same set as itself. Secondly, Janus is a natural object within the confines of a suitable object and therefore it possesses objective identity; it is at least the same object as itself. Thirdly, Janus is a lindividual and therefore it possesses a lindividual identity; it is at least the same lindividual as itself. And finally, Janus is a cosmos and therefore it possesses a cosmic identity; it is at least the same cosmos as itself.

These identity statements are not interesting in themselves but were made only to introduce the corresponding identities. More rewarding is a comparison of Janus with our cosmos. It is the same cosmos as ours and, within the confines of itself, the same lindividual as Janus as of now. This fact does not imply that our cosmos is the same cosmos or the same lindividual as Janus as of now. For our cosmos is not a lindividual and thus cannot be lindividually identical to Janus as of now; and since Janus as of now is not a cosmos—it is not old enough, so to speak—it is not the same cosmos as the actual one. Here is a visualization of Janus as of now among several other natural objects:

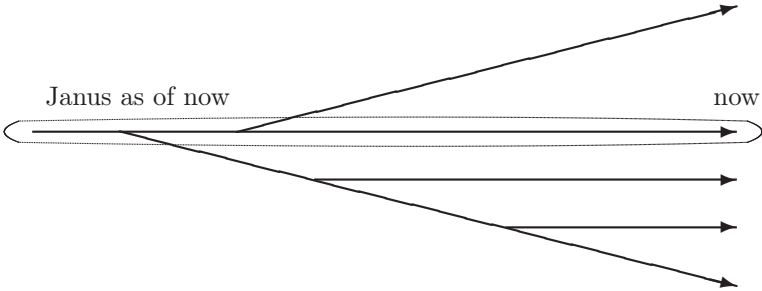


Fig. 11: Janus as of now and other natural objects

One of the most interesting facts about Janus is that it is the same lindividual as Janus as of now. That is to say that Janus as of now is

now, at this very moment, the same individual as fully grown Janus is at the end of the actual world history whatever individual it might turn out to be then.

After having discussed some of the identities in which Janus is involved, we can now show that the term “the actual cosmos,” and thus the word “actual,” is indexical. Indexicality of a term consists in its reference depending on the context of its utterance. In uttering the term “the actual cosmos,” we are referring to an entity which is our cosmos then, on the occasion of utterance. Take two occasions A and B such that A is earlier than B . Uttering on occasion A the term “the actual cosmos” we are referring to an entity which is our cosmos on occasion A . This entity is younger than the entity we are referring to when uttering the same term on occasion B . So we must be referring to two distinct objects; and they are distinct because they have differently sized temporal kernels. Whence it comes that our analysis complies with the following principle which Peter van Inwagen posed as a test of indexicality:

- (P) If R is a referring phrase, and if it is not possible that there be distinct occasions of utterance A and B such that, on occasion A , R refers to some object O , and, on B , R does *not* refer to O , then R is not indexical.
[Inwagen 1980, 308]

Although the references of the term “the actual cosmos” are distinct set-theoretical objects we are referring to what objectively is one and the same entity. For the actual cosmos of A is, within the confines of our cosmos, the same object as the actual cosmos of B . Therefore we are referring to the same natural object on both occasions. The reason why we are not trapped in a contradiction is that the difference between the actual cosmos of A and the actual cosmos of B is set-theoretical while their identity is objective.

3 Real modalities

We are now in a position to analyse the real modalities and among them the modes of being. There are three sorts of such modalities. They are best distinguished by the ways they are talked about. In the simplest case a real modality is used to attribute an ability to a natural object, *e. g.* “She can swim.” Next in comprehensibility come the impersonal modalities which we may think of as attributions to no subject, as for example “It can rain.” Only modal predications which are attributions of nothing, such as “He is possible,” are truly hard to explain.

3.1 Modal attributions

If we knew about the truth conditions of modal attributions we could derive those for the two other kinds of modal propositions by simply deleting everything to do with either the subject or the attribute. The most plausible and intuitively convincing truth conditions for weak modal attributions I can think of are the following:

Rule for weak modal attributions

(a) Syntax

If τ is a singular term and ε an event term $\ulcorner \tau \text{ can } \varepsilon \urcorner$ is a weak modal attribution.

(b) Semantics

$\ulcorner \tau \text{ can } \varepsilon \urcorner$ is true iff there are κ and γ such that

- (1) $\mathfrak{S}(\tau) = \langle \kappa, \gamma \rangle$,
- (2) $\langle \kappa, \gamma \rangle$ is a natural object,
- (3) $\mathfrak{S}(\varepsilon)$ is a generic event,
- (4) there is an occurrence $v \in \kappa$ as well as an occurrence $v' \in \mathfrak{S}(\varepsilon)$ such that $v' \subseteq v$.

Before commenting upon this rule let me just note that the object language under discussion is not tensed. Otherwise I would have needed to relativize the notion of truth to a moment of time. I refrained from doing so for the sake of simplicity. Thus we won't be able to discuss what something can do as opposed to what it could do or what it will be able to do. The reader should be alerted to the fact that what I am going to say about the modes of being might sound somewhat as if it is being said from a divine perspective.

Now for the comments on the rule. \mathfrak{S} is the interpretation function which takes terms and gives entities on a temporal frame which I have omitted up to now in order to reduce complexity. This frame is an ordered pair consisting of a non-empty set, which you may think of as moments of time, plus a dyadic relation on it, the so-called earlier-later relation. Its name derives from the fact that it is usually pronounced “ t is earlier than t' ” or “ t' is later than t .” Its ordering powers enable us to order moments of time so as to obtain occurrences. Since these are usually local and not global phenomena, we can forget about the global outlook of the earlier-later relation in most cases. That is why we don't require more of it than plain dyadicity. Ignoring the global properties of the earlier-later relation gives event-ontology a flexibility that makes

it widely applicable in various fields. My favourite field of application is agent causality. Since freely acting people are local and not global phenomena, I may be allowed to assume that time *may locally* have the branching structure which is needed in order to define temporal kernels adequate for such agents.

The fact that the ordering powers of the earlier-later relation are restricted to moments of time gives us the opportunity to enrich a temporal frame by adding any kind of entity which seems suitable to our purposes, such as, for instance, sets or positions in space. Profiting from this opportunity we may use a temporal frame as universe of discourse which, as semanticists, we need in order to construct our models. The only non-standard thing about this universe is that it comes in the company of an earlier-later relation.

3.2 Modal predications

Let's skip the impersonal modalities and immediately proceed to the rule for weak modal predications. If we apply the strategy to delete anything to do with an attribute from the rule for weak modal attributions we get the following truth conditions:

<p>Rule for weak modal predications</p> <p>(a) Syntax If τ is a singular term $\ulcorner \tau$ is possible \urcorner (<i>ossia</i>: $\ulcorner \tau$ can be \urcorner) is a weak modal predication.</p> <p>(b) Semantics $\ulcorner \tau$ is possible \urcorner is true iff there are κ and γ such that</p> <ol style="list-style-type: none"> (1) $\mathfrak{S}(\tau) = \langle \kappa, \gamma \rangle$, (2) $\langle \kappa, \gamma \rangle$ is a natural object.

According to this rule, for natural objects to be possible is just to be a natural object. Now, a sentence in the form of $\ulcorner \tau$ is a natural object \urcorner implies $\ulcorner \exists x x = \tau \urcorner$. Therefore $\ulcorner \tau$ is possible \urcorner implies $\ulcorner \exists x x = \tau \urcorner$. Analytical philosophers are fond of interpreting such quantificational formulas in the sense of $\ulcorner \tau$ exists \urcorner . But is possibility really a sufficient condition of existence? That depends on how strongly you interpret the notion of existence. You may interpret it either in the sense of “actual existence” or in the sense of “being” *tout court*. Of course, possibility does not imply actual existence, but, most astonishingly, it does imply being.

Let me begin to justify my double claim by giving the truth conditions for $\lceil \tau \text{ is} \rceil$ first. What is the difference then, between being possible and being *tout court*? What must be added to something that *can be* so as to get something that *is*? To begin with, I want to point out that something possible already has some sort of being. For to be possible is to be a natural object; but obviously being a natural object is not yet being. In order to bestow being upon something it has to be related to something different from itself. The only thing which is generally available for that role is a cosmos. So I assume that to be is to be in a cosmos. Thus the modal predicate “being” is elliptical for “being in a cosmos.” This completion immediately gives us the truth conditions for elliptical modal predications, as I call them:

Rule for elliptical modal predications

(a) Syntax

If τ is a singular term $\lceil \tau \text{ is} \rceil$ is an elliptical modal predication.

(b) Semantics

$\lceil \tau \text{ is} \rceil$ is true iff there are κ , γ and ω such that

- (1) $\mathfrak{S}(\tau) = \langle \kappa, \gamma \rangle$,
- (2) $\langle \kappa, \gamma \rangle$ is a natural object,
- (3) ω is a cosmos,
- (4) $\langle \kappa, \gamma \rangle$ is a natural object within the confines of ω .

My reason to call sentences in the form of $\lceil \tau \text{ is} \rceil$ elliptical is that they are equivalent to sentences in the form of $\lceil \tau \text{ is in a cosmos} \rceil$. The constituent “in a cosmos” may be omitted as redundant as we may omit the redundant constituent “of somebody” from a sentence in the form of $\lceil \tau \text{ is the mother of somebody} \rceil$.

I think it’s pretty clear that to be implies to be possible. As I already claimed, the converse holds as well. In order to show this let’s distinguish between two cases. Case one: the value of τ is a cosmos. Then it is a natural object within the confines of a cosmos because every object is what it is within the confines of itself. So clauses (3) and (4) of the semantical rule for elliptical modal predications are satisfied by the value of τ . Case two: τ is not a cosmos. Then, starting from the value of τ , we may construct a cosmos in the following way: for every occurrence in the kernel of this value we take a superset which is a world history, then we collect all such histories together with their initial segments into one set and unite this with the kernel we started from; finally, we add a birthplace. The entity we get is a cosmos confining the value of τ . \square

This little argument shows that in event-ontology being possible is equivalent to being *tout court*:



Fig. 12: Implications between weakness and ellipticity

Isn't this result too strong? I don't think so. Perhaps my formulation makes it sound a little strong. Of course, I don't want to claim that what was possible still is or what is possible already was. Since our object language is untensed, perhaps I should have phrased my claim like this: untensed possibility is equivalent to untensed being. Putting my claim that way is tantamount to saying that tensing is needed in order to be able to differentiate between possibility and being.

At any rate, the event-ontological construction of the weak and elliptical modes of being entails that being possible is both a necessary and a sufficient condition for being *tout court*. Therefore we shall not encounter an ontological problem in the fact that $\ulcorner \tau \text{ is possible} \urcorner$ implies the existential quantification $\ulcorner \exists x x = \tau \urcorner$ as long as we are not forced to interpret the last formula in the sense of $\ulcorner \tau \text{ actually exists} \urcorner$.

But wait a minute, you might object, $\ulcorner \exists x x = \tau \urcorner$ is a valid formula of quantification theory. So what could hinder the value of τ from existing in our cosmos? But if so there seems to be such a value in actuality because our cosmos is actual. This sounds like an unsurmountable objection—it can, however, be easily rebutted. Of course, there is a value of the term τ even in Janus. But we must not think that this value might recur identically in every other cosmos as well.

I think there is yet another way to show that we are not forced to read $\ulcorner \exists x x = \tau \urcorner$ in the sense of $\ulcorner \tau \text{ actually exists} \urcorner$. In order to show this let me give the truth conditions for indexical modal predications. After what I've said about “being” as being short for “being in a cosmos” it should not come as a surprise that I hold that to be actual is simply to be in the individual cosmos called “Janus.” Here are the truth conditions for indexical modal predications:

Rule for indexical modal predications

(a) Syntax
 If τ is a singular term $\ulcorner \tau$ is actual \urcorner is an indexical modal predication.

(b) Semantics
 $\ulcorner \tau$ is actual \urcorner is true iff there are κ and γ such that

- (1) $\mathfrak{S}(\tau) = \langle \kappa, \gamma \rangle$,
- (2) $\langle \kappa, \gamma \rangle$ is a natural object,
- (3) there is an occurrence $v \in \kappa$ and an occurrence v' in Janus's kernel such that $v \subseteq v'$.

Obviously, to be actual implies to be possible but is not implied by it. What is not so obvious is that the same holds true for the implicative relation between being actual and being *tout court*. Since Janus is a cosmos, a natural object which satisfies clause (3) of the semantical rule for indexical modal predications occurs within the confines of a cosmos. This implies that it has being *tout court*. But since Janus need not be the cosmos within whose confines a natural object occurs, the converse does not hold. In the following diagram I put together the implicative relations between weak, elliptical, and indexical modal predications:

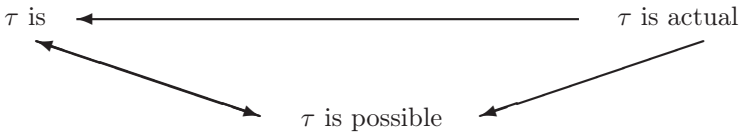


Fig. 13: Implications between weakness, ellipticality, and indexicality

Let me explicitly stress the fact that being is not equivalent to being actual. Arthur Prior, the founder of modern tense logic, seems to have thought differently. He openly subscribed to a redundancy theory of actuality [Prior 1970]. But the modal predicate “actual” is not superfluous in, and may not be omitted from, sentences in the form of $\ulcorner \tau$ is actual \urcorner .

Only now are we in a position to see that existential quantifications of the form $\ulcorner \exists x x = \tau \urcorner$ do not express the actual existence of the value of τ . Of course, such a value is bound to exist in the lindividual cosmos called “Janus.” But Janus is objectively the same as our cosmos whose kernel is harbouring many more world histories in addition to the actual one. Note that the existential quantification $\ulcorner \exists x x = \tau \urcorner$ is satisfied if there is a value of τ within the confines of such a thicker cosmos even if the occurrences of the value of τ do not belong to an occurrence of

Janus's. In other words, a thicker cosmos like ours may contain a niche far away from Janus where we can find a value of τ . Here is a picture of such a situation:

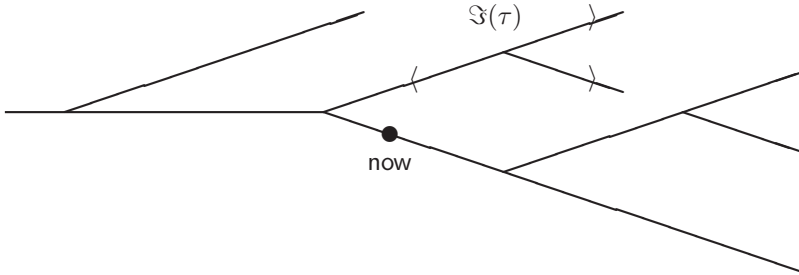


Fig. 14: Objects that exist away from Janus

As this picture shows, we may accept existential quantifications of the form $\lceil \exists x x = \tau \rceil$ with all their validity without committing ourselves to the actual existence of the value of τ . Things which satisfy existential quantifications of this form may be situated in the ontological neighborhood of Janus. Thus the existential quantifier does not express actual existence.

4 Conclusion

My aim in this article was to answer the question “What is being?” This question comprises two in one: it may be taken as asking for the meaning of the word “being,” and it may be construed as concerning its extension.

My answer to the first question is: for natural objects to be is to be in a cosmos or, equivalently, to be possible. Due to this equivalence nobody should be seduced into confusing being with being actual.

My answer to the second question is included in my first answer. Natural objects compose the extension of what is. But only natural objects whose occurrences share a moment of time with Janus are actual. For to be actual is to have an occurrence within its confines.

Both answers are preliminary because they hold only for untensed real modalities. The full theory will show to which extent these results carry over to the tensed ones.

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