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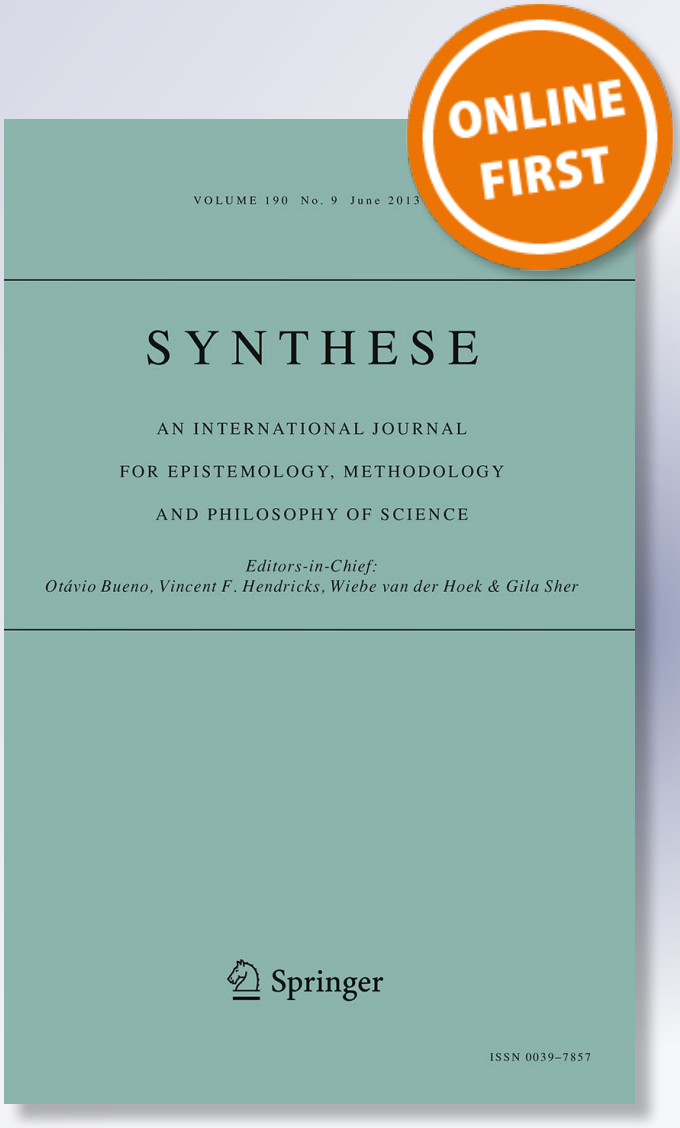

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Abstract The standard view about existence is that existence is a univocal concept conveyed by the existential quantifier. A less common philosophical view is that existence is a first-order property distinguishing between 'nonexistent' and existing objects. An even less common philosophical view is that existence divides into different 'modes of being' for different kinds of entities. Natural languages, this paper argues, generally distinguishes among different existence predicates for different types of entities, such as English 'exist', 'occur', and 'obtain'. The paper gives an in-depth discussion and analysis of existence predicates in English within the general project of descriptive metaphysics, or more specifically 'natural language ontology'.

Keywords Existence · Intentional objects · Facts · Events · Natural language semantics · Persistence · Endurance

Existence is a central notion in metaphysics and it is associated with three important questions:

[1] Is existence a univocal concept or are there different modes or degrees of being, different forms of reality, for different types of entities?
[2] Are there entities that have 'being' in some sense but not existence?
[3] Is existence conveyed by predicates such as *exist* or by quantifiers?

This paper addresses these questions from the point of view of natural language. Thus, it addresses the question whether natural language reflects a distinction between

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different modes of being or whether it displays a univocal notion of existence. It addresses the question whether natural language involves an ontology of entities that have being but not existence. And it examines the way existence is conveyed, by existential constructions or by existence predicates such as *exist*. Focusing on English, this paper argues for the following answers to these questions. First, natural language displays particular kinds of modes or ways of being, but conveyed by different existence predicates such as English *exist, happen*, and *obtain*. Second, natural language reflects a Meinongian view, with an ontology that includes entities that have being but not existence. Finally, existence in natural language is semantically conveyed by existence predicates, not existential quantifiers. Quantifiers, at least in English, are neutral as regards different modes of being associated with different sorts of entities as well as existent and nonexistent entities. Existence predicates, at least in English and related languages, convey particular ways of being which are not the modes of being generally distinguished in contemporary or historical philosophy. English existence predicates convey ways for entities to relate to time (persistence conditions), as well as more generally space and time. Thus, e*xist* has both a time-related use and, as pointed out by Fine (2006), a space-relative use, both of which impose particular restrictions on the types of entities they can apply to. The paper will account for those restrictions and argue that the time-independent use of *exist* is derivative upon the time-dependent use.

This paper focuses almost entirely on existence predicates in English, *exist, occur, happen*, and *obtain*. This is in accordance with the general view in contemporary linguistic theory, that an in-depth investigation of a well-chosen phenomenon in a particular language is likely to reveal something fundamental to all languages or our cognitive system as such. This is the established view in generative syntax, but there are equally good reasons to uphold it for semantics as well as for natural language ontology, at least given a suitable range of linguistic data.[1]

This paper is not a paper in linguistic semantics, though, but rather in descriptive metaphysics, more specifically natural language ontology. This means that the presentation and discussion of the linguistic data will throughout be pursued in relation to relevant views in metaphysics. The paper will first situate its project within the context of contemporary metaphysics. It will then discuss quantification and reference in natural language in regard to the notions of existence and modes of being and then come to the main part of this paper: existence predicates in English with their time and space-related uses.

[1] The restriction to a particular language is also in accordance with the practice of descriptive metaphysics as such. Linguistic data and generalizations, even if just from a particular language, are considered a manifestation of the sorts of fundamental intuitions that descriptive metaphysics aims to make use of.

1 The background: Natural Language ontology, descriptive metaphysics and foundational metaphysics

For some philosophers the focus of this paper on natural language may raise the question 'why should the way natural language reflects existence matter for the philosophical debate'? There is an inclination among contemporary philosophers to think that whatever natural language may display, it will be independent of the question of what existence really is, whether there really are things that have being but not existence and whether there are really different modes of being for existent entities. It is therefore important to situate the question about natural language properly and give it its legitimacy within the philosophical context.

Two different branches of metaphysics should be distinguished. One is what Fine (2017) calls *foundational metaphysics*. Foundational metaphysics asks the question of what there really is; its subject matter is the general nature of reality. Foundational metaphysics thus addresses the question of what existence really is, whether there are really different modes of being and whether nonexistent objects are really there. The other branch of metaphysics is what one may call, following Strawson (1959), *descriptive metaphysics*.[2] Descriptive metaphysics has as its subject matter the ontology reflected in our ordinary judgments. This is not the metaphysics of 'what there really is', but of 'what there appears to be', the 'metaphysics of appearances', as Fine (2017) calls it. A particular version of descriptive metaphysics is the metaphysics that focuses on linguistically reflected intuitions, *natural language ontology* (Moltmann 2017a).[3] Natural language ontology aims to uncover the metaphysics that is implicit in natural language and that may diverge both from the reflective metaphysics of speakers of the language (or that particular philosophers may be willing to accept) and the metaphysics of what there really is. For example, natural language permits reference to a great wealth of derivative or minor objects (nonworldly facts, institutional roles, shadows etc.) many of which certain types of speakers upon reflection may not be willing to accept as objects of their own. Even though it does not directly concern the nature of reality, the metaphysics implicit in our way of speaking or thinking is clearly an important subject matter in itself. The metaphysics reflected in natural language certainly belongs to our cognitive faculty just as much as the syntax and semantics of natural language do.

Also the notion of existence is reflected differently in natural language than in the way various philosophers have conceived of it. While it is an interesting question why that should be so, this paper will rest with the descriptive aim of establishing a range of generalizations about the reflection of existence in English and in particular the notions of existence that English existence predicates convey. Here just a few words regarding common conceptions of existence in philosophy.

The standard view about existence in contemporary metaphysics, mainly due to Quine, is that existence is a univocal concept conveyed by the existential quantifier (in a logical language). A less common philosophical view is that existence is a first-order

[2] Fine (2017) call this 'naive metaphysics'. However 'descriptive metaphysics' certainly is the better established term.

[3] See also Bach (1986), who uses the term 'natural language metaphysics'.

property distinguishing between nonexistent (past, possible, or merely intentional) objects and existing objects. Such a view generally draws a sharp distinction between the existence predicate *exist*, which conveys existence in that sense, and the existential quantifier, which is neutral as regards existent and nonexistent objects.[4] An even less common philosophical view in the history of analytic philosophy is that existence divides into different 'modes of being' for different kinds of entities, that is, the view that different kinds of entities have different kinds of reality.[5] The latter view has received some renewed attention, in the form of ontological pluralism.[6] This more recent interest in modes of being is firmly situated within foundational metaphysics and focuses on distinctions between fundamental or natural entities and less fundamental or natural ones. More fundamental entities have a greater 'degree of being' than less fundamental ones. Thus, entities such as holes and shadows have a lesser degree of being than ontologically independent ones.[7] In the recent literature, modes of being in that sense have been tied to different quantifiers, rather than different existence predicates (McDaniel 2010a, b).[8]

We will see that natural language (or at least English and related languages) reflects different modes of being not based on fundamentality, but rather based on how entities relate to space and time.[9] Moreover, natural language (or at least English and related languages) does not reflect modes of being with different quantifiers, but rather with different existence predicates. Or rather, more carefully put, natural language reflects different ways in which entities relate to space and time with different existence predicates.

2 Quantification and the expression of existence

Let us start with question (3), how existence is expressed in natural language, and in that regard also address question (2), whether natural language permits reference to intentional (nonexistent) objects.

The common, Quinean view is that existence is expressed by quantification or the *there is/are*–construction. In natural language, however, existential quantifiers and *there is/are* do not as such convey existence. Natural language rather reflects the Meinongian view according to which quantifiers such as *a, some, two* and *there is/are*

[4] See, for example, Salmon (1987, 1998), Zalta (1983, 1988), Muyskens (1989) and Priest (2005).

[5] See McDaniel (2009) for a recent discussion of the view of existence dividing into different modes of being.

[6] See Turner (2010) and McDaniel (2010a, b, 2013).

[7] For a recent defense of the Quinean view see van Inwagen (1998). The view of existence dividing into different modes of being had been held by Aristotle, Heidegger, Sartre, and Moore.

[8] An older view about modes of being, involves a distinction between the being of material objects and the 'existence' of free agents (and perhaps the transcendence of god). This distinction is associated with Augustin, Sartre, as well as Jaspers.

[9] More generally, it appears that what is fundamental can draw little elucidation from natural language. Natural language, for example, does not distinguish between natural and non-natural properties, but generally displays only predicates (and their corresponding nominalizations) expressing non-natural or abundant properties.

are neutral regarding existence and non-existence, as is the use of 'referential' singular terms (names and definite descriptions).[10]

They can all be used to talk about 'nonexistent' entities.[11] In natural language, existence is not expressed by quantifiers, but instead by existence predicates such as *exist* in English. This is reflected, for example, in the possible truth of Meinongian statements such as (1), where *there are* ranges over things of which existence is denied:

(1) There are objects of thought that do not exist.

Quantifiers at least in English and other European languages do not distinguish among different modes of being for different sorts of entities. Rather, the very same quantifiers are used to quantify over entities of any sort as well as over past and intentional objects. If this is a crosslinguistic generalization, then this means that a view such as McDaniels' (2010a, b, 2013), which posits different quantifiers for different modes of being, is not reflected in natural language.

Not only quantifiers, but also singular terms in natural language are neutral as regards existence. This is most obvious when singular terms occur in the subject position of a negative existential, as below[12]:

(2) a. The king of France does not exist.

b. Vulcan does not exist.

In negative existentials, the subject term, on one view, is an empty term, *exist* expresses the trivial property everything has, and negation is taken to be external negation (so that (2b) roughly means 'it is not true that Vulcan exists').[13] On another view, the Meinongian view, the subject in a true negative existential always stands for an entity, but a 'nonexistent' one, an entity of which an existence predicate such as *exist* is false.[14] There is considerable support for the Meinongian view from natural language.

[10] Meinongians have long argued that existential quantification, unlike predication with *exist*, is not existentially committing. Recent Meinongians include Parsons (1980), Priest (2005) and Zalta (1983, 1988), as well Salmon (1987, 1998) (for past and possible objects only).

[11] Note that existential quantifiers and *there is/are* can be *used* to express existence, as below:
(i) a. There aren't any objects of thought.
b. There aren't any objects like tables and chairs.

[12] There is a common view, held most notably by Frege, that *exist* is a special, second-order predicate, applying to concepts rather than individuals (and thus expressing instantiation or non-emptiness of extension). From the point of view of natural language this is not plausible, though. *Exist* does not require, like putative second-order predicates, predicative expressions. Rather it requires expressions in subject position that act as singular terms, as in (4a, b) and (5a,b), or that act as quantifiers binding individual variables, as in (4c). Further support for the status of the subject of *exist* as a singular term comes from its support of anaphora, which are not anaphora relating to predicates as antecedents (*one, that*), but anaphora relating to singular terms (*he, she, it*).

There are also philosophers that have argued for *exist* not being a second-order predicate but a first-order predicate including Miller (1975, 1986, 2002), Salmon (1987, 1998), and McGinn (2000).

[13] See Sainsbury (2005) as a representative of that view.

[14] There is also a third, hybrid view, that of Salmon (1987, 1998), on which the subject term in true negative existentials sometimes stands for an object of which *exist* is false, namely an object that has existed only in the past or a merely possible object. If the subject of the negative existential is a fictional term, though, Salmon takes it to be empty, with negation then being external negation.

This support, though, does not so much come from sentences that the philosophical literature has focused on, namely sentences such as (1) and (2a, b). (1) is a quasi-philosophical statement, and as such not truly indicative of the ontology implicit in natural language.[15] For negative existentials with simple definite NPs and names in subject position such as (2a, b), there are alternative analyses on which they do not involve NPs standing for objects at all.[16] The better support for the Meinongian view being reflected in natural language rather comes from constructions whose compositional semantics *requires* intentional objects as semantic values, constructions which are usable without philosophical reflection. These are noun phrases modified by relative clauses with first intensional predicates (in a broad sense, including temporal predicates, which shift the time of evaluation) and second intentional predicates, predicates like *read about, hear about, described, mention*, and *think of*[17]:

(3) a. There are some buildings that were built in the last century that no longer exist.
    b. There are some events that John read about / heard about that did not take place.
    c. There are buildings described in the book that do not exist.

(4) a. Some buildings the guide mentions do not exist.
    b. Some things John thought of do not exist, for example Vulcan.

Sentences like (3a, b, c) and (4a, b) are part of ordinary discourse and not presuppose any form of philosophical reflection.

Also descriptions with intensional or intentional predicates require their semantic value to be a 'nonexistent' object:

(5) The building built there last year no longer exists.

(6) a. The book John is thinking about does not exist.
    b. The building mentioned in the guide does not exist.

In (5), past tense allows a nonexistent object to act as semantic values of the descriptions in subject position. In (6a, b), the subject consists of a definite description formed, crucially, with an intentional verb, such as *mention* or *think of* . Such verbs take intentional 'nonexistent' objects as arguments when the intentional act they describe is not successful, and these entities should be the ones the existential quantifiers in (6a, b) range over.[18]

[15] For the view that quasi-philosophical statements, statements that imply a certain amount of philosophical reflection, should not be taken into account for the ontology reflected in natural language see Moltmann (2017a).

[16] Thus, the Russellian view does not as such take definite NPs to be singular terms, and names in negative existentials have been treated as empty names (see Fn 13). See also Azzouni (2010) for a non-Meinongian account of simple negative existentials.

[17] See the discussion in Moltmann (2015), where the notion of an intentional predicate and the difference between intensional and intentional predicates are discussed in greater detail.

[18] See McGinn (2000) for a philosophical defense of that view, and van Inwagen (2008) for a critical discussion.

If intentional 'nonexistent' objects are involved in existentially quantified negative existentials as in (6), then they may just as well be part of the semantics of negative existentials with 'empty' proper names or descriptions associated with a failed or pretend act of reference.

There are, of course, also positive existentials:

(7) a. The president of France exists.
b. Mars exists.

Exist as a first-order predicate in positive existentials as in (7a, b) is usually taken to express a trivial or almost trivial property, the property every entity has or, less trivially, the property that every present and actual entity has. However, positive existence statements do not generally express trivial truths, and we will see that the primary use of *exist* is in fact a location-dependent use, which does not lead to sentences that are trivially true. Time-relative uses of *exist*, for example, permit highly informative statements about past and future existents.

3 Existence predicates in natural language

Existence in English thus is expressed by existence predicates. But what defines a predicates as an existence predicate? What characterizes *exist* as an existence predicate is its behavior in negative existentials as in (1–6). Existence predicates differ from ordinary predicates in that with a non-referring subject (or rather a subject term not standing for an actual object), they generally yield true sentences if they are in the scope of negation, as in (1–6), and false sentences if they are not in the scope of negation.

Exist is not the only existence predicate in English. In fact, natural languages generally do not display a single existence predicate, it seems, but different existence predicates for different types of entities. Such selectional restrictions are imposed whether or not the entities to which the existence predicates apply 'exist'. In English, at least, the restrictions of existence predicates to particular types of entities are linked to the fact that those predicates have time- and space-relative uses, as we will see.

The philosophical concept of existence is generally taken to apply to any actual entity of whatever its type. However, the English predicate *exist* in fact applies only to certain types of entities and that not only for 'ordinary' speakers (non-philosophers), but also philosophers when engaging in ordinary discourse.[19] Roughly, the general-

[19] It is remarkable that philosophers even if they have a reflective notion according to which existence is univocal are unable to use *exist* for events.

Interestingly, the nominalization *existence* appears able to convey the unvocal concept of existence, as well as covering different modes of being at once, depending on the philosophical view of the language user. The nominalization thus conveys a notion of a speaker's reflective metaphysics, but not the verb from which it is derived, which is restricted to notion of the metaphysics implicit in language. The structure of language thus appears to display different degrees of implicitness of the metaphysics adopted by speakers.

ization is that *exist* applies to material and abstract objects and is inapplicable to events (Hacker 1982; Cresswell 1986)[20]:

(8) a. The book exists.
b. The round square does not exist.
c. ??? The party / demonstration exists.
d. ??? The accident John mentioned did not exist.

Here and throughout this paper '??' means 'unacceptable semantically' (though not ungrammatical, that is, syntactically incorrect).

There are specific existence predicates in English for events, namely *occur, happen* and *take place*[21]:

(9) a. The party / demonstration is taking place.
b. The accident John mentioned occurred / happened.
(10) a. The murder occurred / happened / ??? existed yesterday.
b. John's speech took place / ??? existed this morning.

The test for existence predicates applies straightforwardly to *occur, happen* and *take place*: with negation (9a, b) can be true if the subject does not stand for an actual event.

Two further existence predicates in English are *obtain* and *hold*. They apply to 'condition'-like entities, as I will call them, such as states, situations, conditions, rules, laws, and non-worldly facts[22]:

(11) a. The situation / state / condition / law / rule John describes (no longer) obtains / holds / exists.
b. The fact that S does indeed obtain / hold.

Also *exist* may apply to some of the conditions-like entities (states, conditions, laws). *Obtain* and *hold* are not applicable to material objects, persons, and abstract objects of the sort of mathematical objects.

Yet another predicate in English that *can* be used as an existence predicate is *is valid.* (*Is valid* has other uses as well, of course, for example when applying to arguments or syllogisms.) When used as an existence predicate, *is valid* applies only to condition-like objects, just as *obtain* and *hold*, but *is valid* is further restricted to normative condition-like objects like laws and norms. When used as an existence

[20] *Exist* is also not particularly good when applied to a person (with the time-related use), an observation I will set aside in the context of this paper:
(i) ? John's child still exists.

[21] There are further restrictions on event-related existence predicates. *Occur* applies to incidents and processes, but not to activities. *Take place* imposes its own constraints on a prior planning of an action, see Section 8.

[22] Interestingly (non-worldly) facts do not go with *exist*, but only with *obtain* and *hold*. For the notion of a non-worldly fact see Strawson (1950). Non-worldly facts differ from worldly facts in the sense of Austin (1979), namely fully specific facts that are part of the world and are rather event-like. See also Moltmann (2013a, b) for the notion of a nonworldly fact (and the notion of a nonworldly state).

predicate applying to normative condition-like objects, it is generally interchangeable with *exist*[23]:

(12) a. This law is not valid / does not exist.

b. This law is no longer valid / no longer exists.

(12a) and (12b) make clear the status of the use of *is valid* as an existence predicate, on a par with *exist*.

Given the fact that existence predicates generally impose type restrictions, the characterization of existence predicates given at the beginning of the last section requires a modification. With subject term not standing for an actual object but meeting the type restrictions, an existence predicate generally yields a true sentence if it is in the scope of negation and a false sentence if it is not in the scope of negation. Below the criteria distinguishing ordinary predicates (i.e. predicates that are not existences predicate) and existence predicates are given more formally:

(13) a. A (intransitive) predicate P is an *ordinary predicate* iff for any world w and time t, for any singular term T, if T does not stand for an actual entity in w, then neither [T *not* P]$^{w,\,t}$ = true nor [T *not* P]$^{w,\,t}$ = false.

b. An (intransitive) predicate P is an *existence predicate* iff for any world w and time t, for any singular term T, if T satisfies the selectional restrictions of P and does not stand for a (present, actual, nonintentional) entity in w, then [T *not* P]$^{w,\,t}$ = true and [T P]$^{w,\,t}$ = false.

(13b) excludes a range of predicates that allow for terms not standing for actual objects, but are not existence predicates. Thus, some predicates such as *is important, has influence, is a philosopher* can apply to past objects. But applied to past or future objects, they do not generally yield true sentences with negation and false sentences without negation. Similarly, predicates like *think about, plan*, and *imagine* can apply to apparently empty terms, but they too do not generally yield true sentences with negation and false sentences without negation.[24]

Given (13b), moreover, the predicates *live* and *be alive*, which one might consider existence predicates, do not come out as existence predicates, unlike *exist*:

(14) a. ??? The president of France does not live / is not alive.

b. The president of France does not exist.

[23] The various existence predicates in English raise the question of how many different types of existence predicates there are in natural languages in general. This is a question highly worth a crosslinguistic study, but pursuing it goes far beyond the scope of this paper, which restricts itself to the way the notion of existence is reflected in English (and related languages).

[24] Note that such predicates do not come out as ordinary predicates, which can apply only to presently existing entities. However, this restriction could easily be changed if so desired, allowing for a larger class of ordinary predicates.

Live and *is alive* presuppose that the object they apply relative to a time *t* was alive during the time before *t*, and thus do generally yield true sentences with negation and a term not referring to an actual entity.

Occur is used both as an existence predicate, as in (15a), and as an ordinary predicate, as in (15b, c):

(15) a. The accident John mentioned did not occur.
b. The letter occurs twice in the sentence.
c. The letter does not occur in the sentence.

According to (13b), *occur* is an existence predicate in (15a), but not in (15b) and (15c).

The criterion in (13b) also rules out as existence predicates some other predicates that according to particular historical philosophical views might be regarded as such, for example, in phenomenology, *being experienced*.

4 Existence predicates for objects and for events

We can now turn to the semantics of existence predicates, in English. I will start with the two existence predicates *exist* and *occur*, resuming and further developing the analysis in Moltmann (2013c). *Exist*, recall, applies to enduring objects as well as abstract objects, whereas *occur*, as an existence predicate, applies to events only. An important observation is that *exist* and *occur* display those type restrictions both on a time-relative interpretation and when used time-independently. On its time-relative use, *exist* conveys endurance. Since it is subject to the same type restrictions, the meaning of *exist* when used time-independently must be derivative upon the meaning of *exist* when used relative to a time, thereby imposing the very same type restrictions.

I will make use of a common, though not uncontroversial view of endurantism based on the notion of complete presence. Given the present purpose, I will not give an in-depth discussion of that view and its controversies.[25] The subject matter of this paper is the metaphysical notions that are reflected in existence predicates in natural language, not metaphysical notions of persistence as such. That is, the paper is a study within natural language ontology, not within metaphysics as such.[26]

The standard formulation of the endurantist view about persistence of material objects through time involves the notion of complete presence (Wiggins 1980; Lewis 1986): An object exists at a time interval *t* just in case is *wholly present at* each moment of t. That is, existence at a time *t* means *complete presence* at all the moments of *t*. A notorious problem with this formulation concerns the condition of 'complete presence'. The standard condition applies strictly only to entities of the sort of sums, whose (non-interchangeable) parts need to strictly be present at each moment of a sum's lifespan. But clearly, for an ordinary material object, in general, not all material parts need to be present at each moment of the object's life span. Since this paper will

[25] See, for example, Sider (2001) and Hawley (2001) for discussion.

[26] That said, it may not be excluded that the semantics the paper gives for existence predicates in English may, to an extent, be reformulated on the basis of somewhat different philosophical notions or views.

not engage in an extensive discussion of endurantism as such, it will simply subscribe to a suitable weakening of the condition of 'complete presence', to the effect that not for every type of object, all material parts need to be present at any moment of their lifespan. For organisms and artifacts, for example, it should be enough that just sufficiently many 'functional parts' be instantiated throughout the time in question. What may also have to be present, moreover, are essential features or the 'way' of composition. For example, objects like statues or stones need to retain more or less their shape throughout the time at which they exist.

Endurantism, on roughly the understanding above, goes along with three-dimensionalism, the view that objects cannot have temporal parts, but only spatial parts, whereas events generally have temporal parts. Three-dimensionalism contrasts with four-dimensionalism, the view that objects and events are both space–time regions with spatio-temporal subregions as parts (Sider 2001).

Three-dimensionalism makes a sharp distinction between the *existence* of an entity at a time (or endurance throughout the time) and its *extension* at a time, which roughly means the locatedness of the entity at that time (or its perdurance throughout the time) (Fine 2006). Analogously, there are the notions of existence at a space and extension (locatedness) at a space (Fine 2006). Material objects *exist* in time and are *extended* in space, whereas events are *extended* in both space and time and do not *exist* in time or space.[27] The notions of existence (at a location) and extension are intuitive notions, which are in part reflected in language, though this require some clarifying remarks. Existence (at a location), of course, is what is conveyed by location-relative *exist*. Fine (2006) takes extension to be expressed by the combination *be* + location modifier. As Fine notes, *be* + spatial modifier applies to objects, but not *be* + temporal modifier:

(16) a. John was in the garden.
b. * The car was last year.

[27] Unlike for material objects, the spatial location of events is notoriously difficult to specify. Neither the location of the event participants at the relevant time nor the parts of the participating objects affected by the change induced by the event guarantee an intuitively clear notion of the location of an event. There is in fact another view, defended by Hacker (1982b), on which events simply do not occupy space and thus cannot be extended in space. If events are attributed a spatial location, then that location, on that view, would be derivative upon the spatial location of the event participants. The view that events lack a spatial location may be particularly plausible if events are transitions among tropes, that is, particularized properties. While on a common view (following Williams 1953), tropes come with a spatio-temporal location—or rather with relations of spatio-temporal co-location, tropes in fact do not easily allow for the kinds of location modifiers that one would expect on that view. Thus *be* + spatial modifier is generally excluded with tropes:

(i) a. ?? The apple's greenness was on the table.
b. ?? The roundness of the ball was in the basket.

Moreover, trope-referring terms disallow spatial adnominal modifiers (on the 'normal' interpretation of a spatial modifier):

(ii) a. * the apple's roundness on the table.
b. * John's heaviness in the bed.

This suggests that it is only the bearer of a trope, not the trope itself that has a spatial location. Tropes depend on a bearer; but unlike their bearer they could not be spatio-temporally located. A trope may ontologically depend on another trope of extendedness, as Husserl had argued (Simons 1994). But a trope of extendedness is not itself extended; it only instantiates extension.

Thus, the construction captures correctly the spatial extendedness of material objects as well as their failure to be temporally extended. Note, though, that neither *be* + spatial modifier nor *be* + temporal modifier is in fact acceptable with events:

(17) a. ?? John's walking was in the garden.
b. ?? The incident was in John's office.
(18) a. ?? John's walking was yesterday.
b. ?? The incident was last year.

Be + location modifier is acceptable only when the events are 'movable' events (Dretske 1967), that is, events for which their spatial or temporal location is not essential, as in (19) and (20):

(19) a. The meeting was in this room.
b. The meeting was moved from one room to another.
(20) a. The meeting was yesterday.
b. The meeting was moved from Monday to Wednesday.

The common view is that events have their spatial and temporal location essentially (in particular if events are viewed as instantiations of properties in locations) (with the exception, one would have to add, for events that a movable, such as meetings).[28] *Be* + spatial/temporal modifier then appears to presuppose that the entity it applies to does not have its location essentially. Thus, *be* + spatial/temporal modifier appears to convey accidental extension, not extension as such. For an entity's (accidental or essential) extension at a location, I will therefore rather use 'is present at'.[29] The perdurance of an event *e* throughout a time interval *t* then requires that for each subinterval *t'* of *t*, there is a temporal part *e'* of *e* such that *e'* is present at *t'*.

The lexical meanings of time-relative *exist* and *occur* in first approximation can now be given as follows:

(21) a. For an entity *d* (with more than one part), *exist* is true of *d* at a time *t* iff for any moment *t'* of *t*, (the whole of) *d* is present at *t'*.
b. For an entity *e* (with more than one part), *occur* is true of *e* at a time *t* iff for any proper part *t'* of *t*, there is a proper part *e'* of *e* present at *t'* and for any proper part *e'* of *e*, there is a proper part *t'* of *t* such that *e'* is present at *t'*.

[28] See Casati/Varzi (2005) for discussion.

[29] One might take time- or space-relative *occur, happen,* and *take place* to serve that function. But it is not plausible that *occur, happen,* and *take place* express extension: *occur* is an eventive predicate, not a stative predicate like *be* + location modifier, and thus it could not express the notion of extension.

Note that *occur, happen,* and *take place* unproblematic with spatial or temporal modifiers (*the walking took place in the garden, the incident happened in John's office*), but that is because the location modifier here may give the essential location of an event (of occurrence), unlike when the location modifier is the complement of *be.*

(21a) requires an entity to which *exist* applies to have more than one part. (Note that this does not prevent it from being atomic, since (essential) features will count as parts as well.) The same holds for (21b), which thus does not apply to instantaneous events. Generally, 'instantaneous' events actually involve at least two moments, the moment before and the moment after the change of which the event consists.

(21a) and (21b) do not yet account for the actions art of *exist* and *occur*, that is, the fact that *exist* is a stative verb, whereas *occur* is an eventive verb. Nominalizations such as *the existence of the building* describe states, whereas nominalizations of the sort *the occurrence of the protest* describe events. The latter can have typical event properties such as being sudden or being quick; the former cannot. Adopting a Davidsonian semantics of events according to which verbs take events (and states) as implicit arguments, this means that *exist* takes states ('existences') and *occur* takes events ('occurrences') as implicit arguments. *Exist* when applied to an object *d* then describes a state that is the presence of 'the whole' of *d* during the time in question, as roughly given in (22a). *Occur* applied to an event *e* describes another event that consists in the transitions among the 'presences' of the parts of *e* at relevant subintervals that belong to the duration of *e*, as roughly in (22b):

(22) a. For an entity *d* (with more than one part), an event *e*, and a time interval *t*, $<$e, *d*$>$ $\in$ [*exist*]^t iff *e* consists of the presence of (the whole of) *d* at *t'* for each moment *t'* of *t*.

b. For an entity *e'* (with at least two parts), an event *e,* and a time interval *t*, $<$*e'*, *e*$>$ $\in$ [*occur*]^t iff *e* consists of transitions from the presence of *e"* at *t'* to the presence of *e"'* at *t"* for any minimal temporal parts *e"* and *e"'* of *e'* for which there are subsequent subintervals t' and *t"* of *t* at which *e"* and *e"'* are present.

The selectional restrictions of time-relative *exist* and *occur* are presuppositions of (22a, b). (22a) is applicable only to entities that do not have temporal parts, yet are in time, such as material objects; (22b) is applicable only to entities that have temporal parts, that is, events.

Fine (2006) gives a different condition on endurance or time-relative existence, which avoids making reference to parts of an entity. Fine distinguishes extension (in basically the sense above) and location-relative existence in terms of conditions on sums of entities: the sum of two entities is extended at a location *l* just in case one of the two entities is at *l*, and the sum of two entities exists at a location *l* just in case both entities are at *l*. I will not discuss this view in further detail. One reason why I will not make use of it is that it does not permit an application of space-relative existence to the class of entities that in fact engage in it, such as languages, illnesses and kinds (Sect. 5) as well as condition-like entities such as states, laws, and rules (Sect. 6). Those entities are not the sums of things that need to all be present at the space at which they exist; rather they are composed of abstract parts that need to be instantiated or in place throughout the space at which they exist (Sects. 5, 6).

5 Space-relative existence

Exist and *occur* exhibit particular constraints when relativized to time or space. The generalizations about time-relative and space-relative interpretations of *exist* and *occur* include the following. Time-relative *exist* applies to material objects but not to events, whereas space-relative *exist* applies to neither. *Occur* applies to events, both with temporal and spatial modifiers, but not to material objects[30]:

(23) a. The house existed till last year.
b. ?? The incident existed two years ago.
(24) a. ?? The house exists in Munich.
b. ?? The incident existed in this room.
(25) a. ?? The house occurred last year.
b. The incident occurred yesterday.
c. The incident occurred right here.

A brief comment is needed regarding the expression of time-relative and space-relative existence. *Exist* as an English verb always comes with tense morphology, which does not mean, though, that it is always interpreted relative to a time. Present tense only optionally goes along with a time-relative interpretation. Clearly, in application to abstract objects, *exist* with present tense does not have a time-relative interpretation. The time for the time-relative interpretation may also be conveyed by a temporal adverbial. In the case of a space-relative interpretation of an existence predicate, a spatial adverbial is the only way of indicating a space-relative interpretation.

The spatial or temporal modifier of *occur* simply locates the event described by the verb, an occurrence, at the time or place in question. This is what spatial modifiers generally do when they act as adjuncts of verbs. By contrast, *exist* exhibits a particularly interesting behavior with respect to spatial modifiers, noted and discussed by Fine (2006), which indicates that *exist* with a location modifier involves a rather different semantics.[31] One generalization is that *exist* does not allow for spatial modifiers with material objects:

[30] Quantified plurals are better with *exist* than (definite) singular NPs:
(i) a. Only ten old Victorian houses exist in this neighborhood.
b. ??? This old Victorian house exists in this neighborhood.
I will have to leave an explanation of this difference to future research.

[31] In fact, in the relevant sentences with *exist*, the location adverbials have the function of complements, not adjuncts, of *exist*. They have the same status as *in the house* below, where *in the house* is a complement of *was*:
(i) John was in the house.
Location modifiers that have the status of adjuncts, by contrast, simply act as predicates of the event argument of the verb, as is the case with *occur* as in (25c).
Location modifiers as adjuncts are actually impossible with *exist,* and that is because location modifiers as adjuncts are impossible with stative verbs in general. This is a generalization known as the 'Stative Adverb Gap' (Katz 2003; Maienborn 2007; Moltmann 2013b).

(26) a. ??? The building we talked about exists in another city.
b. ??? Notre Dame does not exist in Germany.
c. ??? Every monument we talked about exists in this country.

This means that enduring objects cannot engage in space-relative existence. However, there are some entities that engage in space-relative existence and thus a spatial analogue of endurance. Such objects fulfill the same condition with respect to space as enduring objects fulfil with respect to time. Space-relative existence is well-reflected in English, with existence predicates modified by locative adverbials. Let us look at what sorts of entities allow for *exist* with location modifiers.[32] First, languages and illnesses may engage in space-relative existence:

(27) a. This dialect does not exist in this region anymore.
b. This illness / Syphilis does not exist in Europe anymore.

Moreover, kinds do—more precisely, kinds that are the semantic values of bare (that is, determinerless) plurals and mass nouns when acting as kind terms[33]:

(28) a. Giraffes exist only in Africa.
b. Wild ponies do not exist in Germany.
c. Pure air does not exist in China anymore.

One may think that bare plurals and mass nouns with *exist* are existentially quantified indefinites, reinforcing the contribution of *exist*. However, it is easy to see that bare plurals and mass nouns with *exist* are kind terms and not existentially quantified indefinites. One indication is the behavior of anaphora, as in (29) (which make reference

[32] For entities permitting space-relative existence, Fine gives the example of a composite aroma of coffee and vanilla whose presence at a location, he argues, requires the presence of both the aroma of vanilla and the aroma of coffee at that location. This example is problematic, though, since aromas do not go along very well with the existence predicate *exist*:

(i) ?? The aroma exists in that room.

The reason why aromas do not go along with *exist* appears to be an ontological one. Aromas as particulars simply cannot be wholly present at different locations and thus cannot have a location-relative existence. Only aromas as kinds can, as in the examples below:

(ii) a. This kind of perfume does not exist in France anymore.
b. This kind of aroma only exists in oriental countries.

Ontologically, aromas as particulars arguably are tropes without a bearer, that is, mere spatio-temporally located features. Tropes in general do not go along very well with space-relative existence predicates:

(iii) ?? The greenness of the plants exists everywhere in the garden.

Sounds and physical fields for Fine are also entities able to engage in space-relative existence. I find examples with sounds even more problematic than aromas. Sounds as particulars accept neither location-relative nor time-relative existence predicates:

(iv) a. ?? The sound exists throughout the house.
b. ?? The sound we heard five minutes ago still exists.

Sounds as particulars could hardly be present at different spatial locations at once. That sounds do not allow for time-relative existence predicates is no surprise in view of Strawson's (1959) point that sounds do not come with criteria for reidentification over time.

[33] For the view of kinds acting as semantic values of bare plurals and mass nouns see Carlson (1977) and Chierchia (1998).

to the entire kind not just some particular individuals); another is the applicability of typical kind predicates like *widespread* as in (30):

(29) a. Dinosaurs do not exist. But they once did exist.

b. Three dinosaurs do not exist. * But they (three dinosaurs or other) once did exist.

(30) Dinosaurs, which used to be widespread in Europe, no longer exist.

It is also significant that *exist* applies to kinds of entities of any sort, including kinds of events:

(31) Political protests do not exist in Bhutan.

This again confirms that bare plurals with *exist* are terms standing for entities that are kinds rather than acting as existential quantifiers.

Why can languages, illnesses, and kinds engage in space-relative existence? What characterizes the entities able to engage in space-relative existence is that they are abstract entities, with an abstract part structure, but yet have concrete manifestations in which all the abstract parts generally are manifested. An illness, for example, may be viewed as a collection of medical conditions which (at least to a great extent) have to be manifested in a patient exhibiting the illness. Languages can be viewed as abstract systems that need to be instantiated in a speaker knowing the language.[34]

How would this apply to kinds? *Exist* can apply to a kind k relative to a spatial location l because k is instantiated at the various (or at least relevant) sublocations of l. This requires a particular conception of kinds on which a kind can be completely present at different locations at once. There is a conception of kinds according to which kinds are just the pluralities of their instances (including perhaps possible instances), a view I have defended in Moltmann (2013a). But that would not permit a kind to be present at several sublocations at once. Rather it requires an abstract conception of a kind, as something like a collection of constitutive features. Only that allows a kind to be completely present at a location l just in case there is a particular individual exhibiting all the constitutive features of the kind at l. A kind then exists at a location l because all its constitutive features are instantiated throughout l.

Complete presence of an entity throughout a location is only possible with abstract entities, entities that have abstract parts all of which can be manifested in a concrete location. Existence in space requires abstract objects able to have concrete manifestations in some sense or other.

Fine's (2006) way of conceiving of existence at a location is hardly applicable to abstract objects of this sort. There is no way, for example, in which the sum of two languages could be at a location just in case one of them is, and so for the sum of two kinds. The restrictions on the sorts of entities that can engage in space-relative existence instead support the more traditional complete presence conditions, despite the difficulties of making that condition entirely precise.

[34] Of course, a speaker may only partially know the language, but parts of a language are entities strongly dependent on the whole of the structure of the language, and thus partial knowledge of a language may be viewed as an instantiation of at least the structural whole of the language.

6 The existence predicate *obtain* and the category of condition-like objects

Exist and event predicates like *happen* are not the only existence predicates in English. Another existence predicate is *obtain* (and the near-synonym *hold*). *Obtain* is an existence predicate that is generally interchangeable with *exist*; but it can apply only to what I call 'condition-like objects'. As in the case of *exist*, condition-like objects permit both space- and time-related uses of *obtain*. The reason they permit space-related uses is again, I will argue, that they have abstract parts, though of a different sort than kinds, languages, and illnesses.

Obtain applies to two kinds of condition-like objects. First, it applies to entities we refer to as 'states', 'situations', or 'conditions'[35]:

(32) The state / situation / condition still obtains.

Second, it applies to entities such as permissions, obligations, and laws, the 'modal products' of directive or declarative speech acts, [36,37,38]

(33) a. The permission / obligation still obtains.
b. A new law now obtains.

Obtain does not apply to material objects, persons, or events, and it does not apply to abstract objects of the sort of mathematical objects, properties, or propositions. Moreover, it fails to apply to kinds:

(34) a. ??? The house / The person / The smallest prime number / The event obtains.
b. ??? Giraffes obtain.

Like *exist*, *obtain* has a time-relative use, as in (32, 33) as well as a space-relative use, as below:

(35) a. The state / situation / condition / law still obtains in various regions of the country.
b. The state of emergency / The same situation / The same condition now obtains in Arizona.

[35] *Obtain* also applies to facts (though time-relative and space-relative *obtain* does not apply to facts since the canonical description of facts about concrete entities (Sects. 4) includes a location specification):
(i) The fact that S obtains.

[36] For the notion of a (modal) product of an illocutionary act, a notion that derives from Twardowski, see Moltmann (2017b).

[37] *Exist* is actually not that good with some of the modal products, for example permissions :
(i) The permission to skip the meeting still obtains / ??? exists.
This means that *exist* is subject to another restriction, though it is not obvious what that would be.

[38] Not only *obtain* and *exist* are applicable to normative condition-like entities such as laws, but also *is valid*:
(i) The law still obtains / exists / is valid in some countries.
Is valid, as was mentioned in Section 3, can act as an existence predicate, but as such it is restricted to normative products established by declaration (laws, rules, offers etc.).

It is remarkable that *exist* applies to states, when it could not apply to events. It is indicative of a fundamental difference between events and states, namely that events have temporal parts, but states don't.

What characterizes the entities to which *obtain* is restricted is that they are constituted by particular conditions holding, that is, by specific properties or relations holding of an object or a number of objects, possibly at a time and a spatial location. That is, they are entities whose existence and identity depends on those particular conditions being in place. This is why I call them *condition-like entities* and the conditions constitutive of them *constitutive conditions*.[39]

Some condition-like entities go along with canonical descriptions, that is, descriptions that display exhaustively the nature of the entities they stand for in terms of such conditions. Facts have canonical descriptions of the form *the fact that* S, states have canonical descriptions of the form *the state of* NPs *being* VP, and conditions have canonical descriptions of the sort *the condition of* NP's *being* VP. The canonical descriptions make explicit the properties or relations and the relevant objects and possibly locations that are constitutive of the condition-like entity.

The condition-like entities that come with canonical descriptions are entities that fall under Kim's (1976) account of 'events', which is in fact an account of (non-worldly) facts (Moltmann 2013a, b). The Kimean account consists in a specification of the existence and identity conditions of events, or rather facts, on the basis of a property, an individual, and a time, as below, where properties are taken to be functions from times to sets of entities:

(36) The Kimean account of events (facts)

(i) For a property P, an object o, and a time t, $f(P, o, t)$ obtains iff $o \in P^t$.

(ii) For properties P, P', o, o', $f(P, o) = f(P', o')$ iff $P = P'$, $o = o'$.

For states, condition (36ii) should be replaced by the one below, with location-relative *obtain* relativized either to a temporal or spatial location[40]:

(37) For a property P and an object o, *f(P, o)* obtains at a location l iff $o \in P^l$.

(36i) and (37) together of course imply (38):

(38) For a property P, an object o, and a time t, *f(P, o)* obtains at t iff *f(P, o, t)* obtains.

The Kimean account amounts to an implicit definition of entities. It introduces entities that have just those properties as intrinsic properties that are specified by the account

[39] The way *obtain* differs from *exist* may be attributed to the particular notion of 'presence' it involves: *exist* requires presence in the sense of spatial or temporal locatedness, whereas *obtain* requires the more specific notion of presence in the sense of a property being true of an object relative to a location.

[40] This gives a characterization of states as 'Kimian' states (Maienborn 2007) or 'abstract' states, as I prefer to call them (Moltmann 2013b), rather than 'Davidsonian' states (Maienborn 2007) or 'concrete' states, as I call them (Moltmann 2013b).

itself (Moltmann 2013b). This is why it defines facts and states as nonwordly entities. Thus, given (36, 37), facts will have neither a temporal nor a spatial location, and states will have only a temporal location. In addition, given (36, 37), facts and states need not be based on a specific property, but may be based on a non-natural, or disjunctive property.

Location-relative *obtain* involves the same application condition as location-relative *exist*, namely a condition of 'complete presence' at the relevant sublocations of the relevant location. What exactly does the complete presence of a situation, state, or condition at a time or location consist in, that is, what would count as the parts of a condition-like entity that would have to be present at the relevant sublocations? The objects and times from which condition-like entities are obtained (in the 'Kimean' way) certainly do not count as parts of such entities. This is reflected in the fact that they are not treated as parts by part-related expressions of natural language: *part of the situation, part of the condition*, or *part of the state* can never 'mean' a participant or location of the situation, condition, or state. Moreover, condition-like entities, unlike material objects, do not have spatial parts, and unlike events, they do not have temporal parts. Rather their parts are their constitutive subconditions and it is with them that the complete presence at sublocations needs to be fulfilled when *obtain* applies relative to a temporal or a spatial location. Thus, for a situation, condition, or state e to obtain relative to a location l means that all the constitutive subconditions of e are fulfilled at all the relevant sublocations of l. Because condition-like entities have neither temporal nor spatial parts, they can be completely present at different times as well as different places.

Modal products do not exist in virtue of an implicit definition, but rather in virtue of the declared validity of the relevant normative condition.[41] Again, what counts as parts of a normative product is its constitutive subconditions, not temporal or spatial parts. This explains why modal products allow for both time-relative and space-relative applications of *obtain*.

What is common to both kinds of condition-like entities is that their existence at a time or space depends on those conditions being in place at that time or that space. For a condition-like entity to obtain at a location, either all the various things need to happen at the location in virtue of which the constitutive condition (with all its subconditions) holds or else the constitutive condition needs to have been put in place by declaration for that location. Either way, the condition-like entity will need to enjoy complete presence throughout the location as long as the constitutive condition, with all its subconditions, holds.

[41] States are actually condition-like entities that may be of either kind: states based on empirical facts (about the time or spatial location, or the world), and states based on normative conditions or conditions resulting from 'declarations' (which may or may not be restricted to a time or a spatial location). The state of someone's mind or health is a state of the first kind, as are habits; a state of war, a requirement and a law are condition-like entities of the second kind. The first kind of state holds in virtue of what is taking place at the relevant location; the second kind of state holds by declaration or whatever may ground normative conditions.

For condition-like entities, merely intentional counterparts are much easier to accept than they are for material objects. Their intentional counterparts are simply their constitutive conditions (possibly together with the relevant time or location). For condition-like objects, the treatment of existence predicates as predicates true of existent and false of nonexistent objects thus has a particularly plausible basis.

7 Location-independent uses of existence predicates and summary

In its location-relative use, *exist* has a nontrivial meaning, describing a state of an entity *d* that involves the complete presence of *d* at the sublocations of the temporal or spatial location in question. *Occur*, by contrast, tracks the temporal locations of subevents of an event *e*, thereby describing another event (an occurrence) that reflects the mere temporal structure of *e*. But what is the meaning of location-independent uses of existence predicates? In particular, what is the meaning of present-tense *exist* that would not involve a time-relative interpretation?

It is important to note that location-independent uses of existence predicates still impose the same restrictions on the sorts of entities they can apply to. In particular, time-independent *exist,* like time-relative *exist,* is inapplicable to events. The preservation of the type restrictions indicates that the time-independent meaning of *exist* is derivative upon its time-relative meaning and motivates a semantics of time-independent *exist* involving universal quantification over all times:

(39) For an entity *d*, exist(*d*) = 1 iff exist(*d, t*) for all times *t*.

Exist with that meaning could not apply to events: it would require the complete presence of an event at all times, which is impossible. But *exist* with that meaning can apply to abstract objects since abstract object can naturally be considered completely present at all times.

Time-independent *exist* thus can be derived from time-dependent *exist* and *occur*. But can space-independent *exist* be derived from space-relative *exist?* This would require complete presence everywhere of entities to which space-independent *exist* applies. However, this is impossible for material objects to fulfill. This means is that space-relative *exist* does not have a space-independent correlate, unlike time-relative *exist*, or in other words, location-independent *exist* involves only universal quantification over times, not spatial locations, and thus is based on time-relative *exist* only, as in (39).[42]

Let me then summarize the selectional restrictions of existence predicates on their location-independent and location-dependent uses as follows:

[42] This is different for *obtain*: a fact can satisfy a vacuous relativization to a time just as it can satisfy a vacuous relativization to a space.

(40) Summary of the selectional restrictions of existence predicates

a. *Exist*

Location-independent use:

Material objects (including artifacts and organisms), states, conditions, laws

Location-dependent use:

Time-dependent use: same as location-independent use

Space-dependent use: kinds (including kinds of events), illnesses, languages

b. *Occur* (*happen, take place*)

Location-dependent and location-independent uses: events (of certain sorts)

c. *Obtain*

Time-independent use: facts, states, conditions, laws

Location-dependent use: states, conditions, laws

These selectional restrictions, we have seen, follow from the meanings of *exist, occur*, and *obtain* with their possible relativization to a time or space, with *obtain* imposing the more specific condition of the relevant constitutive condition holding at the location *l*, rather than the general notion of being present at a location *l*

8 The plausibility of intentional objects and nonexistence as the failed intentionality of intentional objects

Existence predicates were characterized as a class of predicates with a particular semantic property, their acceptance of apparently empty subject terms. The paper has argued that such terms in fact stand for intentional (nonexistent) objects. The variety of existence predicates, applying to different sorts of entities, gives additional plausibility to that view. Certain types of objects come with very intuitive intentional counterparts. In particular, a range of entities to which *obtain* applies have easily acceptable 'non-obtaining', intentional counterparts. Laws, for example, appear to have proposition-like entities as intentional counterparts. For a law, existence amounts to a declaration of a proposition. States, situations, and states of affairs, moreover, are entities to which 'obtaining' clearly adds something: it requires the constitutive condition of the state, situation, or state of affairs to be true of the object in question (at the relevant location). A distinction between existing and merely intentional entities is quite intuitive also for events. The German counterpart of *take place*, *stattfinden*, for example, requires the event term to describe an event that has been planned before and thus had a previous intentional counterpart; it cannot just apply to an event term that fails to refer to an event or with which an agent had failed to refer to an event (??? *Der Tod des Mannes fand nicht statt* 'The death of the man did not take place'). Finally, location-relative *exist* when it applies to kinds involves the attributes making up the essence of the kind for the fulfilment of the complete presence condition, which then amounts to complete instantiation. *Exist* on that use thus presupposes a distinction between the essence of a kind (which does not require instantiation) and an 'existing', that is, instantiated kind. Thus, looking at a greater range of entities and existence

predicates, there appears to be a significant plausibility for there being entities with different modes of being than existence.[43]

McGinn (2000) gives a somewhat different account of negative existentials, based on the view that apparently empty terms stand for intentional objects. For McGinn, intentional objects are entities constituted by failed intentionality. Only when a speaker when using a term fails to refer to an actual object will the term stand for an intentional object, that is, an object constituted by the unsuccessful act of reference. *Exist*, for McGinn, is necessarily false of intentional objects, and that is because of the particular nature of such objects as merely intentional objects. Let me call such a potential use of *exist* the *reference-related use* of *exist*. Positing intentional entities as entities that unlike any other necessarily fail to exist may seem like a highly problematic view (van Inwagen 2008). But there seems to be a way of making the view somewhat more plausible, and that is, by taking *does not exist* when applied to an intentional object to have a derivative meaning, specifying the failed intentionality constitutive of such an object. This means that 'nonexistence' would be an essential property of intentional objects only derivatively, derivative upon a nonessential property (failed intentionality) of the intentional act constitutive of the intentional object.

If *exist* can be understood that way, a number of predictions are made. First, *exist* should not be applicable relative to a time, but only time-independently. Furthermore, there would be no reason for *exist* to impose selectional restrictions on the types of entities it applies to (since the type restrictions were only to guarantee the applicability of the location-relative use). It is not clear that intuitions support a reference-related use of *exist*. The following examples should be acceptable, but certainly not all speakers agree that they are:

(40) a. Does the medieval war described in the book exist?
b. The Third World War does not exist.

With a use of *does not exist* specifying failed intentionality, one would expect another time-relative use, relating to the time of the intentional act rather than the intended time of existence of the object the agent tries to refer to. On such a use, (41a, b) should be acceptable, stating, basically, that yesterday's reference act was successful:

(41) a. Yesterday Socrates did exist.
b. Yesterday the ancient philosopher Bill mentioned did exist.

But here the intuition is strong that a reading is unavailable on which the sentence could be true (when uttered by a contemporary speaker). The reference-related use of

[43] The close connection between instantiation and existence might make it tempting to consider an account of existence statements with singular terms according to which *exist* expresses instantiation, relating an individual concept to a material manifestation at a location. Of course, the individual concept would not be given by a predicative expression, but be associated with the use of a singular term in the particular context of an existence statements. I will not pursue this option further, though.

exist thus is certainly not the main use of *exist*.[44] Rather it is the location-related use, and the location-independent use is derived from that.[45]

9 Conclusion

This paper has given support for several generalizations about the expression of existence in natural language. First, quantifiers in natural language are neutral regarding existence and nonexistence (though they can also be used in a non-neutral way). They can be used for merely intentional (nonexistent) objects equally well as for actual objects.

The paper gave specific further motivations for merely intentional objects. There are constructions that require merely intentional objects for their compositional semantics. Moreover, while merely intentional entities are generally considered problematic, for condition-like entities the distinction between actual and merely intentional entities is much more intuitive and acceptable than in the case of material objects, which the philosophical discussion has generally limited itself to.

Natural language reflects different ways of being, but not with different quantifiers, but rather with different existence predicates, a semantically distinguished class of predicates. At least in English (and related European languages) existence predicates express different ways for entities to relate to time and space, rather than notions such as fundamentality, ontological dependence or derivativeness, or mind-dependence. The predicate *exist* itself English display a close connection between existence and endurance, the latter being just what time-relative *exist* expresses.

Location-relative *exist* appears to reflect the traditional notion of 'complete presence' throughout a location. What is important about this notion is that it is applicable not just to material objects, but also to abstract objects that have concrete manifestations such as languages, illnesses, and kinds, as well as to condition-like entities such as states, laws, and conditions, the sorts of entities that can engage in space-relative existence.

The notion of existence reflected in location-relative *exist* involves the recurrence of the essential parts or features of an entity, the preservation of its identity, across locations. This notion is inapplicable to entities of the sort of events and tropes, which in that sense then have a lesser degree of being. In that way, in fact existence predicates in English distinguish between degrees of being after all.

It has sometimes been argued that linguistic intuitions about the verb *exist* should not be taken too seriously, for making either a semantic or a philosophical point, since *exist* is a relatively recent verb and tied to a more 'technical' use in philosophical contexts. This caution turns out to be entirely in error. The paper has shown that *exist* displays a surprising and systematic semantic behavior and as such does not in fact convey the reflective notion of existence. Instead, *exist* conveys a notion of endurance or its space-

[44] The nominalization *existence*, though, appears have a reference-related use, as in *the existence of the event described in the book*. Alternatively, *existence* here may just convey the reflective notion of existence, see Fn 12.

[45] Note that a reference-related use is entirely unavailable for other existence predicates than *exist*.

relative analogue, or a location-independent notion that is derivative upon the location-dependent notion. These are the very same notions that the existence predicate *obtain* conveys, except that the latter involves a more restricted notion of presence at a location. The existence predicate *obtain* displays the very same semantic behavior, but is restricted to condition-like entities. The linguistic intuitions associated with *exist* thus display a more general concept of location-relative existence as part of the metaphysics implicit in language, rather than peculiar features of a somewhat special lexical item.

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References

Austin, J. L. (1979). *Unfair to facts. Philosophical papers*. New York: Oxford University Press.
Azzouni, J. (2010). *Talking about nothing: Numbers, hallucinations, and fictions*. Oxford: Oxford University Press.
Bach, E. (1986). Natural language metaphysics. In R. Barcan Marcus, et al. (Eds.), *Logic, methodology, and philosophy of science, IV* (pp. 573–595). Amsterdam: North Holland.
Carlson, G. (1977). A unified analysis of the English bare plural. *Linguistics and Philosophy, 1,* 413–457.
Casati, R., & Varzi, A. (2005). Events. *Stanford Encyclopedia of Philosophy*, Online.
Chierchia, G. (1998). Reference to kinds across languages. *Natural Language Semantics, 6,* 339–405.
Cresswell, M. J. (1986). Why object exists, but events occur. *Studia Logica, 45,* 371–375.
Dretske, F. (1967). Why events cannot move. *Mind, 76,* 479–492.
Fine, K. (2006). In defense of three-dimensionalism. *Journal of Philosophy, 103,* 699–714.
Fine, K. (2017). Naïve metaphysics. *Philosophical Issues*, *27*(1), 98–113.
Hacker, P. M. S. (1982a). Events, ontology, and grammar. *Philosophy, 57,* 477–486.
Hacker, P. M. S. (1982b). Events in time and space. *Mind, 91,* 1–19.
Hawley, K. (2001). *How things persist*. Oxford: Oxford University Press.
Katz, G. (2003). Event arguments, adverb selection, and the stative adverb gap. In E. Lang (Ed.), *Modifying adjuncts*. Berlin: de Gruyter.
Kim, J. (1976). Events as property exemplifications. In M. Brand & D. Walton (Eds.), *Action theory*. Dordrecht: Reidel.
Lewis, D. K. (1986). *On the plurality of worlds*. Oxford: Blackwell.
Maienborn, C. (2007). On Davidsonian and Kimian States. In I. Comorovski & K. von Heusinger (Eds.), *Existence: Semantics and syntax* (pp. 107–130). New York: Springer.
McDaniel, K. (2009). Ways of being. In D. J. Chalmers, D. Manley, & R. Wasserman (Eds.), *Metametaphysics: New essays on the foundations of ontology*. Oxford: Oxford UP.
McDaniel, K. (2010a). A return to the analogy of being. *Philosophy and Phenomenological Research, 81*(3), 688–717.
McDaniel, K. (2010b). Being and almost nothingness. *Nous, 44*(4), 628–649.
McDaniel, K. (2013). Degrees of being. *Philosophers' Imprint, 13*(19), 1–18.
McGinn, C. (2000). *Logical properties*. Oxford: Oxford University Press.
Miller, B. (1975). In defense of the predicate *Exist*. *Mind, 84,* 338–354.
Miller, B. (1986). *Exists* and existence. *The Review of Metaphysics, 40,* 237–270.
Miller, B. (2002). Existence. *Stanford Encyclopedia of Philosophy*.
Moltmann, F. (2013a). *Abstract objects and the semantics of natural language*. Oxford: Oxford University Press.
Moltmann, F. (2013b). On the distinction between abstract states, concrete states, and tropes. In A. Mari, C. Beyssade, & F. Del Prete (Eds.), *Genericity* (pp. 292–311). Oxford: Oxford University.
Moltmann, F. (2013c). The semantics of existence. *Linguistics and Philosophy, 36*(1), 31–63.

Moltmann, F. (2015). Quantification with intentional verbs and with intensional verbs. In A. Torza (Ed.), *Quantifiers, quantifiers, quantifiers. Synthese Library* (pp. 141–168). Dordrecht: Springer.
Moltmann, F. (2017a). Natural language ontology. *Oxford Encyclopedia of Linguistics*, Online.
Moltmann, F. (2017b). Cognitive products and the semantics and attitude verbs and deontic modals. In F. Moltmann & M. Textor (Eds.), *Act-based conceptions of propositional content*. New York: Oxford University Press.
Muyskens, R. (1989). *Meaning and partiality*. Chicago: Chicago University Press.
Parsons, T. (1980). *Nonexistent objects*. New Haven: Yale University Press.
Priest, G. (2005). *Towards nonbeing*. Oxford: Oxford University Press.
Sainsbury, M. (2005). *Reference without referents*. Oxford: Oxford UP.
Salmon, N. (1987). Existence. *Philosophical Perspectives, 1,* 49–108.
Salmon, N. (1998). Nonexistence. *Nous, 32*(3), 277–319.
Sider, T. (2001). *Four-dimensionalism*. Oxford: Clarendon Press.
Simons, P. (1994). Particulars in particular clothing. Three trope theories of substance. *Philosophy and Phenomenological Research, 54*(3), 553–575.
Strawson, P. (1950). Truth. In *Proceedings of the Aristotelian Society*, reprinted in Strawson (1971): *Logico-Linguistic Papers*, Methuen, London.
Strawson, P. (1959). *Individuals. An essay in descriptive metaphysics*. London: Methuen.
Turner, J. (2010). Ontological pluralism. *Journal of Philosophy, 57*(1), 5–34.
van Inwagen, P. (1998). Meta-ontology. *Erkenntnis, 48,* 233–250.
van Inwagen, P. (2008). McGinn on existence. *Philosophical Quarterly, 58*(230), 36–58.
Wiggins, D. (1980). *Sameness and substance*. Oxford: Blackwell.
Williams, D. (1953). On the elements of being. *Review of Metaphysics, 7,* 3–18.
Zalta, E. (1983). *Abstract objects: An introduction to axiomatic metaphysics*. Dordrecht: Reidel.
Zalta, E. (1988). *Intensional logic and the metaphysics of Intentionality*. Cambridge, MA: MIT Press.