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'Truth Predicates' in Natural Language

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The notion of truth is a central topic in philosophy and has given rise to a great variety of philosophical views. Some philosophical views about truth have been motivated more or less directly by appeal to natural language, in particular the linguistic status and semantic behavior of what appear to be truth predicates in natural language, such as *true* in English. The goal of this paper is to take a closer look at the actual semantic behavior of apparent truth predicates in English and to re-evaluate the way they could motivate particular philosophical views.

The overall result of this paper will be that the actual linguistic behavior of apparent truth predicates in English in general does not quite provide the motivation for the philosophical views for which it has been appealed to. This concerns both views about the formal status of truth predicates, such as views of *is true* as an 'operator', 'connective', or anaphoric device, and views about the semantics of apparent truth predicates, such as deflationist views.

Moreover, I will argue that in natural language two types of apparent truth predicates that are often identified need to be sharply distinguished. In English, *is true* belongs to what I will call 'type 1 truth predicates'; *is the case* belongs to what I will call 'type 2 truth predicates':

Type 1 truth predicates:
(1) That S is true.
Type 2 truth predicates:
(2) That S is sometimes the case.

Type 1 truth predicates also include *right* and c*orrec*t, whereas type 2 truth predicates also include the expression *is so*.

I will argue that only type 1 truth predicates involve predication of truth of a representational object of some sort. In the clausal construction as in (1a), the *that*-clause does not act as a referential term, though, but has the function of 'specifying' the content of such a representational object. Type 2 truth predicates do not predicate truth at all, but rather involve the relation of truth-making, relating a situation, a 'case', to a sentential content. Natural language thus does not just reflect the notion of truth, but also of truth-making.

In the appendix, I will look at two other truth predicates, namely *is a fact* and *is the truth*. I will argue that they both involve a more complex syntactic structure and semantic relation of 'specification' that holds between a sentential content and a representational object.

1. Type 1 truth predicates

1.1. Basic properties of type 1 truth predicates

Is true is the truth predicate in English that has received the most philosophical attention. But there are a number of other truth predicates that behave in relevant respects alike and thus will classify as type 1 truth predicates. In particular, *is correct* and *is right* should classify as type 1 truth predicates in some of their occurrences. We will see that taking into account such predicates will be important for understanding predication of truth in general.

In what follows, I will not discuss particular philosophical views about the status of *is true* in detail, but restrict myself to discussing the adequacy of a number of assumptions or claims that some philosophers have made about the linguistic properties of *is true.*

Let us start by noting some very general properties of the *is true*-construction. First, the construction allows both for clausal subjects, as in (3a), and for extraposition, as in (3b):

(3) a. That the sun is shining is true.
b. It is true that the sun is shining.

Moreover, *is true* allows for prosentential quantifiers and pronouns in subject position, such as *everything* and *that*:

(4) a. Everything is true.
b. That is true.

This does not hold for the position of an extraposed clause, though:

(5) a. It is true that S.
b. * It is true that / something.

The reason is that NPs just can never appear in that position.

Another important fact about *is true* is that it allows for referential NPs in subject positions, namely NPs referring to entities such as propositions, sentences, beliefs, or claims:[1]

(6) a. The proposition that S is true.
b. The sentence S is true.
c. John's belief / claim that S is true.

Related to that is the (often overlooked) fact that *true* can act as an adnominal modifier of those same NPs:

(7) a. the true proposition that S
b. the true sentence 'S'

[1] The three generalizations also hold for the truth verbs *stimmen* and *zutreffen* 'be true' in German:

(i) a. Dass S stimmt / trifft zu.
'That S is true.'
b. Es stimmt / trifft zu, dass S.
'It is true that S'.
(ii) Die Proposition / Der Satz / Hans' Behauptung stimmt / trifft zu.
'The proposition / The sentence / John's claim is true.'

c. John's true claim that S

Various philosophers have developed views of the notion of truth focusing on the clausal structure in (3). Some philosophers in particular have developed views concerning the formal status of *true* in the clausal construction. Thus, Ramsey held that *is true* in that construction simply redundant. *That* S *is true*, on that view means the very same thing as S. Grover / Camp / Belnap (1975) proposed that *is true* it is simply an anaphoric device. Roughly, on their view, *that is true* in the discourse context *It is raining. That is true.* is simply a device permitting reference permitting re-use of the preceding sentence. Finally, there are views according to which is *true* is an operator or connective (or part of an expression acting that way if *that* is included (Mulligan 2010)).

Such views all give priority to the clausal construction or focus entirely on the clausal construction. The operator / connective view of *is true* moreover gives priority to the extraposition structure. Both assumptions are problematic, though, as we will see.

1.2. The priority of the clausal construction

True in predicate position accepts both *that*-clauses and ordinary referential or quantificational NPs in subject position and it naturally occurs as an adjectival modifier of the latter. In general, it seems, type 1 truth predicates (*true correct, right*) go along with the clausal and the nominal construction and if they involve an adjective like *true*, the adjective will have an application as an adnominal modifier. There just is no evidence for the priority of the clausal construction and moreover, the semantic contribution of *true* seems exactly the same in the clausal and the nominal construction.

There are adjectives that like *true* can appear in predicate position with clausal subjects, but with which the clausal construction displays a distinctive 'sentential' semantics. These are the adjective *possible* and *probable*. *Possible* and *probable* have adverbial counterparts that act as sentence adverbials. Thus (8a) and (8b) are equivalent:

(8) a. Possibly / Probably, John will be late.

b. It is possible / probable that John will be late.

Moreover, the subject *that*-clause with *possible* and *probable* cannot be replaced by an explicit proposition-referring NP salva significatione:

(9) The proposition that John will be late is possible / probable.

(9) does not mean what (8a) and (8b) mean. Rather it states that the existence of a proposition as an abstract object is possible / probable. Failure of substitution of a coreferential term is a good indication of the nonreferential status of the *that*-clause. In fact, with *possible* and *probable*, *that*-clauses do not act like terms referring to propositions and they do not specify the content of any object whatsoever to which *possible* and *probable* could apply as predicates. In predicate position, *possible* and *probable* appear to retain the very same semantic function that they have when acting as sentence adverbials.

The same two diagnostics for a sentence adverbial function in predicate position do not apply to type 1 truth predicates. First of all, *true* and *correct* lack a sentence adverbial counterpart, though they do have an adverbial counterpart modifying the VP:

(10) a. John truly / correctly believes that S.
b. John truly / correctly said that S.

Given the common Davidsonian analysis of VP adverbials, *truly* and *correctly* here act as predicates, namely of the Davidsonian event argument of *believe* and *say* (or an entity closely related to it), just as in (11):[2]

(11) a. John's belief that S is true / correct.
b. John's claim that S is true / correct.

[2] Aune (1967) discusses uses of *truly* as in (10a, b). Moltmann (2012, Chapter 5) argues that acts and states, such as a 'John's act of claiming' or 'John's state of believing' do not have truth conditions, only their products do, that is, entities of the sort 'John's claim' or 'John's belief'. The adverbial use of *truly* as in (10) does not seem to be available in all languages, for example not in German.

Moreover, with is *true*, *correct*, or any other truth predicate, a replacement of the subject clause with an explicit proposition-referring term is generally possible.

Another difference to be mentioned is that with *that*-clauses, *true, correct,* and *right* display an anaphoric effect that *possible* or *probable* do not display. Thus, (12a, b) indicate that *that* S has been maintained by someone in the context, whereas this is not the case with (13a, b):

(12) a. It is true that S.
b. It is correct / right that S.
(13) a. It is possible that S.
b. It is probable that S.

Unlike (12a, b), (13a, b) are perfectly acceptable in a context in which S has not been uttered or was not taken into consideration implicitly. I will come back to the anaphoric effect displayed by *true* and *correct* with clausal subjects later.

To summarize, there are predicates allowing for *that*-clauses in English that display a distinctive 'sentential' semantics, but type 1 truth predicates do not belong to them.[3]

A further argument against the priority of the clausal construction is the interpretation of modifiers of type 1 truth predicates. Modifiers such as *partly* and *to some extent* are equally applicable with *that*-clauses and with NPs in subject position:

(14) a. That the students are intelligent is partly true.
b. It is partly true that the students are intelligent.
(15) a. That John is incompetent is to some extent true.
b. It is to some extent true that John is incompetent.

The modifier *partly* and *to some certain extent* in general are modifiers that relate to the part-whole structure of the object of which the predicate is predicated. In this case, this will obviously

[3] Note that subject clauses with *possible* and *probable* allow for a replacement by *everything* or *that*, an indication that such quantifiers and pronouns do not go along with a referential function of the *that*-clause.

be the part-whole structure of the content of the *that*-clause.[4] The semantics of such modifiers is hard to account for on a 'sentential' semantic analysis of the *is true*-construction.

1.3. The priority of the extraposed form and the referential status of the subject clause

Since extraposed clauses cannot be replaced by quantifiers or anaphora, the extraposition structure seems to reflect the logical form of a sentence in which *true* plays the role of an operator or connective, rather than acting as a predicate.[5,6]

There is not much linguistic support for the extraposition structure being prior to the subject clause structure, however. First of all, extraposition is always possible with (one-place) predicates allowing for a subject clause, regardless of the content of the predicate. This includes predicates such as *is interesting*, *is shocking,* or *was the subject of a great debate*, for which true predicative status is hardly implausible.

Second, extraposition is equally available with infinitival clauses, which arguably have more of a referential status than *that*-clauses. First of all, unlike *that*-clauses, infinitival clauses can 'flank the identity sign', one of Frege's criteria for referential terms:

(16) a. * That John lives is that John works.
b. To live is to work.

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[4] For an account of partial truth see Yablo (ms).

[5] More precisely, *true* will have to be considered part of an expression acting that way, namely *is true that* (Mulligan 2010).

[6] Sometimes *it is true (that)* cannot just be a connective. It hosts tense which may require a particular temporal interpretation, as well as temporal or modal adverbials:

(i) a. This was true.
b. This may be true.
(iii) Last year it was still true that S.

True can go along with other copular verbs than *be*:

(ii) That S became true / remained / seems true.

Thus, the view that *it is true* acts as an operator / connective may have to restrict itself to only part of the semantic function of that expression.

Correct, *right,* and *wrong* all allow for infinitival clauses, and that both as subject clauses and as extraposed clauses:

(17) a. To address Mike as 'Sir' is correct.
b. It is correct to address Mike as 'Sir'.
(18) a. To take advantage of others is wrong.
b. It is wrong to take advantage of others.

Infinitival clauses most plausibly stand for action types, which are then evaluated by *correct, right,* or *wrong*.[7] This is supported by the possibility of replacing infinitival clauses as in (17, 18) by explicit action descriptions:

(19) a. Actions of addressing Mike as 'Sir' are correct.
b. Actions of taking advantages of others are wrong.

If this is right, then extraposition is rather independent of the referential status of the clause.

1.4. The referentially dependent status of the subject clause

Subject clauses, like occurrences of nonreferential expressions in general, can be replaced by certain quantifiers and pronouns, such as *something* or *that.* However, there is evidence that *that*-clauses in subject position in general are not themselves referential.[8] First of all, just like extraposed clauses, they arguably do not actually appear to be in subject position, but rather in topic position (Koster 1978). Topic position certainly is not a referential position (as seen, for example in *really happy he will never be*). Second, *that*-clauses in (apparent) subject position, as elsewhere, are not referentially independent. If a *that*-clause stands for a proposition, fact, or

[7] See, for example, Portner (1997) for such a view.

[8] Quantifiers and pronouns like *everything* and *that* generally are not indicators of the referentiality of the expression they may replace. See Moltmann (2003a) and (2004) for discussion.

alike, it cannot do so not on its own, but only in relation to the relevant predicate. That is, only in the presence of a particular predicate does a *that*-clause stand for a proposition, fact, or alike. This can be seen, for example, with evaluative predicates:

(20) That S is nice.

(20) allows only for a reading on which *nice* evaluates a fact, even though *nice* could in principle evaluate a proposition (as in *the proposition that* S *is nice*). This means that *that*-clauses are not on their own ambiguous as to whether they refer to a proposition or a fact; rather they help specify either a proposition or a fact depending on the embedding verb. The general semantics of apparently referential *that*-clauses in subject position thus appears to be that of specifying the content of a proposition-like object of the kind determined by the predicate, an object to which the property expressed by the predicate can then apply. I will come back to this semantics of *that*-clauses later.

1. 5. Difficulties for the deflationist view of the content of *true*

One general issue in the philosophical discussion of truth is the question of the status of *true* as a predicate expressing a property. On the face of it, *true* appears no different from an ordinary predicate. Deflationist views deny that *true* expresses a true property, but they do not necessarily make claims about the syntactic status of *true*. Thus, Horwich's (1990) version of deflationism is sufficiently carefully formulated so as to not make direct claims about the linguistic status of *true*. The view maintains only that knowing the equivalence schema below constitutes having the concept of truth:[9]

(21) [S] is true iff S.

Yet some assumptions about the semantics of sentences expressing truth predications are made nonetheless. Most importantly, the account gives priority to the clausal construction: (21) is

[9] For a closely related view see Kuenne (2003).

applicable only when *true* applies with a clausal subject and not when it applies with a referential NP. (21), moreover, treats the *that*-clause in subject position as a proposition-referring term (with the aim of giving justice to the possibility of replacing the *that*-clause by quantifiers like *something*, anaphoric pronouns like *that*, and descriptions of the sort *what John said*). Given (21), the application of the truth predicate amounts to the denominalizaton of the proposition-referring term (a *that*-clause) and the use of the sentence thus obtained.

Given the lack of referential independence of *that*-clauses, it cannot be that the subject clause by itself stands always for proposition. This in itself is not a serious problem, since the nominalization function in (21) may have been applied on the basis of the particular predicate *true*. But there is a more serious problem for the account given the way predication of truth applies in natural language. There are predicates used as truth predicates in English that accept clausal subjects, but just do not apply to propositions. These are the normative predicates *correct* and *right*. *Correct* and *right* act as truth predicates with both subject clauses and extraposition:

(22) a. That John is the director is right / correct.
b. It is right / correct that John is the director.

Correct and *right* also act as truth predicates with referential NPs referring to entities such as beliefs and claims:

(23) a. John's belief that S is right / correct.
b. John's claim that S is right / correct.

Correct and *right* have a normative aspect, though, as part of their general meaning. This enables them to apply to decisions and actions:

(24) a. John's decision was right / correct.
b. John's punishment was right / correct.

Their normative aspect is certainly also the reason why *right* and *correct* mean something quite

different from *true* when applied to sentences:

(25) a. This sentence is correct / right.

When applied to sentences, *correct* and *right* evaluate grammaticality rather than truth.

Related to that is the observation that *correct* and *right,* unlike *true,* do not really apply to propositions:

(25) b. ?? The proposition that it is raining is correct / right.

Thus, a *that*-clause with *is right* or *is correct* could not serve to specify a proposition, but could only serve to specify an intentional entity of the sort of a belief or a claim.

The availability of both the clausal and the nominal construction with *correct* and *right* is significant. A deflationist account that invokes the denominalization of a proposition-referring *that*-clause is simply not applicable to *correct* and *right* when they are used as truth predicates with *that*-clauses. That is, predication of truth is not generally reducible to the denominalization of proposition-referring terms.

The use of *right* and *correct* as truth predicates displays a notion of truth according to which truth is the fulfillment of a norm for intentional entities such as beliefs and assertions. It is the notion of truth as the aim of a belief or assertion, just as the fulfillment of norms and rules are the aims of certain actions and decisions. The notion of truth displayed by *true,* by contrast, is that of a property of representational objects: sentences, abstract propositions, as well as intentional object such as beliefs and claims.

The deflationist might argue that that the use of *correct* and *right* as truth predicates with beliefs and assertions is derivative upon the use of the concept truth that conforms with the deflationist account, let us say, by maintaining that the application of correct and right beliefs and assertions amount to the use of their propositional content. But one might very well take the use of *correct* and *right* as truth predicates to be prior to the use of *true*. On that view, *correct* and *right* will generally express the fulfillment of the relevant norm associated with the intentional object to which correct or right applies. The use of *correct* and *right* as truth predicates with

assertions and beliefs would be explained by taking truth to be the norm of intentional entities such as beliefs and assertions. That is, truth would primarily be a normative notion tied to intentional objects of a certain sort. The application of the predicate *true* to propositions and sentences would then be explained in terms of that notion along the following lines. *True* holds of a proposition in virtue of that proposition being a reified propositional content of the sort of intentional object that is associated with the norm of truth and fulfills that norm. *True* holds of a sentence in virtue of that sentence expressing a proposition of which *true* holds. Finally, *true* holds of a belief or assertion in virtue of it being an intentional entity associated with the norm of truth (that is, being a belief or assertion) and fulfilling its norm.

Natural language as such, it seems, does not support the priority of a notion of truth predicated of abstract propositions, as the deflationist (on one version) account would have it.[10]

Negative truth predicates, *false, incorrect*, and *wrong* behave as expected. They all allow for sentential subjects and extraposition:

(26) a. That S is false / incorrect / wrong.
b. It is false/ incorrect / wrong that S.

False, like *true*, applies to sentences, beliefs, and claims; *incorrect* and *wrong,* like *correct* and *right,* apply as truth predicates only to entities like beliefs and claims (and of course actions and decisions), but not to sentences:[11]

(27) a. The belief / claim / sentence is false.

[10] For a critique of the view that *that* S in that S *is true* refers to a proposition see also Boghossian (2010).

[11] Note that in German , there is only a single negative truth predicate for both the representation-related and the norm-related use, namely *false*:

(i) a. Der Satz ist falsch.
'The sentence is false.'
b. Die Behauptung / Die Entscheidung war falsch.
'The claim / The decision was wrong.'

One might take this as a further indication not to strictly separate the representation-related concept of truth from the norm-related one.

b. The belief / claim is incorrect.

c. The belief / decision / action is wrong.

The fact that explicit proposition-referring terms do not trigger the same reading of *right* and *correct* as *true* with *that*-clauses clearly means that with *right* and *correct that*-clauses cannot stand for propositions. Rather *that*-clauses specify the content of the sorts of things that *correct* and *right* can apply to when predicating truth, namely intentional entities of the sort 'John's belief' or 'John's claim' -- or perhaps the corresponding 'kinds', entities like 'the belief that S' or 'the claim that S'.

In general, in order for such entities to act as the arguments of the predicates *right* and *correct*, they need to have been introduced in the previous discourse context. In fact, we have seen that with *that*-clauses, *right, correct* as well as *true* do display an anaphoric effect -- in contrast to *is possible* and *is probable*, which do not display that effect, as seen in the contrast repeated below:

(28) a. It is right / correct that S.

b. It is true that S.

(29) a. It is possible that S.

b. It is probable that S.

The anaphoric effect displayed by *true* suggests that even with *true* the *that*-clause has the function of specifying the content of an intentional object picked up from the context, rather than standing for an abstract proposition. If this right, then this would be a further argument against the deflationist account.

The deflationist account faces further challenges from the modifiers that truth predicates allow. The deflationist account of *true* explains the application of *true* in terms of the use of the denominalized sentence and thus could not account for modifiers of *true* such as *partly* or *to some extent*, which relate to the part-whole structure of the content of the truth bearer.

1.6. The nominalization *truth*

A further important linguistic fact about the adjective *true* is that it has a nominalization *truth*. *Truth* can help form a relational NP that is of the very same form as a term referring to a particularized property or trope, such as *the wisdom of Socrates* or *the beauty of the landscape*.[12] In such an NP, *truth* will take as its complement a referential NP with which *true* can also act as a predicate and an adnominal modifier:[13, 14]

(30) a. the truth of the proposition
b. the truth of the belief / claim that S
c. the truth of the sentence S

Truth otherwise displays typical occurrences as an abstract mass noun, namely as a bare mass noun apparently referring to a quality in (31a) (which is parallel to (31a')) and as a mass quantifier ranging over quality instances (or tropes) in (31b) (which is parallel to (31b')):

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[12] Terms of this sort are used as standard examples of trope-referring terms in the relevant philosophical literature. See Moltmann (2009) for a discussion of trope-referring terms in natural language.

[13] It is obvious from the behavior of predicates that *the truth of the proposition that* S cannot refer to the same thing as *the proposition that* S:

(i) a. The proposition that S might have been false.
b. ??? The truth of the proposition that S might have been false.

Truth is essential to 'the truth of the proposition that S, but not always to 'the proposition that S'.

[14] Hinzen (2003) emphasizes the 'possessor' relation (the relation of inalienable possession) that is manifest in the application of the nominalization *truth*, as in (ia) and especially in (ib):

(i) a. There is some truth in his claim that S.
b. The claim that S has some truth in it.

This is the very same relation that may also apply to the referents of adjective nominalizations such as *wisdom*, where it is traditionally considered the relation of a trope to its bearer:

(ii) a. There is some wisdom in his remark
b. His remark has some wisdom in it.

The same relation is involved in the interpretation of 'ordinary' trope-referring terms formed with *truth* or *wisdom*:

(iii) a. the truth of his claim
b. the wisdom of his claim

(31) a. The topic of the seminar was truth.[15]

a'. The topic of the conversation was beauty.

b. There was little truth in what he claimed.

b'. There was little beauty in the photograph.

The various uses of the nominalization *truth* pose considerable difficulties for philosophical views of truth that focus entirely on the clausal construction, such as the redundancy theory, the anaphoric theory, and the theory of *true* as (part of) a connective or operator. Natural language not only treats *true* as a property-ascribing predicate, but it also treats NPs formed with its nominalization as trope-referring or trope-quantifying terms or as terms standing for a quality.

2. Type 2 truth predicates

Is the case is a type 2 truth predicate. The construction *is the case* is often considered synonymous with *is true*. More obviously than *is true*, *is the case* appears to act as a semantically redundant sentence operator, serving at best the purpose of hosting negation (for the purpose of negating the *that*-clause), as in (33a), or as permitting quantification, as in (33b), or anaphoric reference, as in (33c):

(33) a. That S is not the case.

b. Several things he said are not the case.

c. That is not the case.

The equivalence of the sentences below, with subject clauses and with extraposition, seems to show the synonymy of *is true* and *is the case*:

(34) a. That S is not true.

a'. That S is not the case.

b. It is not true that S.

[15] Coherence theorists consider the quality-referring use primary, prior to the use of *true* or the relational use of *truth*.

b'. It is not the case that S.

However, the two constructions are in fact fundamentally different both syntactically and semantically.

A first difference consists in that (35a) perfectly fine as is, whereas (35b) is quite peculiar:

(35) a. That S is true.
b. ?? That S is the case.

The case seems to require negation, as in (33a) or else an adverbial (*that* S *is often the case*).

Another difference is that unlike *is true*, *is the case* does not accept full NPs in subject position:[16], [17]

(36) a. ??? The proposition that S is the case.
b. ??? The belief that S is the case.
c. ??? The sentence 'S' is the case.

It has been held that the *is the case*-construction reflects the Identity Theory of truth. That is, *that* S *is the case* is true just in case that S picks out a wordly fact.[18] If S fails to pick out a

[16] It has been held that that *is the case* does not apply to representational objects, such as propositions, beliefs, or sentences, but only to states or affairs or situations (Mulligan 2010). But in fact, explicit descriptions of situations or states of affairs are equally impossible:

(i) a. ??? That state of affairs is the case.
b. ??? The situation he described is the case.

[17] One might expect *is true* and *is the case* to differ in another respect. Whereas *true* as an adjective should have predicative status, this would not be expected for *the case* in *is the case*. Yet, *the case* in that context satisfies the same syntactic criteria for predicatehood as *true*. In particular, both constructions can be the predicate in 'small clauses', a standard linguistic criterion for predicatehood:

(i) a. I consider it true that John is a genius.
b. I consider it the case that John is a genius.

[18] The Identity Theory of truth is that of early Russell and Moore; see Candlish/Damnjanovic (2011).

worldly fact, then *that* S *is true* is false.[19] On this view, *is the case* is in fact treated as an existence predicate. An existence predicate, unlike other predicates, does not presuppose the existence of the subject referent. However, this account, as we will, see cannot be right. The *that*-clause in *that* S *is the case* may be evaluated relative to different situations, rather than denoting a single entity.

The most important semantic difference between *is true* and *is the case* concerns their behavior with modifiers. First, *is true* and *is the case* differ in their acceptance of location modifiers. Location modifiers are perfectly fine with *is the case*, but they are hardly acceptable with *is true*:

(37) a. In our firm, it is not the case that one gets fired without explanation.
b. ??? In our firm, it is true that one gets fired without explanation.
(38) a. In John's family, it is not the case that children respect their parents.
b. ?? In John's family, it is not true that children respect their parents.

Furthermore, *is true* can hardly go together with adverbs of quantification, which are fine *with is the case*:

(39) a. Given that she has developed Alzheimers, it will often be the case that Mary forgets something.
b. ?? It will often be true that Mary forgets something.
(39) a. It was twice the case that someone was absent.
b. ??? It was twice true that someone was absent.

[19] Wittgenstein's dictum below in (ia) appears to be an expression of the Identity Theory, given the assumption that (ia) means just what (ib) means:

(i) a. The world is everything that is the case.
b. The world is the totality of facts.

On the intended meaning, *everything that is the case* would have to stand for the totality of worldly facts that 'are the case'. The question is whether (ia) is really acceptable (and its slightly provocative sound suggests that it is not). On the present view, *everything* in (ia) would best be considered a substitutional quantifier or something close to it. But then *everything that is the case* can hardly stand for the totality of facts. Thus, (ia) comes out as unacceptable.

The use of adverbs of quantification with *is the case* shows that the subject clause may be evaluated with respect to the various situations that the adverb of quantification ranges over. The *that*-clause won't denote a single entity, which means that the identity-theoretical account of *is the case* cannot be right.

The use of propositional anaphora with *again* shows the same thing:

(40) It was once the case that S. Today that is the case again.

By contrast, the *that*-clause with *is true* needs to be propositionally complete. *That* S in *that* S *is true* is understood as complete regarding context-dependent elements, such as quantifier restrictions, tense interpretation, spatial location etc., though of course the proposition expressed may involve 'unarticulated constituents'.

Is the case is not the only predicate in English that involves an evaluation of the *that*-clause with respect to different situations, rather than the attribution of truth. *Occur* can play that same role:

(41) It has never occurred that a student in this class failed an exam.

Occur shares all the relevant properties of *is the case*. It allows for extraposition and subject clauses and for a replacement of a subject clause by a quantifier or pronoun:

(42) a. That a student in this class failed an exam has never occurred.
b. Nothing of what he predicted has occurred.

Moreover, *occur* allows for adverbs of quantification, such as *never*.

Occur differs from *is the case,* though, in that it imposes a restriction on the *that*-clause. It accepts only *that*-causes with an eventive verb:

(43) a. ?? In John's family, it does not occur that children respect their parents.
b. Sometimes it occurs that Mary forgets something.

Another construction belonging like *is the case* and *occur* to type 2 truth predicates appears in English only in a restricted form, namely *is so*. *Is so* does not accept *that*-clauses, but only sentential anaphora:[20]

(44) a. It is perhaps so
b. Is that so?

In order to account for the possibility of locational and temporal restrictions, it is revealing to take a closer look at referential terms that can be formed with the noun *case*. Such terms are indicative as to what sort of entities are involved in the semantics of type 2 truth predicates. They are the sorts of entities with respect to which the *that*-clause will be evaluated, or better that serve as truthmakers of the *that*-clause.[21]

Case occurs as the head noun of referential terms like *the case in which* S, as below:

(45) a. We discussed the case in which John might not return.
b. We cannot exclude the case in which John might be unable to do the job.

What is peculiar about such noun phrases is that they require a modal of possibility in the *that*-

[20] The German version is not subject to the restriction:

(i) Dass es im Winter kalt ist, war schon immer so.
that it is cold in winter was always so

Below we see that the construction also allows for extraposition:

(ii) Es war schon immer so, dass es im Winter kalt ist.
it was always so that it is cold in winter

(iii) illustrates that the construction does not allow for referential NPs:

(iii) * Dieser Satz / Diese Proposition / Dieser Sachverhalt was schon immer so.
this sentence / This proposition / This state of affairs has always been so

That is, *is so* can mean neither 'true' nor 'obtain'.

[21] For the notion of a truth maker see, for example, Mulligan / Simons / Smith (1984), Armstrong (1997), Moltmann (2007), and Fine (to appear).

clause. The modal in this context serves as an indicator that the situation the NP refers to is a merely possible one. Without a modal, the *case*-NP would refer to an actual situation, and that, for some reason, is not permitted:

(46) a. ??? We were relieved about the case that John returned.
b. ??? We discussed the case in which John is unable to do the job.

Case also serves to form conditionals, in which case no modal is required:

(47) a. In case it rains, we won't go.
b. In a case in which it rains, we won't go.

Conditionals can be seen as introducing a situation, a case, as something then considered actual.

Case NPs thus are constrained to refer to merely possible situations or better possible 'cases'. Note that merely possible cases are not possibilities. 'The possibility that John might return' exists just in case it is possible that John returns. For a possible case to 'exist', it has to be actual. This can be seen from the way existence predicates for cases are understood. In English, these are *occur* and *present itself*:[22]

(48) a. The case that John will not return could occur / present itself.

Other languages choose very specific existence predicates for cases, such as *eintreten* 'enter' in German:

(48) b. Der Fall, dass Hans nicht zurueckommt, koennte eintreten.
'The case that John might not return could enter'.

[22] 'Cases' thus are also not states of affairs. States of affairs may or may not obtain. But 'cases' intuitively do not 'obtain'. What exactly the ontological differences between states of affairs and cases amounts to remains to be clarified of course.

'Cases' are situations in a certain sense and as referents of *case*-NPs they are merely possible situations. But once they are said to 'exist', they are worldly facts or actual situations.

Cases are not true propositions or non-wordly facts. Unlike the latter, they have to be fully specific. Thus, a case in which a student fails the exam involves a particular student failing the exam, and a case in which John or Mary fails the exam involves either John's failing the exam or Mary's failing exam, but not a disjunctive condition.

While *case*-NPs are subject to the constraint that they have to refer to merely possible 'cases', *is the case* obviously involves reference to an actual 'case'. This is not achieved by the noun *case* itself, though. *The case* in that context does not behave as a truly referential NP: it requires the simple definite determiner *the* (* *it is that case that* S, * *it is a case that* S), and does not permit any modifiers (* *it is the unfortunate case that* S):

(49) * That it is raining is the case that I did not expect.

The case in *is the case,* moreover, cannot act as the antecedent of a *case*-NP:

(50) That no one came was recently the case. ?? We did not like that case / the case.

The case rather appears to be a referential residue, indicating an implicit reference to cases that is involved in the construction *it is the case that* S. A sentence of the form *it is the case that* S then states that *the case* referred to with the overall construction supports S.

It is the case that S then involves as its interpretation the sort of semantics that Austin (1950) proposed for independent sentences in general. On Austin's view, with the utterance of a sentence, a speaker refers to an (actual) situation and claims that the situation referred to is of the type specified by the sentence uttered. That is, the situation referred to acts as the truth maker of that sentence.

On the present view, this is only part of the constructional meaning of *is the case*. With *is the case*, adverbs of quantification range over 'cases' and location adverbials act as predicates of cases.

Austin's motivations for implicit situation reference were quite different from the present

ones. The situation referred to, for Austin, is responsible for contextual restrictions on quantification domains, the interpretation of tense etc. The present motivation for invoking truth making is quite simply the semantics of the *is the case*-construction.

The relation between a 'case' and the *that*-clause that is involved in the semantics of the *is the case*-construction is a relation of truth-making, and it needs to be the relation of exact truth-making.[23] That is, it is the relation that holds between a case and a *that*-clause only if the case is wholly relevant to the truth of the *that*-clause. This is clear from the way quantifiers are understood:

(51) It was exactly twice the case that John made a mistake.

Exactly twice in (51) counts situations that are completely relevant for the truth of *John made a mistake*, that is, situations that include nothing more than John, a single mistake, and the 'making'-relation holding between the two. *Exactly two* does not count larger situations or sums of such situations.

The semantics of the *is the case*-constructions with location modifiers or adverbs of quantification can thus be formulated, somewhat informally, as follows:

(52) a. For a location modifier PP,

PP *is the case that* S is true iff for the maximal situation s such that PP(s), s |= S .

b. Adverbs of quantification:

PP *it is* QP *the case that* S is true iff for Q-many situations s such that PP(s), s |= S.

The truthmaker idea is a general view about truth. It says that if a sentence / proposition is true, it is in virtue of something in the world that makes it true. The fact that English has constructions expressing the truth-making relation between 'cases' and the content of *that*-clauses does not imply that English is committed to the truth maker view as a view about truth itself, though. Rather, it simply means that the semantics of English involves a concept of truthmaking that relates situations or rather 'cases' to the content of *that*-clauses. It does not imply that the truth of

[23] This is the truth-making relation that is used, for example, in Moltmann (2007) and Fine (to appear).

any sentence must be grounded in a truthmaker.

3. Conclusions

This paper has pointed out a range of linguistic facts about truth predicates in English, which required a significant re-evaluation of the motivations of theories of truth that make appeal to natural language. The paper has argued for a fundamental distinction between two types of truth predicates. It has argued for an account of sentences of the form *that* S *is* P for a type 1 truth predicate P according to which *that* S specifies the propositional content of an intentional entity and P acts as a predicate of that entity (whereby the intentional entity is generally given contextually). The paper has furthermore argued that type 2 truth predicates such as *is the case* involve in their semantics the relation of truth-making as well as implicit reference to a truth-making 'case', but not predication of a truth property.

There is one obvious question that arises from the paper and that is the crosslinguistic generality of the generalizations that the paper established on the basis of English (and related languages such as German). The practice not only of theoretical syntax, but also of linguistic semantics is guided by the explicit or implicit assumption that a deeper analysis of a phenomenon in one language is likely to reveal something universal about the human language faculty in general. Yet certainly support for the relevant generalizations from a greater range of languages remains a significant desideratum.

Appendix: Two further 'truth predicates'

1. *Is a fact*

Is a fact appears to act as a truth predicate below:

(1) That the sun is shining is a fact.

Let us look at relevant properties of the *is a fact*-construction. Like *is true*-sentences, *is a fact*-

sentences allow for extraposition:

(2) a. That S is a fact.
b. It is a fact that S.

Moreover, like *is true*-sentences and unlike *is the case*-sentences, *is a fact*-sentences resist location modifiers, adverbs of quantification, and past and future tense:

(3) a. ?? In many European countries, it is still a fact that women can wear a burka.
b. ??? In our firm, it is never a fact that someone gets fired without explanation.
c. ?? It is sometimes a fact that someone is absent.
d. ??? It was twice a fact that someone was absent.
e. ??? It will often be a fact that Mary forgets something.

This means that *that* S in *that S is a fact* must be propositionally complete.

There are differences, though, between *is true* and *is a fact*. Unlike *is true*, but like *is the case*, *is a fact* allows only for pronouns or quantifiers in the place of *that*-clauses in subject position and not for referential NPs:[24]

(4) a. * John's belief is a fact.
b. * That sentence is a fact.
(5) It is raining. That is a fact.

Unlike *the case* in *is the case*, *a fact* in *is a fact* is an ordinary indefinite NP, allowing for

[24] Note that *is a fact* does not allow for free relative clauses with attitude verbs, unlike *is the case* and *is true* (Austin 1961a):

(i) a. What John said / believes is true.
b. ?? What John said / believes is a fact.
c. What John said / believes is the case.

I do not have an explanation of that difference.

adjectival modifiers and relative clauses:

(6) a. That S is an interesting fact.
b. That S is a fact that I had never noticed.
c. That S is a fact. That fact is hardly known.

All this suggests that the *is a fact*-construction reflects the Identity Theory of truth: *That* S *is a fact* is true just in case that S picks out a fact. This would also account for the possibility of negation, as below:

(7) That S is certainly not a fact.

However, the identity-theoretic analysis of the construction is implausible. First, *that* S by itself cannot stand for a fact, not only because of the lack of referential independence discussed earlier. Second, the analysis would not be general enough. The sentences below display the very same construction:

(9) That S is a possibility.
(10) That S is a common belief.

If *that* S could by itself stand for a fact, then (9) and (10) could have a reading on which they are false just because S is true, since a fact is neither a possibility nor a belief. A fact is not a possibility since the possibility that S exists in circumstances in which S is not true. Moreover, a belief obviously is not a fact.

More plausibly the *that*-clause in this context occurs nonreferentially and serves to specify the content of a fact. That is, (1) expresses a relation of specification that holds between the content of the *that*-clause and a fact and not predication of the property of being a fact of the referent of the *that*-clause.

2. *Is the truth*

A rather puzzling truth predicate is *is the truth*:

(11) That John is guilty is the truth.

Obviously, what the subject clause denotes cannot literally be 'the truth'. It could not make up the one and only 'truth; there are lots of other 'truths'.

It is tempting to take *the truth* in this context to stand for the unique contextually relevant 'truth' (that is, true proposition) or to act as a predicatively used contextually restricted definite description. But a contextual restriction driving the interpretation of *the truth* in (11) is implausible. For (11) to be acceptable, no particular context is required that would restrict the denotation of *the truth*. *The truth* does not behave like predicatively used contextually restricted NPs as in the examples below:

(12) a. This chair is the yellow chair.
b. This piece of furniture is the yellow chair.

Unlike (11), (12a) and (12b) do require a particular previous discourse contexts that was about a unique yellow chair

In fact, *is the truth* belongs to a different construction than that of a subject-predicate sentence, a construction not unrelated to *that S is a fact.* In that construction, *the truth* will have neither the status of a predicatively used NP nor of a referential or quantificational NP (whatever the view of definite NPs).

Two properties distinguish *is the truth* from ordinary predicates. First, *is the truth* allows subject-predicate inversion, as seen in (13), unlike ordinary predicates, such as type 1 and type 2 truth predicates in (14):

(13) a. That John will not return is the truth.
b. The truth is that John will not return.
(14) a. * True / Correct / Right is that S.

b. * The case is that he will not return.

Moreover, unlike predicates taking clausal subjects, *is the truth* does not allow for extraposition:[25]

(15) * It is the truth that John will not return.

One important characteristic of the construction is that it requires a definite determiner:

(16) a. * A truth is that he will not return.
b. * That John will not return is a truth.

Thus, we can conclude that *is the truth* is not a syntactic predicate taking clausal subjects. Moreover, *the truth* in that construction does not act as an ordinary definite NP used predicatively or referentially. Otherwise the restriction to definiteness would be unexpected.

The construction more plausibly is a type of specificational sentence (Higgins 1973). Specificational sentences come in two sorts: with a free relative clause in subject position, as in (18a), and with a definite NP in subject position, as in (19a) (Higgins 1973):

(18) a. What John did was kiss Mary.
b. Kiss Mary is what John did.
(19) a. The best player is John.
b. John is the best player.

As the examples illustrate, inversion is possible in both cases.

Semantically, specificational sentences have been analysed in one of two ways: as expressing a question-answer relationship, with the subject acting as a concealed question and the postcopula expression indicating an answer, and as expressing an identity among possibly higher-level

[25] This poses difficulties for Hinzen's (2006) view, who takes *the truth* in *is the truth* to have the status of a predicate.

semantic values.[26] It turns out that neither analysis can be right for specificational sentences with *that*-clauses in general. Here are some more familiar kinds of specificational sentences involving *that*-clauses:

(20) a. John's claim is that it is raining.
b. It is raining is John's claim.
(21) a. The idea is that there will be a party.
b. That there will be a party is the idea.

The question-answer analysis is not straightforward for specificational sentences with *that*-clauses. On such an analysis, the subject of (21a) would stand for a question of the sort 'what idea is there?' or perhaps of the sort 'what is the idea?' and the postcopula NP would partially specify an answer of the sort 'the idea that there will be a party'. This kind of analysis would not be applicable in the present case, though. In (11), the subject would stand for a question of the sort 'what truth is there?' and the postcopula *that*-clause would partially specify an answer of the sort *the truth that* S. But the latter is ungrammatical: *truth* does not accept *that*-clauses.

The difficulty is not restricted to sentences with *truth*. Higgins (1973) already observed that in specificational sentences, the subject and a postcopula *that*-clause need not be able to form an NP. Thus, (22a) is a specificational sentence as well, but (22b) is ungrammatical:

(22) a. The proof that S is that S'.
b. * the proof that S that S'

The identity analysis would not be applicable straightforwardly to specificational sentences with *that*-clauses either. What a *that*-clause generally is taken to stand for is not a proof, a fact, or a claim. The content of a *that*-clause specifies the content of such entities, but is not identical to them. The relation expressed by a specificational sentence with a *that*-clause is thus better taken to be that of content 'specification', than that of identity.

[26] For the question-answer analysis of specificational sentences, see, for example, Schlenker (2003) and references therein. For the identity analysis see, for example, Sharvit (1999) and references therein.

A further question then is, why is the subject a definite NP when there need not be a unique entity it stands for? The question-answer analysis would say that in that an NP of the sort *the fact that* S or *the claim that* S obligatorily is definite. But we have seen that that analysis was not on the right track. There is an alternative explanation of the definiteness and that is that specificational subjects quite simply always have to be definite (Heycock/Kroch 1999):[27]

(23) a. ??? A good player is John.
b. ??? A problem is that it s raining.

Given that (11) is in fact the inverted structure, this means that the puzzling definiteness of *the truth* in *is the truth* is the result of a general requirement on the subject of specificational sentences. It is yet to be explored whether this requirement could be associated with a particular semantic role of the subject of specificational sentences, let's say of the sort that the subject of specificational sentences has a particular anaphoric status relating to what is at least implicitly under discussion.

In any case, we can summarize that *is the truth* is a pseudo-truth predicate involving a rather complex syntactic structure whose semantics is far from well understood.

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[27] *The truth* occurs in yet a different construction, as a concealed question below:

(i) a. John told the truth.
b. John knows / found out the truth.

The concealed-question use is not available with nominalizations of other type 1 truth predicates:

(ii) a. * John told the falsehood.
b. * John told the correctness.

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