Weak uniqueness:
The only difference between definites and indefinites*

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Abstract We argue that predicative *the* is an identity function that is defined for predicates that satisfy *weak uniqueness*: if there is an F, then there is only one. Predicative definites do not presuppose existence, as evidenced by anti-uniqueness effects, e.g. that 'Scott is not the only author of *Waverley*' implies that there is more than one author of *Waverley*. The definite and indefinite articles are both argued to be identity functions on predicates, differing only in that the latter lacks a weak uniqueness presupposition. Furthermore, the meaning of argumental definites and indefinites can be derived from the predicative meanings using the same general mechanisms that introduce existence. Existence is generally at-issue with argumental indefinites and presupposed with argumental definites. However, we observe that anti-uniqueness effects arise with argumental definites as well, under conditions described in our '1-to-1 Generalization', which we derive in terms of aboutness.

Keywords: Definiteness, existence, uniqueness, presupposition, exclusives, aboutness

1   Introduction

1.1   Preview

Frege and Strawson thought that definite descriptions presuppose existence and uniqueness. Russell thought that existence and uniqueness were not presupposed but rather part of the ordinary semantic content. In this paper, we argue for both sides of the debate: Definite descriptions presuppose uniqueness, but existence is sometimes absent entirely, sometimes presupposed and sometimes at-issue. Presupposed or at-issue, the existence component is not lexically specified by the definite or indefinite article; rather, it comes about through general type-shifting operations that apply equally to definites and indefinites.

We arrive at this conclusion by considering predicative definite descriptions such as in (1a) alongside argumental ones such as in (1b). We see certain parallels between this relationship and the relationship between predicative *indefinites* as in (2a) and argumental ones as in (2b):

(1) a. Scott is the author of *Waverley*.

  b. The author of *Waverley* is dining with George IV tonight.

(2) a. Scott is an author of *Waverley*.

  b. An author of *Waverley* is dining with George IV tonight.

We will argue that predicative definite descriptions do not signal a presupposition of existence, although they do signal a uniqueness presupposition. In argument position, definite descriptions acquire an existence implication which is typically, though not always, not at-issue. The means by which this existence implication is acquired is the same as that by which argumental indefinites acquire theirs.

Particularly striking evidence for the lack of an existence implication comes from what we refer to as *anti-uniqueness effects,* which arise when a predicative definite description contains an exclusive adjective such as *sole* or *only*. Whereas (3a) is not compatible with the existence of multiple authors of *Waverley*, (3b) implies that there are at least two.

(3) a. Scott is not the author of *Waverley*.

  b. Scott is not the only author of *Waverley*.

It is the implication that there are multiple authors of *Waverley* in (3b) that we refer to here as an "anti-uniqueness effect". Such phenomena can be analyzed as cases where there is no existence implication, because *X is not the only F* implies that there is nothing that satisfies the description *only F*.

Although they do not presuppose existence, we argue that predicative definites do presuppose a kind of uniqueness that is independent of existence: *weak uniqueness*. This can be seen as a requirement that the cardinality of the predicate is no greater than one (possibly zero). We treat both definite and indefinite articles as identity functions on predicates, with the definite article restricted to those inputs that satisfy weak uniqueness. Hence the weak uniqueness presupposition of the definite article is the only difference between definites and indefinites under our proposal.

While bringing definites and indefinites together, we separate the existence and uniqueness components of definites. The existence component of a definite, we argue, arises from general principles that apply equally to definites and indefinites. Generally, the existence component ends up as at-issue for indefinites and presupposed for definites, but the theory correctly allows for some exceptions. In particular

it allows for the fact that definites in argument position can have anti-uniqueness readings, as the following example shows:

(4)   Anna didn't give the only good talk at SALT.

Under the interpretation that there were multiple good talks at SALT, there is no existence presupposition here either. In §2.4 we identify a generalization capturing when such readings are available (the '1-to-1 Generalization'), and we argue in §2.5 that whether or not existence is presupposed depends on whether the resulting proposition can be 'about' the subject of the sentence.

1.2   Predicative vs. argumental definites

Strawson (1950: 320) begins by setting certain definite descriptions aside, including predicative ones:

> [I]f I said, "Napoleon was the greatest French soldier", I should be using the word "Napoleon" to mention a certain individual, but I should not be using the phrase, "the greatest French soldier" to mention an individual, but to say something about an individual I had already mentioned. It would be natural to say that in using this sentence I was talking *about* Napoleon and that what I was *saying* about him was that he was the greatest French soldier. But of course I *could* use the expression, "the greatest French soldier", to mention an individual; for example, by saying: "The greatest French soldier died in exile".

Another way of expressing the idea that predicative definites are used to say something about someone rather than to refer to someone is to say that they are of type $\langle e,t \rangle$. Russell (1905) had a quantificational analysis of definites in such sentences, treating the copula as equative, and he used scope ambiguity to explain why 'George IV wished to know whether Scott was the author of *Waverley*' does not imply 'George IV wished to know whether Scott was Scott' (which Russell took to be an instance of the puzzle Frege illustrated with *the morning star* and *the evening star*). Despite this apparent strength of the Russellian analysis, Graff (2001) argues that predicative definites are in fact problematic for Russell, and defends the Strawsonian view on which they are not quantificational but predicate-denoting.

One piece of evidence for the notion that definites can have $\langle e,t \rangle$-type denotations comes from coordination. Compare the following two:

(5)   a.   John is tall, handsome and the love of my life.   (Graff 2001)

b.   #The love of my life is tall, handsome, and John.

This can be explained if proper names cannot be type ⟨e,t⟩ (*pace* Matushansky 2008) and definite descriptions can be.

Another difference between definites and proper names is that the former, along with adjectives, indefinites, and possessives, can serve as an argument to verbs like *consider* and *find,* while the latter, along with *some*-indefinites and personal pronouns, cannot (Doron 1983; Partee 1986; Winter 2001).

(6) a.   John considers this woman {competent / a good teacher / the queen of the world / his girlfriend}.

b.   *John considers this woman {Mary / some particular queen / you}.

(7) a.   I found John (to be) {competent / a good teacher / the best candidate / my strongest supporter}.

b.   I found the best candidate *(to be) { John / some particular individual / you}.

These facts can be explained under the assumption that such verbs select for predicates of type ⟨e,t⟩. On the basis of these facts and further evidence discussed by Winter (2001) (see especially pp. 173–175), we conclude that definites can be of type ⟨e,t⟩.

1.3   Anti-uniqueness effects

In this section we argue that ⟨e,t⟩-definites do not give rise to existence implications. Compare the following two examples.

(8) a.   Washington was the greatest French soldier.

b.   Washington met the greatest French soldier.

About these two, Graff (2001) writes: "Since Strawson regarded the description in [(8a)] as predicative, but would have regarded the description in [(8b)] as referential, he would have regarded [(8a)] as false, but [(8b)] as valueless if there were no greatest French soldier." In other words, (8a) has no existence presupposition. It follows that 'Washington was not the greatest French soldier' would be *true* rather than truth-valueless in a situation where there was no greatest French soldier.

If argumental definites presuppose existence and uniqueness, but predicative definites presuppose only uniqueness, then (9a) introduces a presupposition failure, and (9b) does not (on a predicative reading).[1]

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1 Thanks to Anders Schoubye for this minimal pair.

(9)   a.   The king of France is the greatest French soldier.

       b.   The greatest French soldier is the king of France.

This means that (9a) should be relatively difficult to judge as true or false, and (9b) should be more easily judged as false. While the contrast is subtle, our intuitions are in line with this prediction.

     There is an acute need to recognize the absence of an existence implication in predicative definites containing exclusive adjectives, and in that regard they provide good evidence for the view that Graff attributes to Strawson. (10a) implies that there is one author of *Waverley*; indeed, that is the point of such an utterance. But when the sentence is placed into an entailment-cancelling environment such as negation, as in (10b), a yes-no question as in (10c), or the antecedent of a conditional as in (10d), it is no longer implied that there is only one author of *Waverley*. In (10b), the most prominent interpretation[2] is that there is *more than one* author. Similarly, in the question and conditional contexts (10c) and (10d), there may be multiple authors.

(10)   a.   Scott is the sole/only author of *Waverley*.   [1 author]

       b.   Scott is not the sole/only author of *Waverley*.   [>1 author]

       c.   Is Scott the sole/only author of *Waverley*?   [≥1 author]

       d.   If Scott is the sole/only author of *Waverley*, then...   [≥1 author]

     At first glance, anti-uniqueness effects might look like a disappearance of the uniqueness property normally associated with definites, as inserting an exclusive eliminates the implication that there is a unique *F*. Indeed, for this reason, we will persist in referring to the phenomenon as an 'anti-uniqueness' effect. But what these examples really show is that the *existence* implication normally associated with definite descriptions may be absent. What it means for *x* to satisfy the predicate 'sole author of *Waverley*' is that no one other than *x* is an author of this book. If it has multiple authors, then there is no 'sole author of *Waverley*'. That is to say, there is no *x* such that no one other than *x* is an author of *Waverley*; no such *x exists*.

1.4   Uniqueness without existence

Although predicative definites do not presuppose existence, they do presuppose uniqueness. Evidence for this comes from the fact that predicative definites prefer contexts in which it is assumed that there is only one satisfier of the relevant predicate,

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2 The copula also has an equative interpretation, with which (10a) means 'Scott is the same person as the author of *Waverley*'. The anti-uniqueness effects arise on the predicative reading of the copula, with which (10a) means 'Only Scott is an author of *Waverley*'.

if there are any. Consider a situation in which an iguana has been dissected, and, pointing to an unidentified part, an observer utters one of the following sentences.

(11) a.　I don't know whether iguanas have hearts, but is that the heart?

b.　#I don't know whether iguanas have bones, but is that the bone?

(11a) is felicitous, under the normal assumption that iguanas have only one heart if they have any. Under the normal assumption that iguanas have multiple bones if they have bones at all, (11b) is infelicitous.

Under negation, the definite article conveys uniqueness without existence as well, as shown by the following.

(12) a.　That's definitely not the heart. Iguanas don't have hearts.

b.　#That's definitely not the bone. Iguanas don't have bones.

This uniqueness presupposition projects from the antecedent of a conditional as well, as evidenced by the following contrast.

(13) a.　If that's the heart, then this must be a blood vessel.

b.　#If that's the bone, then this must be a tendon.

Here again, uniqueness is conveyed without existence; (13a) does not commit the speaker to the existence of iguana hearts, but the contrast between (13a) and (13b) shows that uniqueness is required in these cases. If the definite article were replaced by the indefinite article in these examples, the contrasts would disappear. Hence the definite article contributes a uniqueness presupposition even when the description it is part of functions predicatively.

2　Development

2.1　*the*

In the previous section, we established that we want an $\langle e,t \rangle$ analysis of predicative definites on which existence is not presupposed but uniqueness is. The analysis we propose involves a weak uniqueness presupposition, as follows:[3]

(14) **Proposed lexical entry for *the***
$[\![\text{the}]\!] = \lambda P : |P| \leq 1 \ . \ P$

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3 We are playing fast and loose with notation, switching between set notation and function notation for predicates as it suits us.

Label	Definition	Author(s)
$\text{THE}^R_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}$	$\lambda Q \,.\, \lambda P \,.\, |Q| = 1 \wedge Q \subseteq P$	e.g. Partee 1986
$\text{THE}^S_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}$	$\lambda Q : |Q| = 1 \,.\, \lambda P \,.\, Q \subseteq P$	e.g. Barwise & Cooper 1981
$\text{THE}^S_{\langle\langle e,t\rangle,e\rangle}$	$\lambda P \,.\, \iota x P(x)$	Partee 1986
$\text{THE}_{\langle e,e\rangle}$	$\lambda x \,.\, x$	Löbner 1985, 2011
$\text{THE}^R_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$	$\lambda P \,.\, \lambda x \,.\, |P| = 1 \wedge P(x)$	Winter 2001
$\text{THE}^S_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$	$\lambda P : |P| = 1 \,.\, P$	Winter 2001
$\text{THE}^{WS}_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$	$\lambda P : |P| \leq 1 \,.\, P$	Coppock & Beaver 2012, here

Table 1 Possible lexical meanings for singular *the*.

The presupposition says simply that *the* can felicitously be applied to P when the number of Ps is understood to be no greater than one. This leaves open the possibility that there are none; hence the absence of an existence implication.

Let us consider how this compares to other proposals in the literature. There are two general ways to get an $\langle e,t\rangle$-type denotation for definite descriptions. One could define *the* as a predicate modifier (type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$), or start out with denotation of another type and type-shift it into a function of type $\langle e,t\rangle$. The range of possibilities is summarized in Table 1, where R stands for "Russellian", S stands for "Strawsonian", and WS stands for "Weak Strawsonian" in the labels.

If we start with a denotation of type $\langle\langle e,t\rangle,t\rangle$, then we can obtain a type $\langle e,t\rangle$ denotation by applying Partee's (1986) BE type-shift, defined as in (15). A denotation of type e can be converted into one of type $\langle e,t\rangle$ via IDENT.

(15) $\text{BE} = G \mapsto \lambda x \,.\, G(\lambda y[y = x])$

(16) $\text{IDENT} = j \mapsto \lambda x \,.\, x = j$

Putting these together with the applicable analyses in Table 1, we get the possible $\langle e,t\rangle$ analyses of *the king* in Table 2. The column labelled '$\partial(\leq 1)$?' indicates for each analysis whether uniqueness is presupposed, and the one labelled '$\partial(\geq 1)$?' indicates whether existence is presupposed.

Now, we want an $\langle e,t\rangle$ analysis on which existence is not presupposed. Of the possibilities summarized in Table 2, there are three such analyses:

(17) $\text{BE}\big(\text{THE}^R_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}(\text{KING})\big)$ Partee
      $= \lambda x \,.\, \forall y[\text{KING}(y) \to y = x] \wedge \text{KING}(x)$
      $= \lambda x \,.\, |\text{KING}| = 1 \wedge \text{KING}(x)$

Analysis	Author	$\partial(\leq 1)$?	$\partial(\geq 1)$?
$\text{IDENT}(\text{THE}^S_{\langle\langle e,t\rangle,e\rangle}(\text{KING}))$	Partee	yes	yes
$\text{IDENT}(\text{THE}_{\langle e,e\rangle}(\text{KING}_e))$	Löbner	yes	yes
$\text{BE}(\text{THE}^R_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}(\text{KING}))$	Partee	no	no
$\text{BE}(\text{THE}^S_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}(\text{KING}))$	-	yes	yes
$\text{THE}^R_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{KING})$	Winter	no	no
$\text{THE}^S_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{KING})$	Winter	yes	yes
$\text{THE}^{WS}_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{KING})$	us	yes	no

Table 2   Possible $\langle e,t\rangle$-type analyses of *the king*.

(18) $\text{THE}^R_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{KING})$ Winter
     $= \lambda x \,.\, |\text{KING}| = 1 \wedge \text{KING}(x)$

(19) $\text{THE}^{WS}_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{KING})$ us
     $= \lambda x : |\text{KING}| \leq 1 \,.\, \text{KING}(x)$

The Partee analysis involves a stipulated lexical ambiguity; *the* is treated as ambiguous between $\text{THE}^R_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}$ and $\text{THE}^S_{\langle\langle e,t\rangle,e\rangle}$. The former is used in conjunction with the BE typeshift to generate the denotation for *the* on which existence is not presupposed, and the latter yields the presuppositional interpretation. Ideally, we would not have to stipulate this ambiguity. Furthermore, *the king* entails but does not presuppose uniqueness on the reading that does not presuppose existence, and we showed above that we want uniqueness to be a presupposition even when existence is not. Moreover, as discussed by Winter (2001), the BE typeshift overgenerates, giving coherent readings to sentences such as *John and Mary are exactly zero friends of mine*.

But neither of Winter's proposed analyses of *the* ($\text{THE}^R_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$ or $\text{THE}^S_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}$) is satisfactory either. The Russellian version solves our existence problem but does not presuppose uniqueness and the Strawsonian version presupposes existence. This leaves only one remaining candidate: the analysis we proposed in (14), labelled THE^{WS} in the table.

2.2   *the + only*

In this section, we aim to explain why a sentence like (10b), repeated here, gives rise to the inference that there are multiple authors of *Waverley*.

(20)   Scott is not the sole/only author of *Waverley*.

    Following Coppock & Beaver (2012), we assume the following lexical entry for *sole/only*, where $\sqsubseteq_i$ denotes the individual-part relation (Link 1983), and * is a cumulativity operator, so *$*P$* denotes the closure of P over the individual sum operation.[4]

(21)   **Lexical entry for *sole/only***
    $\text{ONLY} = \lambda P \,.\, \lambda x : P(x) \,.\, \forall y[x \sqsubseteq_i y \to \neg {*}P(y)]$

Applied to 'author of *Waverley*', which we represent as AUTHOR, this gives:

(22) $\text{ONLY}(\text{AUTHOR}) = \lambda x : \text{AUTHOR}(x) \,.\, \forall y[x \sqsubseteq_i y \to \neg {*}\text{AUTHOR}(y)]$

Thus we analyze adjectival *only,* like its adverbial cousin, in terms of two meaning components, a negative universal which is its at-issue content, and a presupposition. For adverbial *only*, the presupposition is typically what is referred to as the 'preja-cent', viz. the proposition that would be expressed by the clause containing adverbial *only*, if the *only* were not there. For adjectival *only,* we analyze the presupposition analogously, as a proposition derived from the nominal that *only* modifies.[5] Evidence for the presuppositional status of this meaning component comes from sentences we have already seen: a negated *sole/only* predication as in (10b) implies that the subject bears the nominal property.

    The at-issue content can be read, 'x is not part of a mereological sum of authors', which basically boils down to the proposition that nothing other than x is an author. The motivation for invoking mereology comes from the interaction of *only* with plurals (see Coppock & Beaver 2012 for discussion), and it plays an important role in our explanation for anti-uniqueness effects with argumental definites as we will show in §2.4. Putting this together with our proposed lexical entry for *the,* we have:

(23) $\neg\big[\text{THE}^{WS}_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle}(\text{ONLY}(\text{AUTHOR}))(\text{SCOTT})\big]$
    $= \neg\big[[\lambda P : P \le 1 \,.\, P](\lambda x : \text{AUTHOR}(x) \,.\, \forall y[x \sqsubseteq_i y \to \neg {*}\text{AUTHOR}(y)])(\text{SCOTT})\big]$

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4 For all x, $*P(x)$ is defined to hold if and only if: for all atoms y such that $y \sqsubseteq_i x$, $P(y)$.

5 In general, Coppock & Beaver (2011) argue that exclusives all presuppose that there is some true answer to the current question under discussion (CQ) that is at least as strong as p, and assert that there is no true answer that is stronger than p, where p is the prejacent. Exclusives differ with respect to semantic type (adjectival exclusives like *only* and *mere* being of type $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$) and constraints imposed on the CQ. Adjectival *only* requires the question to be 'What things are P?', where P is the property denoted by the modified nominal, so the way that it instantiates the general schema for exclusives is equivalent to the lexical entry in (21) (which is much simpler than the statement of it that brings out how it instantiates the schema).

The presupposition of the definite article will be defined if ONLY(AUTHOR) has no more than one satisfier. If *x* satisfies the predicate ONLY(AUTHOR), then there is no *y* distinct from *x* that also satisfies that predicate, so indeed ONLY(AUTHOR) always satisfies the presuppositional requirements of the definite article.

So (10b) turns out to presuppose that Scott is an author and be true if there is some *y* distinct from Scott that is also an author. It implies that there are multiple *authors* of the book, even though there is no *sole author* of the book. So there is no inherent conflict in the meaning of the sentence, and we get the anti-uniqueness inference, namely, that Scott is an author of *Waverley* and so is somebody else.

2.3   Comparison with predicative *a*

We have argued that predicative definite descriptions are type $\langle e,t \rangle$, and signal a uniqueness presupposition but no existence presupposition. The kind of uniqueness involved, which we have labelled 'weak uniqueness', is independent of existence.

If we took away the uniqueness presupposition as well, what we would have left is what some have proposed for predicative *indefinites*. Winter (2001: 146), for example, proposes that the indefinite article is a vacuous identity function on predicates. Under this assumption, the definite and the indefinite articles are both identity functions on predicates, but the definite article has a smaller domain, restricted to those predicates satisfying weak uniqueness.

If they are presuppositional variants, definites and indefinites are eligible to compete under Maximize Presupposition, which favors the presuppositionally stronger variant (the definite article in this case), ceteris paribus.

(24) **Maximize Presupposition**   (Heim 1991; adapted from Schlenker 2011) Among a predetermined set of competitors whose LFs have the same assertive content relative to the context, choose the one that marks the strongest presupposition compatible with the common ground.

Let us assume that definite and indefinite determiners are predetermined to compete in the relevant sense, and they have the same assertive content relative to the context because the indefinite article is an $\langle \langle e,t \rangle, \langle e,t \rangle \rangle$ identity function. This predicts that *only* cannot occur with indefinite determinersbecause the definite determiner would always win. This prediction is borne out.[6]

(25)   Scott is the/*an only author of *Waverley*.

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6 Unlike *only, sole* can in some cases appear with an indefinite determiner. We offer an explanation for this in Coppock & Beaver 2012.

This fact supports the view that definite and indefinite determiners have the same semantic type and at-issue content. It also provides additional evidence for the presence of a uniqueness presupposition with predicative definites despite the absence of an existence presupposition; if there were no uniqueness presupposition then there would be no difference in meaning between *the* and *a* and this fact could not receive the same kind of explanation.

2.4 Argumental *the*

The proposals we have made for predicative *the* and *a* will not do for argumental descriptions. An NP in an argument position should denote something that can combine with a property to produce a truth value, either an individual (type *e*) or a generalized quantifier (type $\langle\langle e,t\rangle,t\rangle$). Given that both definites and indefinites give rise to existence implications in argument position, the question we explore in this section is whether there is a common set of principles giving rise to existence implications for both definites and indefinites. The answer, we suggest, is yes.

One obvious challenge when undertaking such an enterprise is the fact that definites and indefinites differ as to the discourse status of the existence presupposition. Typically, argumental definites are taken to presuppose both existence and uniqueness, the presuppositional status of these inferences being demonstrated by projection facts. For example, both (26a) and its negated variant (26b) imply that there was a single invited talk.

(26) a. Chris saw the (only) invited talk at SALT.   [1]

 b. Chris didn't see the (only) invited talk at SALT.   [1]

These examples may be contrasted with the following predicative variants; while (27a) implies that there was a single invited talk (indeed, affirms it), that inference does not follow from the negated variant (27b).

(27) a. That was the only invited talk at SALT.   [1]

 b. That wasn't the only invited talk at SALT.   [≥ 1]

Thus, while predicative definites do not presuppose existence, those that are arguments of verbs like *see* typically do.

Indefinite noun phrases also give rise to existence implications in argument positions, but for standard uses of indefinites there is arguably no grammatically triggered presuppositional requirement of existence. The existence implication in (28a), for example, does not survive embedding under negation as in (28b).

(28) a. Chris saw an invited talk at SALT.   [≥ 1]

b.   Chris didn't see an invited talk at SALT.   [≥ 0]

This contrast in existence implications is not derivative of the difference between *a* and *the* with respect to their uniqueness presuppositions, as can be shown by using descriptions whose content is inherently weakly unique:

(29) a.   It's possible that Mary keeps the engagement ring that she is embarrassed about hidden away in her pocket.   [1]

    b.   It's possible that Mary keeps an engagement ring that she is embarrassed about hidden away in her pocket.   [0-1]

(30) a.   You won't see the man betrothed to Mary in any pictures.   [1]

    b.   You won't see a man betrothed to Mary in any pictures.   [0-1]

Let us adopt the traditional assumptions that one has only one engagement ring and is engaged to no more than one person at a time. Then the descriptions in question are all weakly unique, so weak uniqueness does not distinguish between the (a) cases and the (b) cases. Yet the (a) sentences, with *the,* give rise to stronger existence implications than the (b) sentences, with *a*. This suggests that argumental definites can conventionally signal an existence presupposition, independent of the uniqueness presupposition.

But there is a twist. Not all argumental definites have existence presuppositions, as shown by the fact that anti-uniqueness effects arise with some argumental definites:

(31)   Anna didn't give the only invited talk at SALT.   [≥ 1]

On the primary reading of this sentence, the speaker takes for granted that Anna gave an invited talk at SALT, and asserts that this was not the only invited talk given at SALT, and moreover that it given by someone other than Anna. In this situation there is no talk with the property 'only invited talk at SALT', so existence fails here.

Let us recap. So far, we have an account of predicative definite and indefinite descriptions that says that in each case the NP simply denotes the same property as that given by the nominal. We now need a theory of how that property can be used to fill in an argument slot, and we need to account for the fact that sometimes there is an attendant presupposition of existence, and sometimes there is not.

We propose that the meaning of NPs in argument position can be derived from an underlying property denotation in two ways: (i) application of IOTA which carries an existence presupposition; (ii) application of Partee's A-shift, which introduces an existential quantifier without introducing an existence presupposition.

(32)   IOTA $= F \mapsto x$ if $F = \{x\}$; undefined otherwise

(33)   A $= F \mapsto \lambda G \,.\, \exists x[F(x) \wedge G(x)]$

The presuppositional interpretation of a definite NP of the form 'the F', with IOTA, is of type e, denoting the unique F. On the non-presuppositional interpretation, with A, 'the F' is defined when F satisfies weak uniqueness, and would denote a generalized quantifier that accepts a predicate G if its intersection with F is non-empty.

Since the type shifts apply at the NP level, it might be thought that both type shifts would apply equally to both definites and indefinites. However, we offer two principles which imply that definites are typically type-lowered with IOTA, while indefinites are typically type-raised with A. First, we suggest that in general, there is a default preference for the presuppositional variant IOTA, which might be justified in terms of a preference for grounding utterances as much as possible in the conversational background, and a related preference for using lower types rather than higher types when there is a choice, and thus keeping the proposition expressed by a clause as simple as possible, ideally a singular proposition. Second, we suggest that the IOTA option is generally ruled out for indefinites, since whenever uniqueness is satisfied, *the* will be used because of Maximize Presupposition. These two principles lead to the consequence that *the* presupposes existence and *a* does not.

For example, IOTA applies in (29a) because there is a default preference for IOTA and nothing prevents that there, and A applies in (29b) because IOTA can't apply, because if uniqueness is satisfied, then *the* will be selected instead of *a* in accordance with Maximize Presupposition. However, this set of assumptions also allows for exceptions to the rule that definites presuppose existence. In particular, it gives us enough leeway to explain why (31) (*Anna didn't give the only invited talk at SALT*) does not imply there was exactly one invited talk at SALT.

The contrast between (31) and (26b) is part of a larger pattern, a pattern which seems at first blush quite surprising. One difference between giving and attending when it comes to talks is that it is impossible for something to be an invited talk without there having been somebody who gave it, whereas one can in principle give an invited talk without there having been anyone who attended it. This type of contrast correlates with the presence of anti-uniqueness readings more broadly.

(34)   a.   Mary didn't score the only goal.   [1 or >1]

     b.   Mary didn't cheer for the only goal.   [1]

(35)   a.   Mary didn't bring the only chocolate cake.   [1 or >1]

     b.   Mary didn't taste the only chocolate cake.   [1]

(36)   a.   Mary didn't have the only beautiful dress there.   [1 or >1]

     b.   Mary didn't admire the only beautiful dress there.   [1]

For every goal, there is a unique scorer, but applause might come from many or none. At a potluck, each chocolate cake is brought by one person, and potentially tasted by many. Dresses are worn by one, admired by many or none. In each case, the sentence involving a verb describing the former, but not the latter relation gives rise to an anti-uniqueness reading. This leads to the following generalization:

(37) **1-to-1 Generalization**
    "S didn't V the only N" gives rise to anti-uniqueness readings only when every ⟦N⟧ has a single ⟦V⟧-er.

In the next section we propose a pragmatic explanation of this generalization.

2.5 Explaining the generalization

Intuitively, (31) presupposes that Anna gave an invited talk, and asserts that someone else gave one too. This reading can be derived under the assumption that focus is on the adjective *only,* and negation associates with that focus. In Herburger's (2000) terms, this is a 'bound reading' of negation, with narrow scope as shown in the following representation of the meaning:

(38) $\exists x[\text{GAVE}(\text{ANNA},x) \ \& \ \neg\text{THE}(\text{ONLY}(\text{INVITED-TALK}))(x)]$

It is beyond the scope of this paper to explain how narrow scope readings for negation are derived; we assume that they are derived somehow given that such a mechanism is clearly needed. We assume furthermore that the part of the content that is not in the scope of negation is presupposed, so it is presupposed that Anna gave a talk. Adjectival *only* introduces a presupposition that the existentially quantified variable *x* is an invited talk, hence the presupposition that Anna gave an invited talk.
    Notice that the same mechanism applies to superlative adjectives, which introduce the same kind of presupposition.

(39) Anna didn't give the best talk.

This presupposes that Anna gave a talk. That presupposition can be derived in the same manner; negation has narrow scope, the proposition that Anna gave some *x* is presupposed, and the superlative constrains *x* to be a talk.
    The existential reading with focus on *only* and narrow scope for negation is subtly different from the IOTA reading. Both involve an existence presupposition, as just discussed. But on the IOTA reading it is presupposed that a *unique* invited talk exists, whereas on the existential reading it is merely presupposed that there is an invited talk. The former is too strong for the cases under consideration, so the flexibility of our account is crucial.

Existential readings are not always available however, as discussed above. Why can't (26b) have an interpretation with focus on *only* tied to narrow scope negation, presupposing that Anna saw an invited talk, asserting that there were multiple invited talks? This contrast also shows up in polar questions, as one can see from the range of felicitous responses. The polar question in (40) can be interpreted as asking whether there were one or more invited talks, but (41) cannot be interpreted in this way.

(40) Q: Did Anna give the only invited talk?
      A: No, there was another one too.
      A′: Yes, there were no other invited talks.

(41) Q: Did Anna see the only invited talk?
      A: #No, there was another one too.
      A′: #Yes, there were no other invited talks.

To get a grip on what is going on, let us consider a simple model with two talks, t_1 and t_2. We also have two agents Anna and Susan who are capable in principle of bearing the relevant relation to t_1 and t_2 ('gave' or 'saw'). In (40), it is presupposed that Anna gave an invited talk. Suppose that the invited talk that Anna gave is t_1. If we assume that every invited talk is given by exactly one person, this means that t_1 must not have been given by Susan. If the answer to the question is *no,* then t_2 is an invited talk, and it must have been given by Susan, so both Anna and Susan gave invited talks. The answer *yes* entails that t_2 is not an invited talk. If the answer is *yes,* then Anna is special: She gets the label 'only person to give an invited talk'. (40) asks how many invited talks there were, but because talks and talk-givers are correlated, it also asks about Anna.

Now let us consider (41) under the absent interpretation. This would also involve a presupposition that Anna saw an invited talk; let us assume that this is t_1. The relation we are dealing with in this case is seeing, so we will not assume that every talk is seen by exactly one person. So Susan may also have seen t_1, and Anna and/or Susan or neither may have seen t_2. Again, *yes* means that t_2 is an invited talk, and *no* means that it is not. But this does not reflect on Anna; even if the answer is *yes,* Susan may also have seen the invited talk. Hence under this interpretation, (41) has nothing to do with Anna, and we suggest that this is why the interpretation is not available. We can make this precise as follows.

(42) **Aboutness**
      A question Q is about an individual x iff there is a property P such that:
      (i) there are distinct A, A' in Q such that $A \vDash P(x)$ and $A' \vDash \neg P(x)$
      (ii) there is a $y \neq x$ and an A in Q such that $A \vDash P(x)$ and $A \vDash \neg P(y)$.

The *P* we can choose for our *give* example is the property that holds of *x* if there exists no *y* distinct from *x* such that *y* gave an invited talk, i.e. the property of being the only one to give an invited talk. Our *x* is Anna. In the *yes* answer, $P(x)$ holds; there is no other person who gave an invited talk. In the *no* answer, $\neg P(x)$ holds; *P* holds of nobody if the answer is *no,* because there are multiple invited talks. Hence criterion (i) is satisfied. Our *y* is Susan. Since $\neg P(y)$ holds under the *yes* answer, criterion (ii) is satisfied.

The analogous reasoning does not hold for the *see* example because Susan might have seen the one invited talk as well, so criterion (i) is not satisfied. There are other properties that Anna has under *yes* and not under *no*, such as 'seeing the only invited talk'. But that property would not necessarily distinguish Anna from Susan, so it fails criterion (ii). We conjecture that to the extent that hearers find A and A' odd in (41), that is because they can find no salient property involving the seeing relation that could make this question about Anna.

What is wrong with not being about Anna? It violates a general, although violable, principle that sentences ought to be about their subjects, at least when the subject is referential (or more generally, when it denotes an individual).

(43) **Subject-Aboutness Rule**

When the subject of a sentence denotes an individual, the sentence should be about the subject.

We have defined what it means for a semantic question to be about an individual but not what it means for a sentence to be about a grammatical constituent. For an interrogative sentence, it simply means that the denotation of the sentence should be about the denotation of the subject. For a declarative sentence, it means that the statement may only be used felicitously to address a QUD that is about the denotation of the subject. Paired with a principle that regulates the relationship between focus-marking in declarative utterances and the QUDs they address, this rules out anti-uniqueness readings for sentences like *Anna didn't see the only invited talk.* To get the bound narrow-scope reading for negation, it would be necessary to have focus on *only,* which would mean that the question would have to concern the uniqueness of the invited talk that Anna saw. And so this is not a question about Anna.

What makes the *give* sentences 'about' their subject NP on this reading is the 1-to-1 relationship between givers and the talks they give. Every invited talk has exactly one (possibly joint) giver, and *vice versa*. That allows a question about how many invited talks there are to turn into a question about the people who give them.

3 Recapitulation

We have argued that predicative *the* is an identity function on predicates satisfying *weak uniqueness*: 'if there is an *F*, then there is only one', or, equivalently, 'the number of *F*s is less than or equal to one'. Predicative definites do not presuppose existence, as evidenced by anti-uniqueness effects. The indefinite article, in predicative cases, is also an identity function, differing from the definite article only in that it lacks the weak uniqueness presupposition. Since the two articles are presuppositional variants, they compete under Maximize Presupposition. This correctly predicts that descriptions containing *only* must bear the definite article.

The meaning of argumental NPs can be derived from the predicative meanings using type shifts. Existence is commonly at-issue with argumental indefinites and usually presupposed with argumental definites, but there are cases where existence is at-issue with definites. We argued that anti-uniqueness effects can be observed with definites in object position in case of a 1-to-1 relation between the verb and the complement of adjectival *only*. This led to our proposal that the IOTA type-shift, which introduces an existence presupposition, and the A type-shift, which does not, are generally applicable to both definites and indefinites. Because of a preference for the presuppositional option, IOTA tends not to be used with indefinites, and will usually be used for definites.[7] But in cases where the proposition formed with IOTA is not a good answer to the current question under discussion, the A option is used.

We have offered an analysis of articles which has application not only to classic puzzles that have been discussed since the earliest days of formal semantic theory, but also to some new puzzles involving anti-uniqueness, puzzles which are problematic for standard accounts. Of particular note in our account is the fact that the articles *the* and *a* are taken to make no at-issue contribution, and to differ from each other only minimally. This is suggestive. For a Russellian or a Strawsonian, the absence of articles in Russian would appear to be a serious lacuna, limiting Russian's ability to express and distinguish singular and existential propositions. On the analysis we have proposed, in which the articles themselves do little or no semantic work, the existence of languages which lack articles is less surprising.

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7 However, we speculate that specific readings of indefinites arise from application of a variant of IOTA.

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