4   On Definite Descriptions: Can Familiarity And Uniqueness Be Distinguished?

Elizabeth Coppock

4.0   Questions and Answers

(1)   Why do you think both linguists and philosophers find definite descriptions interesting?

Definite descriptions are an area where linguistics and philosophy have been intimately intertwined as long as they have been acquainted.[*] All the classic works on definite descriptions were written by philosophers; philosophers have continued to write about them in philosophy journals; and fundamental questions about truth, meaning, and existence have constantly surrounded their study. For instance, Strawson's critique of Russell's analysis of definite descriptions was not just that he got the facts wrong, but that he was wrong about the very nature of meaning and its relation to logic. That *The king of France is bald* implies, in some "strange" sense of "imply" distinct from entailment, that a king of France exists, was used by Strawson to support his argument that "ordinary language has no exact logic." Subsequent work has treated presupposition with an "exact logic," but the nature of presupposition, and hence the nature of meaning, continues to engage linguists and philosophers. Supposing the nature of presupposition is settled, there's still the small matter of what 'existence' is, actually. In *The golden mountain does not exist*, for example, does *the golden mountain* have a referent? Definite descriptions also figure in a debate in which two different (though compatible) ideas regarding the foundations of semantic theory compete with each other to explain the core phenomena: situation semantics vs. dynamic semantics. This last issue is what I focus on in my chapter.

(2)   What recent developments in linguistics and philosophy do you think are most exciting in thinking about definite descriptions?

While earlier work on definite descriptions concerned the nature of the existence and uniqueness implications, some more recent work has focused on where these are absent. Familiar definites as in *A glass broke last night; the glass had been very expensive* seem to lack uniqueness (Heim 1982); there could be more than one glass. Similarly, there is more than one dog in the world, but *The dog is barking* is a usable sentence, so uniqueness must at the very least be relativized. An apparent lack of uniqueness can be explained by relativizing uniqueness to a salient discourse referent, situation, domain, or function; there are a variety of strategies here, as this chapter discusses. A more extreme lack of uniqueness is exhibted by weak definites like *take the elevator* and *the finger of the surgeon* (Barker 2005; Carlson & Sussman 2005); these seem to require a separate treatment.

Another case where uniqueness disappears is Haddock's (1987) *the rabbit in the hat*, which works even with multiple hats, so long as there is only one rabbit-containing hat. This phenomenon has been linked to so-called 'anti-uniqueness effects' as in *Victoria is not the only princess*, which Coppock & Beaver (2015) take to show that the definite article does not carry an *existence* presupposition (since there are multiple princesses, there is no 'only princess'). According to Bumford (2017), Haddock descriptions and anti-uniqueness effects are related to each other and to superlatives under relative interpretations as in *Who has the sweetest sister?*, in which the definite article's semantic contribution seems to disappear (Szabolcsi 1986; Heim 1999, among others).

In the modern era, work on definite descriptions has become less focused on English and more crosslinguistic, and the focus has shifted somewhat from foundational questions to more detailed empirical questions. Schwarz's (2009) strong/weak distinction has served as inspiration for much recent work on the crosslinguistic semantics of definiteness (e.g. Aguilar-Guevara et al. 2019). While this new development has led to a much richer and more well-rounded picture of definiteness as a phenomenon, the connection to the philosophical roots of the discussion has been lost a bit as the methods of discovery have been operationalized and applied to new languages. I suggest in this chapter that it is important to retain a connection to the philosophical roots and reflect carefully on what these methods can reveal, lest misunderstandings lead to spurious debates.

(3)   What do you consider to be the key ingredients in adequately analyzing definite descriptions?

The definite article contributes a uniqueness presupposition, even though it sometimes seems not to. There are two main ways to accommodate the bulk of the cases in which uniqueness seems to disappear. One strategy is to assume that definite articles can combine with indexed descriptions, where an index on

a description can correspond to a discourse referent that may be either novel or familiar (Beaver & Coppock 2015; Hanink 2017). Situation semantics presents another alternative (Elbourne 2013). It is quite difficult to disentangle the empirical predictions of these two approaches, as I discuss in the chapter, and it may be that both of these mechanisms are necessary, as Schwarz (2009) suggested.

Whether or not the English definite article contributes an existence presupposition is a matter for debate. Coppock and Beaver (2015) argue that it does not, and existential import for definite, indefinite, and even possessive descriptions is contributed by the type-shifting operations that provide existential import in Russian. Along with these type-shifting operations, it is important to have principles regulating their application as another ingredient of the analysis. According to Bumford (2017), the definite article does carry an existential component, but this existential component is separable from the uniqueness check. As far as I can see, this proposal is compatible with all of the data. So, the definite article may or may not come with an existential component, but if it does, then this component is separable from the uniqueness requirement.

(4)   What do you consider to be the outstanding questions pertaining to definite descriptions?

There are many outstanding questions. Many of them have to do with how the definite article interacts with certain interesting modifiers, including superlatives, comparatives, exclusives, exceptives, *same*, and *other*, both in English and in other languages. In the chapter, I focus on the debate over how to explain certain cases in which definite descriptions appear to lack uniqueness in some sense (setting aside cases of weak definites like *the elevator*, which also remain worthy of further investigation). The two major contenders – dynamic semantics and situation semantics – are based on very different (though compatible) foundational assumptions about semantic theory, and hence the question bears on philosophical matters concerning the nature of meaning. It's also important that the issue be clarified, so that fieldwork methods may be aligned properly with theoretical questions as field linguists explore the range of definiteness-marking systems in the languages of the world.

4.1   Introduction

What do definite descriptions have to do with philosophy? What *don't* they have to do with it? All the classic works on definite descriptions were written by philosophers; philosophers have continued to write about them in philosophy journals; and fundamental questions about truth, meaning, and existence

have constantly surrounded their study. But are we past all that now, in the modern era, as work on definite descriptions becomes less focused on English, and more crosslinguistic?

What I'd like to suggest here is that there is at least one great unresolved issue in the theory of definite descriptions, even in this modern era of cross-linguistic comparison, and it is a foundational (hence philosophical) one, pitting dynamic semantics against situation semantics. In dynamic semantics, meanings are recipes for updating a context, where a context consists of possible worlds and assignment functions that constrain the value of discourse referents. In situation semantics, meanings are propositions corresponding to sets of situations, as opposed to possible worlds. Although these ideas are not fundamentally incompatible with each other, they constitute competing accounts for some of the empirical phenomena that constitute core motivations for dynamic semantics. At the same time, it is not a trivial exercise to distinguish the empirical consequences of dynamic vs. situation-based analyses of these phenomena. What is at stake in the choice between them? This is a major open question. I concentrate here on the piece of this question that concerns definite descriptions, but the parallel debate in the realm of pronouns is instructive as a point of comparison.

As Heim (1982) and Kamp and Reyle (1993) show, dynamic semantics provides an insightful account of the behavior of pronouns like *he* and *it* in *If a farmer owns a donkey then he beats it*, where pronouns appear to be bound by indefinite antecedents that are in positions from which quantificational binding is ordinarily blocked. On a dynamic view, the indefinites are not quantifiers but rather serve to introduce novel discourse referents, and the pronouns pick up these established discourse referents. But do donkey sentences alone provide a knock-down argument for dynamic semantics? As Heim (1990) discusses, an alternative, nondynamic view on which these pronouns are disguised definite descriptions (Evans 1977, 1980; Cooper 1979), incorporating a situation variable into the description, fares not too badly in the same empirical realm. (Evans called pronouns under this analysis 'E-Type pronouns'). Elbourne (2005) argues at book length in favor of a situation-based, description-theoretic view of donkey pronouns, and the discussion continues (Barker & Shan 2008; Elbourne 2009; Charlow 2014). There are important motivations for dynamic semantics from other empirical domains, including tense and other temporal expressions, but establishing the viability of a nondynamic approach to the semantics of indefinites and pronouns would undermine the most celebrated of the motivations for dynamic semantics.

The same kind of tension exists in the realm of definite descriptions. Within dynamic semantics, it is natural to treat definite descriptions as picking up an established discourse referent, just like pronouns. After all, just like pronouns, definite descriptions can be donkey anaphors: *If a farmer owns a donkey, then*

the farmer beats the donkey. But in this realm too, a situation-theoretic alternative makes for a formidable competitor, one that Elbourne (2013) advocates at book length. The story has gone a bit differently in the realm of definite descriptions, though. It has been more peaceful here, thanks in no small part to the legendary diplomat Florian Schwarz, who advocated a "both, and" approach (Schwarz 2009). Schwarz argued that both approaches are needed for the analysis of definite descriptions, albeit for different definite articles. Focusing on the strong/weak distinction among definite articles in some dialects of German, he proposed that the tools of dynamic semantics are apt for strong articles, while those of situation semantics aid in the analysis of weak articles. So everybody's happy, and everybody's right. What's more, this perspective lays the groundwork for a grand typological research program to classify the definite articles of the world as 'familiarity' articles or 'uniqueness' articles, made feasible through Schwarz's diagnostics.[1] Too good to be true?

A bit, I believe. The predictions of the two analyses overlap too much, as far as I can see. While the strong/weak distinction is undeniably empirically real in these Germanic dialects, the two analyses do not account for the observed contrast in their distribution, and indeed it is unclear whether they predict *any* contrast whatsoever. This is why, when we go to apply the analysis to a new language (say, Akan), one researcher might draw one conclusion (Arkoh & Matthewson 2013) while another (Bombi 2018) draws another.[2] I therefore advocate for continued philosophical reflection as we operationalize our methods of discovery.

4.2   Background on the Uniqueness Requirement

4.2.1   *Frege/Russell/Strawson*

The modern debate on the semantics of definite descriptions[3] begins with Frege (1892), who introduced the distinction between *sense* and *reference* (*Sinn* and *Bedeutung* in German), in order to solve what came to be known as 'Frege's puzzle': Why aren't the following equivalent?

---

[1] See for example Wespel 2008 and Déprez 2016 on Mauritian Creole; Ortmann 2014 on Upper Silesian and Upper Sorbian; Jenks 2015, 2018 on Mandarin and Thai (with Dayal & Jiang 2021 as a counterpoint regarding Mandarin); Arkoh and Matthewson 2013 and Bombi 2018 on Akan; Barlew 2014 on Bulu; Maldonado et al. 2018 on Yucatec Maya; and individual contributions to Aguilar-Guevara et al. 2019 on Cuevas Mixtec, Lithuanian, American Sign Language, and Yokot'an Maya.

[2] Another case in point: Dayal and Jiang (2021) oppose the application of the weak/strong distinction to Mandarin made by Jenks (2018).

[3] See Horn (2001: chapter 2) for an engaging presentation of related intellectual history prior to Frege.

(1)   a. The morning star is the evening star.
        b. The morning star is the morning star.

The morning star is identical to the evening star, but these expressions denoting them are not interchangeable, since (1a) is informative and (1b) is not. For Frege, the two expressions share a referent, but not a sense. He wondered if an expression could have a sense without a referent, and thought of several good examples, including *the least rapidly convergent series*, for which there is a proof that it has no referent, although it clearly has a sense. Such descriptions would later come to be known as 'empty definite descriptions', *The king of France* being the most famous representative. According to Frege, use of a definite description is generally "permitted" only when there is exactly one object that falls under the description, and he surmised that any use of what he called 'proper names' (a category that also includes definite descriptions, for him) always presupposes a referent.

Frege himself was not committed to the actual existence of a referent; he just said we speak *as if* there is a referent. He acknowledges that skeptics would object as follows (p. 214): "You talk, without further ado, of the moon as an object; but how do you know that the name 'the moon' has any referent? How do you know that anything whatsover has a referent?" His reply is that "we presuppose a referent," continuing:

> Now we can of course be mistaken in the presupposition, and such mistakes have indeed occurred. But the question whether the presupposition is perhaps always mistaken need not be answered here; in order to justify mention of the referent of a sign it is enough, at first, to point out our intention in speaking or thinking.

If the skeptics are right and the presupposition is always mistaken, then we go around speaking nonsense all the time, but Frege did not seem particularly bothered by that possibility.

The question whether the presupposition is perhaps always mistaken was one that Russell (1905) took very seriously, as he was someone who viewed direct acquaintance with an object as a precondition for knowledge of its existence. (See the chapter by Sharvit and Moss in this volume for further discussion of this point.) To do so, he set out to give a treatment of the definite article that does not presuppose the existence of entities with which the interlocutors have no direct acquaintaince. He treated English *the* on a par with quantificational determiners like *some* and *no*, so that 'The F is G' makes an existential claim: 'There is an F such that: nothing else is an F, and F is G'. A sentence containing an empty description, then, such as the following:

(2)   a. The least rapidly convergent series consists of integers.
        b. The king of France is bald.

is perfectly 'permissible' for Russell; it's just false. (Frege would deem the usage impermissible.) One of Frege's arguments against a view like Russell's

comes from negation. If Russell were right, then the negation of *The king of France is bald* should be equivalent to: *Either there is no king of France, or there is and that individual is not bald*. But that disjunctive type of proposition is evidently not what the negated sentences express:

(3)   a. The least rapidly convergent series does *not* consist of integers.
         b. The king of France is *not* bald.

According to Frege, these sentences presuppose existence and uniqueness just as much as their positive forms do (and are hence just as impermissible). Russell admits that neither (2) nor (3) is generally felt to be true. But Russell can actually explain this fact, using the assumption that (3) is ambiguous between two readings: one true one, where the negation takes scope over the existential quantifier introduced by the definite article, and one false one, where the scoping is the other way around. He argues that a true reading for the negated sentences is in fact available, and that is a reading that Frege's theory does not immediately capture.

This is not the only argument Russell gives in favor of his own theory; he adheres to the dictum that "it is a wholesome plan, in thinking about logic, to stock the mind with as many puzzles as possible, since these serve much the same purpose as is served by experiments in physical science." In this spirit, he asks how Frege could account for sentences like *The king of France does not exist*, if definite descriptions presuppose existence. Neale (1990) discusses this problem among others, and advocates a Russellian approach from a modern perspective.[4]

Despite the cleverness of Russell's argumentation, Strawson (1950) disagrees mightily with him (and totally ignores his aim of avoiding existence presuppositions for objects that one does not have direct acquaintance with). Strawson advocates a more Fregean view, one on which existence is presupposed. For Strawson, this isn't just about definite descriptions; this is about whether the sorts of logical methods that Russell applies to natural language were appropriate. Russell's entire approach fails to situate language in contexts of use, where *acts* of *referring* take place. Dropping the proverbial microphone with this epic one-liner, Strawson concludes, "Neither Aristotelian nor Russellian rules give the exact logic of any expression in ordinary language; for ordinary language has no exact logic." But the only tangible piece of evidence Strawson gave was an intuitively compelling argument that the question of the truth of sentences like (2) did not arise. It is easy to construct a logic in which a sentence containing an empty definite description is neither true nor false. If that is the goal, then it can be achieved within the range of the
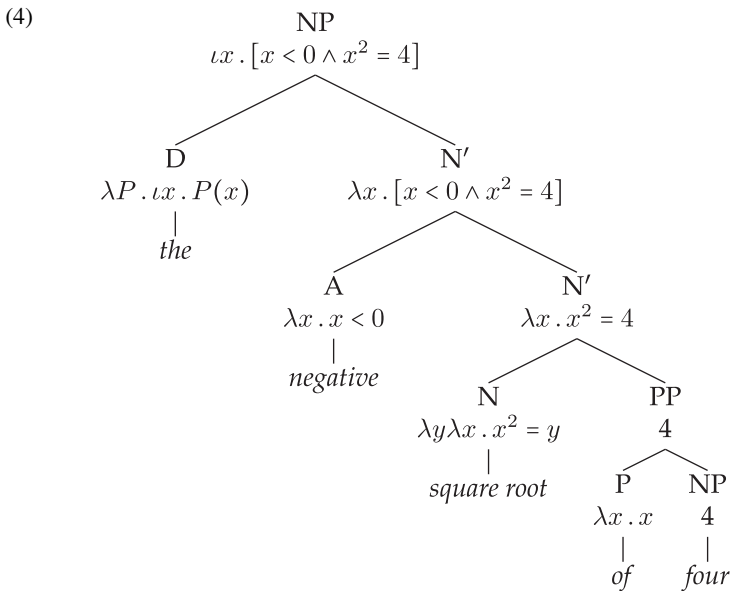
---

[4] To out-Russell Russell, Szabó (2000, 2003) argues that the only contribution definite articles make to the meaning is an existential quantifier, without a uniqueness implication.

logician's methods, as it has been. The story of presupposition is told in greater detail in Márta Abrusán's contribution to this volume.

A great number of modern formal semanticists take a broadly Fregean view, incorporating Strawson's intuition that the question of truth for a sentence with a failed presupposition does not arise (Heim 1991; von Fintel 2004; Elbourne 2005, 2008; Glanzberg 2007). In their exposition of this view, Heim and Kratzer (1998) cite the following passage from Frege, on *the negative square root of four*:

> We have here a case in which out of a *concept-expression*, a *compound proper name* is formed, with the help of the definite article in the singular, *which is at any rate permissible when one and only one object falls under the concept*. [emphasis added]

To flesh out Frege's analysis of this example further, Heim and Kratzer (1998) suggest the following structure (presented here in the style of Coppock & Champollion in preparation), where natural language expressions are translated into corresponding logical expressions):

(4)

$$NP$$
$$\iota x \, . \, [\, x < 0 \wedge x^2 = 4\,]$$

D
$\lambda P \, . \, \iota x \, . \, P(x)$
|
the

N′
$\lambda x \, . \, [\, x < 0 \wedge x^2 = 4\,]$

A
$\lambda x \, . \, x < 0$
|
negative

N′
$\lambda x \, . \, x^2 = 4$

N
$\lambda y \lambda x \, . \, x^2 = y$
|
square root

PP
4

P
$\lambda x \, . \, x$
|
of

NP
4
|
four

Here *the* is translated into a logical representation using the iota operator ι. The iota-expression denotes the unique individual satisfying the indicated condition, if there is one, and otherwise has no referent, at least no referent in the domain of entities that might be actualized in any possible world. Semantic definitions of iota-expressions sometimes appeal to a special 'undefined individual' for use in the case that there is no actual satisfier of the description.

Notations for this include Kaplan's (1977) †, standing for a 'completely alien entity' not in the set of individuals, Landman's (2004) **0**, and Oliver and Smiley's (2013) *O*, pronounced 'zilch'. Coppock and Champollion (in preparation) use the notation $\#_e$ in the metalanguage to denote it, and give the following characterization of its semantics:

$$(5) \qquad [\![\iota u.\phi]\!]^{M,g} = \begin{cases} d & \text{if } \{k : [\![\phi]\!]^{M,g[u \to k]} = 1\} = \{d\} \\ \#_e & \text{otherwise} \end{cases}$$

This says that $\iota u.\phi$ denotes the unique individual k that satisfies the condition on u given by ϕ, if there is one, and otherwise denotes the 'undefined individual', that 'completely alien entity'. The latter case is invoked for *the least rapidly convergent series*. An empty description like this generally[5] prevents the sentence as a whole from having a truth value, as most predicates fail to produce a classical truth value (true or false) when given the undefined individual as an argument. This result accords with Strawson's intuition that sentences like *The king of France is bald* are neither true nor false (against Russell's (1905) intuition that it is plainly false). The definite article can then be translated into a typed lambda calculus as according to the following lexical entry, where $\rightsquigarrow$ signals a translation relation from English to the formal representation language.

$$(6) \qquad \textit{the} \rightsquigarrow \lambda F . \iota x . F(x)$$

Another option is to take iota-expressions to be entirely undefined, completely bereft of meaning, when the condition does not hold of one and only one object in the domain. In either case, the expression only has a proper referent when there exists a unique satsifier of the description, and in that sense is only 'permissible' in such a case. In other words, use of an iota-expression *presupposes* that existence and uniqueness obtain.[6]

4.2.2   Challenging Uniqueness

While Russell's theory of descriptions has largely been set aside in modern research on definiteness, another theory – the familiarity theory – has taken over as a competitor. In a paper advocating a kind of familiarity theory, Roberts (2003) discusses the following example, adapted from Heim (1982):

---

[5] On some theories, such as Kaplan's (1977), there is at least one predicate that produces a classical truth value when predicated of the undefined individual, namely the existence predicate, which would yield 'false' when applied to *the king of France*.

[6] Some authors use the more verbose: $\lambda P : \exists ! x[P(x)] . \iota x[P(x)]$, where '$\exists ! x[P(x)]$' is included as a domain condition, specifying that the function is only defined for input predicates that have exactly one instance, thereby yielding a presupposition to the effect that P is uniquely satisfied. I leave this part out, because the iota expression on its own contributes the same presupposition.

(7)   A wine glass broke last night. The glass had been very expensive.

This example could felicitously and truthfully be used to describe a scenario in which two wine glasses broke. It does not carry a presupposition that there was only one glass, or even that there was only one that broke (although it does carry such an implicature). Heim (1982) proposes that *a glass* introduces a new discourse referent constrained by the property 'glass'. On the familiarity theory of definiteness, *the glass* is licensed in virtue of this fact, picking up this now-familiar discourse referent. The meaning of a definite article, then, crucially involves the concept of familiarity (previously being introduced in the discourse). Dynamic semantics, in which meanings are instructions for updating a context, and discourse referents are introduced and picked up, provides a way of implementing that idea. In Heim's file change semantics, contexts are viewed essentially as sets of variable assignments, where the variables correspond to discourse referents, and the values they are assigned to are individuals in the model. The fact that the context consists of *sets* of variable assignments allows for the possibility that it is not fully narrowed down exactly which individual a given discourse referent picks out. As more information comes in through successive updates, the set of possible values for a given discourse referent may be whittled down. A definite description is a device for identifying an already-introduced discourse referent, a key step in being able to say more about it.

But this example alone does not prove the familiarity theory of definites. It is uncontroversial (so far as I know) that there is independent need for so-called 'domain restriction', where the overt descriptive content of a nominal is apparently enriched. A particularly telling case (due to Soames 1986, building on an example from Barwise & Perry 1983) is the following:

(8)   Everyone is asleep and is being monitored by a research assistant.

Clearly, *everyone* must be interpreted relative to a domain that excludes the research assistants, and yet the indefinite *a research assistant* requires that they be part of the domain. This type of example can be accounted for by using a contextually-provided variable over predicates C that is intersected with the descriptive content of the nominal that the determiner combines with (Westerståhl 1984; von Fintel 1994). Perhaps, then, what is going on in (7) is just domain restriction. For example, *glass* could be interpreted as 'glass in C', where C is the set of objects the speaker cares about, for instance.

A more challenging case comes from the use of definite descriptions in donkey sentences like the following:

(9)   If a farmer owns a donkey, then the farmer beats the donkey.

A dynamic semantic theory, in which indefinites introduces new discourse referents and definites pick them up, and conditionals 'execute' the meaning of

the consequent after 'executing' the meaning of the antecedent, provides an elegant account of this type of phenomenon. A dynamic analysis avoids overly strong uniqueness implications, captures the quantificational dependence of the definites on the indefinites, and accounts for the potentially universal force of these sentences. It does so by treating both indefinites and definites as variables that can potentially be bound by the same operator, effectively. The relevant analysis of definites can be approximated by the following lexical entry, in which v_i is a variable, the ith variable in the sequence of variables recognized in the formal representation language. The variable v_i is free in the expression below; its value is expected to come from context.

(10) $the_i \rightsquigarrow \lambda F \, . \, \iota x \, . \, [F(x) \wedge x = v_i]$

A pure Fregean analysis would make the false prediction that a sentence like (9) presupposes that there is exactly one farmer and exactly one donkey. A Fregean analysis augmented with a simple predicate-intersection theory of domain restriction also comes up short, as it fails to capture the systematic covariance in the way that the indefinite and definite descriptions are interpreted.

To capture the type of quantificational binding observed in donkey sentences using domain restriction, it has been proposed that the relevant set be determined by a contextually given function f, which maps a sequence of individual variables to an appropriate set (von Fintel 1994; Chierchia 1995). A mechanism for letting the domain of a quantifier (or a definite article) covary with the choice of witness for another quantifier seems to be independently needed:

(11)   Everyone answered every question. (Stanley & Szabó 2000)

(12)   Only one class was so bad that no student passed the exam. (Heim 1991)

Example (11) could be verified by a scenario in which the questions differed for each participant, and the interpretation of *the exam* in example (12) varies according to which class is under consideration. But observe that such an approach to domain restriction has a lot in common with the familiarity theory of definites: It involves a locally free variable ranging over individuals that can be interpreted as a bound anaphor. So the general inventory of interpretive mechanisms required in the grammar is the same, whether one adopts the familiarity view of definites or this relational approach to domain restriction, be it through dynamic semantics or some other way of binding the variable.

Substantially different mechanisms are required on the situation-based approach to definite descriptions, where they are interpreted relative to a given situation (Heim 1990; Cooper 1996; Schwarz 2009; Elbourne 2013). The lexical entry for the definite article on this type of view might look more like the following:

(13)   *the* $\rightsquigarrow \lambda s \lambda F \,.\, \iota x \,.\, F_s(x)$

For Elbourne (2013), a definite description always carries a locally free situation pronoun, which can either be bound by a special quantifier over situations or interpreted as anaphoric to a salient situation in the discourse. For the case in (7), the situation made salient in the first sentence could serve as the antecedent for the silent situation pronoun hiding in *the glass*. Relative to that situation, there is perhaps only one glass: the one that the speaker cares about. Elbourne (2013) shows that there is a viable, nondynamic alternative in the face of data like (7) and (9), one that is fundamentally Fregean, with the principal difference being that a situation pronoun is posited inside the definite description.

What, then, is at stake in the choice between these two theories? In the debate over donkey pronouns, one type of data that is presented as potentially problematic for a situation-based view is the following type of sentence, attributed to Hans Kamp by Heim (1990), though the original observation is apparntly due to Jan van Eijck (Hans Kamp, p.c.):[7]

(14)   If a bishop meets a bishop, then he blesses him.

If the pronoun *he* is interpreted as a disguised definite description (*the bishop*), and uniqueness for this description is calculated relative to the minimal situation characterized by the antecedent (a bishop meeting a bishop), then the pronoun should not be felicitous, because there are two bishops in this situation. Elbourne (2005) calls this 'the problem of indistinguishable participants'. It's easy to account for this type of example on a dynamic view, as long as the pronouns' discourse referents can be identified with those of their antecedents. As Heim (1990) discusses, Kadmon (1987) has a situation-based view that can account for some bishop-type sentences. But Heim argues that in general, it has uniqueness presuppositions that are too strong. This comes out in examples like the following:

(15)   If a man has the same name as another man, he usually avoids addressing him by name.

(16)   If a man shares an apartment with another man, he shares the housework with him.

---

[7] According to Hans Kamp (p.c.), Jan van Eijck presented the following example at a workshop on DRT that took place in Stuttgart in December of 1987 (where Irene Heim first presented the material that eventually appeared in her 1990 paper 'E-type pronouns and donkey anaphora'):

(i)   If a man lives with another man, he shares the housework with him.

A version of the sentence involving bishops was given a few years later by Hans Kamp in the discussion period of a talk given by Angelika Kratzer in Tübingen (and presumably conveyed thereafter to Irene Heim), but the original insight is apparently due to Jan van Eijck.

The first should presuppose that each man has at most one namesake, under Kadmon's proposal. Similarly, the second should presuppose that each man has at most one roommate. Elbourne (2005) offers another situation-theoretic approach, where in (14), there is an asymmetry between the two bishops such that one is part of a relevant situation that does not involve meeting another bishop and the other is not.

Elbourne argues furthermore that the situation-based view is capable of making a distinction that the dynamic view misses, one that can account for the contrast in acceptability between sentences like (14) and ones like (17).

(17)   #If a bishop and a bishop meet, he blesses him.

According to Elbourne, there is no relevant situation involving one bishop but excluding the other for this sentence, so the pronoun is correctly predicted to be ruled out.

It is crucial for Elbourne that only a restricted set of situations be considered relevant, or else the asymmetry would disappear (Elbourne 2005: 149–153). The exclusion of these situations does not strike me as particularly well motivated, so this is an unfortunate corner for the situation-based theory to be backed into. Furthermore, Barker and Shan (2008) argue that this contrast can in fact be accommodated under a dynamic theory, and they blame the infelicity on the difficulty of finding an antecedent for the pronouns. Elbourne (2009) expresses skepticism about this argument, arguing that (14) is likewise ambiguous. I leave it to the reader to adjudicate; suffice it to say that the issue is not clear-cut.

Bishop sentences can also be formed with definite descriptions (Schwarz 2009: 244):

(18)   If a bishop meets a bishop, then the bishop blesses the other bishop.

The same kind of question arises here. This kind of example can easily be accommodated under a dynamic view, because the two indefinites are associated with distinct discourse referents, yielding distinct antecedents for the two definites. *Prima facie*, it poses a problem for a situation-based view, because the uniqueness requirement is violated in the situation where the two bishops meet. But notice that intransitive cases with definite descriptions like the following are just as unacceptable as ones with pronouns:

(19)   #If a bishop and a bishop meet, the bishop blesses the other bishop.

To the extent that the contrast between (14) and (17) militates in favor of the situation-based view on pronouns, the contrast between (18) and (19) does the same for the situation-based view on definite descriptions. Perhaps a retort in the style of Barker and Shan (2008) can be upheld here as well.

What other evidence can be brought to bear on the issue, as it concerns definite descriptions? According to Schwarz (2009), the strong/weak

distinction among definite determiners in German dialects reflects the fact that strong determiners mark familiarity, while weak determiners mark situation-based uniqueness. Implicit in this reasoning of course is that the two analyses make different predictions about the range of uses that an article should have. Let us turn to this next.

4.2.3   A Both-And Solution

Schwarz (2009) takes a statesman-like approach, where the familiarity-based (dynamic) view and what he calls the 'uniqueness view' (a Fregean view enriched with situation variables à la Elbourne) are both needed, albeit for different purposes. He focuses on the distinction between two types of definites in German, *strong* and *weak*. For Schwarz, the weak definites are 'uniqueness' definites, but the strong ones are familiarity definites.

The weak article in German undergoes reduction after a preposition, yielding *vom* 'by the' rather than *von dem* 'by the'. The former is used in cases involving so-called 'situational uniqueness', such as the following:

(20)   Der Empfang wurde *vom* / **von dem*   Bürgermeister eröffnet.
          the reception was   by-the$_{weak}$ / by the$_{strong}$ Mayor   opened
          'The reception was opened by the mayor.'

There may be more than one mayor in the world, but there is only one mayor in the situation being described here; in that sense, we have 'situational uniqueness' here. As Schwarz shows, the weak articles are used when uniqueness is presupposed with respect to what Hawkins (1978) calls an 'immediate situation' (e.g. *the dog*), a 'larger situation' (e.g. *the priest*), or a 'global situation' (e.g. *the moon*), and in certain types of bridging anaphora, namely 'part–whole' bridging (e.g. *the tower*, after a church has been introduced).[8] In all of these cases, the situation-relativized Fregean article would be expected to be possible, as the relevant property is unique, relative to the given situation. Weak articles also have what Schwarz calls 'covarying uses', as in:

(21)   At every train station that our train entered, a letter . . .
          a.   vom   Bürgermeister
                from.the$_{weak}$ mayor
          b.   *von dem   Bürgermeister
                from   the$_{strong}$ mayor
                . . . was handed to me.

For these kinds of uses, he posits a type-shifting operation that allows the situation argument to be bound.

---

[8] The 'global situation' uses are what Löbner (1985, 2000) calls 'semantically unique' – unique solely by virtue of the semantic content.

The strong form, on the other hand, is what is found in an anaphoric context:

(22)   Hans hat einen Schriftsteller und einen Politiker   interviewt.
         Hans has a   writer   and a   politician interviewed
         Er   hat *vom / von dem   Politiker keine interessanten
         He   has from.the$_{weak}$ / from the$_{strong}$ politician no   interesting
         Antworten bekommen.
         answers   gotten
         'Hans interviewed a writer and a politician. He didn't get any interesting answers
         from the politician.'

Here, the referent of *the politician* is previously introduced into the discourse, so a familiarity article should be felicitous. The strong article in German occurs here as well as in 'product–producer' bridging (e.g. *the author*, after a book has been introduced). The latter type of usage is not immediately predicted by the familiarity account, and Schwarz introduces a relational version of the definite article in order to account for it (p. 271).

We certainly expect a uniqueness article (in Schwarz's sense) to be felicitous for 'the mayor' in (20) and we certainly expect a familiarity article to be felicitous for 'the politician' in (22). And it is certainly not *obvious* that we would expect them to be able to switch places. But what exactly is the distribution that we expect? Should a familiarity article be infelicitous with 'the mayor'? Should a situation-relative Fregean article be infelicitous with 'the politician'? Let us consider these questions in turn.

4.3   Predicted Limits on Familiarity Definites

As Schwarz (2009) himself recognizes, there are a number of environments where a familiarity definite would be expected, beyond those where strong definites in German appear.

Let us first establish that strict anaphoricity is not a requirement even for German strong articles; there are a number of environments where the strong article is licensed despite no discourse referent previously having been established. In the debate over donkey pronouns, one of the challenges that has been raised for the situation-based, description-theoretic account is what Heim (1990) calls 'the problem of the formal link'. Perhaps the most famous example in this category involves marbles (Heim 1982: 21, attributed to Barbara Partee, p.c.):

(23)   a. One of the ten marbles is not in the bag. It is probably under the sofa.
         b. Nine of the ten marbles are in the bag. ?? It is probably under the sofa.

The first sentences in (23a) and (23b) are propositionally equivalent, but they differ in their anaphoric potential; one establishes a discourse referent (a 'formal link') and the other does not, it seems. In the first case, a discourse referent is

established for the pronoun by the indefinite noun phase *one of the ten marbles*, and the pronoun is felicitous. In the second, there is no noun phrase that serves to introduce a discourse referent, and the pronoun is infelicitous.

Strong articles in German, surprisingly enough, can be used in the latter type of discourse context, where no discourse referent is (overtly) established. In the context (24a), the sentence (24b) is acceptable with the strong definite article (and not with the weak one).

(24)   a. Wir   haben 10 Eier   versteckt, aber   die   Kinder
          we   have   10 eggs   hidden   but   the   children
          haben erst   9   gefunden.
          have   only   9   found
          'We hid 10 eggs, but the kids have only found 9 of them.'
       b. Im   / In dem   fehlenden Ei   ist eine   Überraschung.
          in-the_weak / In the_strong missing   egg is   a   surprise.
          'There is a surprise in the missing egg.'

Thus strong definite articles do not impose the same requirements on the context as pronouns.

Perhaps, then, the requirements imposed by strong definite articles could be framed in terms of Roberts's (2003) notion of 'weak familiarity'. Roughly speaking, if the existence of a given discourse referent can be inferred from context, then it counts as *weakly familiar*. A discourse referent can in that case be accommodated.

In their work on definite articles in Akan, Arkoh, and Matthewson (2013) propose essentially this way of viewing familiarity, although they prefer a different terminology. Arkoh and Matthewson (2013) adopt Prince's (1992) distinction between *hearer-old* and *discourse-old*, seeing the former as similar to Roberts's (2003) 'weak familiarity', and they argue that the definite article in Akan is a familiarity article that imposes a hearer-oldness constraint. Their reasons for this include the availability of the article in marble environments. Arkoh and Matthewson note that *nó* can be used in Partee marble scenarios, such as one that would be translated into English as:

(25)   There were four mangoes in the sack; Ama found three. *The missing one* is nicer.

This is evidence that the operative notion of familiarity for Akan *nó* is 'weak familiarity', or as Arkoh and Matthewson prefer, 'hearer-oldness'. By the same logic, the same applies to German, as they point out. But if it is only *weak* familiarity that is required by strong definite articles, then the predicted distributions of weak and strong definite articles begin to converge.

Schwarz (2009: 281ff.) has already noted that the predicted distribution of familiarity articles is wider than the distribution of strong articles in German.

In particular, familiarity articles would be expected to occur in both part–whole bridging environments and 'larger situation' environments. Schwarz discusses the following example in German, where *the mayor* receives a bound ('covarying') interpretation:

(26)   In every city in which our train stopped, a letter from *the mayor* was handed to me.

As Schwarz discusses (p. 282), a familiarity article would be expected for *the mayor*, and yet it appears to be disallowed. As he points out, the problem cannot be solved so easily as positing a general preference for the weak article whenever both are available, because there are cases where both the strong and the weak article can be used. He gives the following example in German, again involving a bound interpretation:

(27)   Every cook that happens to find a book about topinambur looks in *the book* for an answer to the question of whether one can grill topinambur.

Schwarz writes (p. 283), "Even though the weak article lacks the capacity that enables the strong article to be anaphoric to an antecedent, it would still be surprising if the mere presence of a potential antecedent ruled out the weak article as long as the relevant individual is situationally unique," and indeed, (27) is in line with those expectations; the weak article is roughly as acceptable as the strong article for *the book* here. If there are cases where both variants are possible, then it is tough to argue that one takes preference over the other whenever they are both applicable.

Schwarz floats another possible explanation for the surprisingly narrow distribution of strong articles (pp. 284–285), based on a difference between the weak and strong articles in the way that they combine with relational nouns. Weak articles do so via a type-shifter that specifies a part–whole relationship. The idea is that the extra specificity encoded there yields a preference for the weak article in cases where the distinction is 'relevant'. The idea would need to be fleshed out more in order to work, but I find it hard to imagine how the potential to combine with a type-shifter that contributes more specific information should drive a lexical preference for one lexical item over another. So I see this as an open issue.

The problem extends even beyond what Schwarz acknowledges, though. Recall from above that the usage conditions for the strong articles can be characterized in terms of weak familiarity: the possibility of accommodating a discourse referent. As far as I can see, whenever the usage conditions for a Fregean definite article are met, weak familiarity is satisfied. Hence, a strong article should be usable whenever a Fregean article is predicted to be possible. Take, for example, *the priest*, a 'larger situation' case, where only the weak article is possible in German. Whether or not the priest has already been talked

about in the discourse, it is possible to accommodate a discourse referent for him, because his existence should be entailed by any context, if world knowledge entails his existence. So the strong article should be usable in such cases, if the strong article encodes weak familiarity.

The controversy surrounding the correct analysis of Akan can be traced in part to the fact that weak familiarity is a highly inclusive category. Arkoh and Matthewson (2013) argue that Akan's definite article *nó* is a (weak) familiarity definite à la Schwarz. They show, for instance, that it has anaphoric uses, which the German weak article lacks. Furthermore, a bare noun is used instead of the article in certain scenarios in which the description applies uniquely but the referent is not previously introduced in discourse. For example, in a sentence that would be translated into English as *Armstrong was the first person to fly to the moon*, the moon is referred to using a bare noun (Arkoh & Matthewson 2013: ex. 2).

Bombi (2018) argues against Arkoh and Matthewson (2013) in favor of a uniqueness-based analysis. As for the moon example, Bombi writes that bare nouns rarely occur in subject position, and she suggests that pseudo-incorporation is what is going on here. She also shows that a strict familiarity analysis (one that requires anaphoricity) makes the wrong predictions. Among her evidence are the following examples cited by Arkoh and Matthewson (2013), from Amfo (2007: 146) and (Arkoh 2011: 71) respectively:

(28)   òkàsàmáfó nó   b'ɛ-bá   s'eèséí árá, . . .
        speaker   DEF FUT-come now   just
        'The speaker will arrive soon, . . .'

(29)   *The priest* will pray first [before anything else happens].

These are both 'larger situation uses' in Hawkins's (1978) terminology, cases where the German weak article is used and the strong article is not. These examples do show that Akan *nó* is different from the German strong article, and they do show that Akan *nó* does not impose a strict anaphoricity requirement. But the German strong article does not impose a strict anaphoricity requirement either, as we have seen above, and as Schwarz himself acknowledged. If weak familiarity is all that is required in order to license a familiarity article, then neither (28) nor (29) is actually problematic for a familiarity-based analysis. In these scenarios, weak familiarity is satisfied.[9] In fact, if weak familiarity is all that is required in order to license a familiarity article, then familiarity articles are expected to occur throughout the full range of Hawkins's uses, including cases like *the moon*. As Bombi (2018: 146) puts

---

[9] This point is also made by Augustina Owusu (2020), whose work I learned about after this chapter was written. Owusu offers a novel analysis of Akan *nó* involving weak familiarity coupled with an anti-uniqueness presupposition, and also treats uses of *nó* in the clausal domain.

it, "familiarity in the way Roberts (2003) . . . uses it is a defining characteristic of all definites. Put differently, the line Roberts's familiarity draws is not between different types of definiteness, but rather between definiteness and indefiniteness."

Is there any environment where a weak familiarity article should be ruled out, where a situational uniqueness article would be expected? One candidate might be cases where familiarity is explicitly denied (Horn & Abbott 2012):

(30)   The new curling facility here, which I assume you haven't heard of, is the first such facility of its kind in the nation.

It is not clear to me whether weak familiarity holds in this kind of case. Related are cases where the speaker explicitly states ignorance of existence (Coppock & Beaver 2015):

(31)   (Context: dissecting an iguana in science class)
        a. I don't know if iguanas have hearts, but is that the heart?
        b. #I don't know if iguanas have bones, but is that the bone?

The contrast seems to derive from the real-world knowledge (or assumption) that *if* an iguana has a heart, then it has only one, whereas the same does not hold for bones. So a uniqueness presupposition is satisfied in the 'heart' example, but not the 'bone' example, even if an existence presupposition is not. It is not clear to me whether weak familiarity can be argued to be satisfied in these cases.

Examples that put even more pressure on the view that definite articles presuppose any kind of familiarity involve what Coppock and Beaver (2015) call 'anti-uniqueness effects': For example, on a reading with focus on *only*, (32a) gives rise to the implication that there was more than one goal. Notice that this definite article does not license a subsequent anaphor, as in (32b):

(32)   a. Anna didn't score the *only* goal.
        b. It wasn't a bicycle-kick, either.

The pronoun *it* in (32b) cannot take *the only goal* as its antecedent. Coppock and Beaver (2015) take this to show that definite articles do not lexically carry a presupposition of existence. They call these 'indeterminate' uses of the definite article.

'Existence' is meant in a strong sense. Kripke (2011: 11) distinguishes between 'broad' and 'narrow' existence: Narrow existence is captured by the verb 'exists'; broad existence is captured by the existential quantifier. It is well known that definite descriptions can (apparently) refer to things that do not exist in the narrow sense; cf. Russell's famous (33a):

(33)   a. The golden mountain does not exist.
        b. It's not in Nebraska, either.

Here we have a case of an entity that is merely a figment of some interlocutor's imagination; a fictional entity. While I do not wish to take on the literature on fictional entities here, I do claim (following Coppock and Beaver) that they do not exist in the narrow sense, but do exist in the broad sense, as shown by their ability to license anaphora. The nonexistence that fictional entities exhibit is not as dramatic as what is going on with (32a). Notice that (33a) can be continued as in (33b), which shows that narrow existence is still implied here, even if broad existence is not. Example (36a) is a case where neither broad nor narrow existence is implied. If definite descriptions do not presuppose existence, then *a forteriori* they do not presuppose even weak familiarity.

Coppock and Beaver (2014) extend this analysis to superlative constructions which again seem to involve indeterminate uses of the definite article. As Szabolcsi (1986) noted, the definite article does not seem to receive its ordinary interpretation in cases like the following:

(34)   a. Wendy received the fewest flowers.
         b. Of all the students in her class, Lucy can count to the highest number.

These show *relative readings* of superlatives, where the relevant comparison is made among focus alternatives (flower-recipients or students, rather than flowers or numbers). Like indeterminate readings of *the only* phrases, definite descriptions containing superlatives on relative readings under entailment-cancelling operators fail to license anaphora (Coppock & Beaver 2014):

(35)   Perhaps Gloria climbed the highest mountain out of all of her friends.
         #The prize is a picture of it.

Furthermore, as Szabolcsi pointed out, superlatives on relative readings do not show definiteness effects. Heim (1999) simply assumed that the definite article was deleted at LF; Coppock and Beaver (2014) offered an analysis of these uses as definite but indeterminate.

Bumford (2018) argued for a different take on both the *only* data and superlative constructions. On his view, definite articles do carry both existence and uniqueness implications, but these two components of the meaning can be split apart. A discourse referent is established at one phase of the dynamic processing (hence existence), and a uniqueness check may be carried out after additional information from the surrounding sentential environment is integrated into the dynamic sequence. His analysis carries a number of advantages over previous accounts with respect to both exclusives and superlatives, and I refer the reader to his discussion.

But even if the definite article does carry an existence component as Bumford proposes, the fact remains that indeterminate uses of definite descriptions embedded in entailment-cancelling environments such as negation do not license anaphora outside the scope of the entailment-cancelling

operator (cf. 32b). Hence, either there is no weak familiarity requirement, or it is obligatorily locally accommodated inside the entailment-cancelling operator. Coppock and Beaver (2015) argue against the possibility that an existence presupposition is obligatorily locally accommodated in these cases; the same argumentation applies to putative familiarity presupposition. By this reasoning, then, these kinds of indeterminate uses provide evidence against a weak familiarity presupposition.

If anti-uniqueness effects with exclusives are indeed the kind of phenomenon that can adjudicate between familiarity and uniqueness theories, then this is the kind of data that should be used in fieldwork when investigating the semantics of definite articles in new languages. Indeed, Yifrach and Coppock (2020) use anti-uniqueness effects with exclusives in order to argue that the definite article in Ṭuroyo (an endangered Semitic language) encodes uniqueness, but not existence (or familiarity).

4.4   Are 'Uniqueness Definites' Anti-Anaphoric?

Now let us consider the other direction: How broad of a distribution would we expect from a situational uniqueness article? Arkoh and Matthewson (2013: 16) point to anaphoric uses of the definite article in Akan. Bombi (2018) acknowledges the availability of anaphoric uses, and presents original fieldwork data of her own showing that they exist:

(36)   I bought a dress yesterday. *The dress* is nice.

Although she advocates a uniqueness-based analysis of the definite article, Bombi is not fazed by this evidence. Nor should she be. Assuming that *the dress* means 'the dress in s', and s is construed as a situation involving just one dress, then the uniqueness presupposition is satisfied. So anaphoric uses are not expected to be impossible for situational uniqueness articles. Why are they impossible for German weak articles? Unclear; they are in the range of expected distribution under the situational uniqueness analysis.

A bishop sentence might pose more of a problem. Interestingly, bishop sentences in German require a strong article (Schwarz 2009: 245); the German equivalents of the following sentences are ungrammatical with a weak article:

(37)   a. When a minister cuts the budget of other ministers in the cabinet, *the minister* receives a lot of complaints.
         b. When a professor recommends a student to another professor, his application is read by *the professor* with great attention.

Schwarz writes (p. 245), "[w]hile there is at least one proposal that reconciles bishop sentences with a situation-based uniqueness analysis of donkey definites, namely that by Elbourne (2005), these German data suggest that

such a proposal is not needed, as the German uniqueness definites (expressed by the weak article) are not available in this configuration in the first place." He takes this to be clear evidence in favor of a familiarity-based analysis of the strong article. Perhaps fieldworkers should concentrate on bishop sentences.

On the other hand, perhaps not. Even for radicals like Coppock and Beaver (2015), who posit that definite articles do not even contribute an existence presupposition, let alone a familiarity presupposition, anaphoric uses can be accommodated, given the proper mechanism for interpreting indexes on noun phrases (Beaver and Coppock, 2015). They propose a system whereby indices are associated with descriptions, as in $bishop_i$. On their system, the definite article checks for uniqueness (not relative to any given situation, although this assumption is not crucial) with respect to the property denoted by $bishop_i$. The system is dynamic, so meanings are relations between input assignments and output assignments. There are two possible cases: i is defined on the input assignment, or it is not. (Assignments are partial functions from indices to individuals.) If i is defined on the input assignment, and maps to an object in the domain that is a bishop, then $bishop_i$ is guaranteed to be unique by virtue of the fact that there is only one object that can end up as the value for i in the output assignment. But if i is not defined on the input assignment – if i is novel – then $bishop_i$ is not unique, assuming that there are multiple bishops in the world (or situation), by virtue of the fact that there are many possible values that i could be mapped to in the output assignment. (If i is novel but the descriptive content guarantees uniqueness, then the definite article is licensed again.) Familiarity, then, becomes a special case of uniqueness. This view makes it possible to explain the duality of the English article: that it sometimes signals uniqueness without familiarity (as in the indeterminate uses), and yet other times signals familiarity without uniqueness (as in bishop cases).

I conjecture that it is more the rule than the exception that languages which allow indeterminate uses for the definite article also allow bishop uses, like in English. If that is so, then either there is a systematic ambiguity that is repeated in language after language, or there is a single lexical entry that is capable of being used in both ways, due to general mechanisms of the grammar such as coindexing. The latter type of explanation would strike me as more appealing. It remains to be seen whether there is any merit in these speculations.

4.5   Conclusion

There is massive overlap in the predicted distributions between situation-based uniqueness analyses and weak familiarity analyses. They both span the full range of Hawkins's uses. The only possible points of contrast that I have been able to identify are:

- indeterminate uses (with exclusives and superlatives on relative readings), where familiarity articles should not appear;

● bishop sentences, where at least under some assumptions, situational uniqueness articles should not appear.

I see it as an open question why German strong articles don't have a wider distribution, covering the full range of Hawkins's uses, and why German weak articles don't span the full range as well. By the same token, it is unclear why the definite article in Akan is not usable in semantically unique cases like *the moon*; both Arkoh and Matthewson's (2013) familiarity analysis and Bombi's (2018) uniqueness analysis would predict that the article should be usable in this case. If Bombi is on the right track that it has to do with pseudo-incorporation, it's still an open question whether the article encodes uniqueness or familiarity. Analogous questions hold throughout the post-Schwarzian crosslinguistic literature on definiteness.

In recent work, Kamp (2018) has developed the idea of 'Articulated Contexts', contexts for the interpretation of an utterance consisting of multiple sources of knowledge: knowledge from the discourse context (including familiar discourse referents), encyclopedic knowledge about particular entities, general knowledge, and perceptual knowledge. These distinctions make it possible, in principle, to cut up the pie in a different way. Strong articles in German, for instance, might require that their reference be determined at least in part through discourse context: Anaphoric uses would depend solely on the discourse context and marble cases would involve a combination of knowledge from the discourse context and general knowledge. Examples like 'the sun', where only the weak article is usable, would involve reference established independently of the discourse context. It may be a fruitful avenue for future research to explore the extent to which these distinctions can be marshaled in order to capture the usage of the various definite articles around the world. As shown in Hans Kamp's contribution to this volume, his Articulated Contexts also shed light on other linguistico-philosophical issues related to the analysis of definite descriptions, including the referential–attributive distinction, which I have not touched on here.

In any case, my hope is that further philosophical reflection will make it possible to construct instruments for fieldwork elicitation that are suitable for resolving these questions. The answers will bear not only on the analysis of definite descriptions, but also on foundational – philosophical – questions about how meanings are built up compositionally and understood in context.

References

Aguilar-Guevara, A., Pozas-Loyo, J., & Maldonado, V. V. R. (Eds.). (2019). *Definiteness across Languages: Studies in Diversity Linguistics*. Berlin: Language Science Press.

Amfo, A. N. (2007). Akan demonstratives. In D. L. Payne & J. Peña (Eds.), *Selected Proceedings of the 37th Annual Conference on African Linguistics* (pp. 134–148).

Arkoh, R. (2011). *Semantics of Akan bí and nʊ*. MA thesis, University of British Columbia.

Arkoh, R., & Matthewson, L. (2013). A familiar definite article in Akan. *Lingua*, *123*, 1–30. doi:10.1016/j.lingua.2012.09.012

Barker, C. (2005). Possessive weak definites. In Y.-Y. Kim, Y. Lander, & B. H. Partee (Eds.), *Possessives and Beyond: Semantics and Syntax* (pp. 89–113). Amherst: GSLA Publications.

Barker, C., & Shan, C.-C. (2008). Donkey anaphora is in-scope binding. *Semantics and Pragmatics*, *1*(1), 1–40.

Barlew, J. (2014). Salience, uniqueness, and the definite determiner-tè in bulu. In T. Snider, S. D'Antoni, & M. Weigand (Eds.), *Semantics and Linguistic Theory (SALT), Vol. 24* (pp. 619–639).

Barwise, J., & Perry, J. (1983). *Situations and Attitudes*. Cambridge, MA: MIT Press.

Beaver, D., & Coppock, E. (2015). Novelty and familiarity for free. In *Proceedings of the 2015 Amsterdam Colloquium* (pp. 50–59).

Bombi, C. (2018). Definiteness in Akan: Familiarity and uniqueness revisited. In S. Maspong, B. Stefánsdóttir, K. Blake, & F. Davis (Eds.), *Semantics and Linguistic Theory (SALT), Vol. 28* (pp. 141–160).

Bumford, D. (2017). Split-scope definites: Relative superlatives and Haddock descriptions. *Linguistics and Philosophy*, *40*(6), 549–593.

    (2018). Binding into superlative descriptions. In S. Maspong, B. Stefánsdóttir, K. Blake, & F. Davis (Eds.), *Semantics and Linguistic Theory (SALT), Vol. 28* (pp. 325–344).

Carlson, G., & Sussman, R. (2005). Seemingly indefinite definites. In S. Kesper & M. Reis (Eds.), *Linguistic Evidence: Empirical, Theoretical, and Computational Perspectives* (pp. 26–30). Berlin: Mouton de Gruyter.

Charlow, S. (2014). *On the Semantics of Exceptional Scope*. Dissertation, New York University.

Chierchia, G. (1995). *Dynamics of Meaning: Anaphora, Presupposition, and the Theory of Grammar*. Chicago: University of Chicago Press.

Cooper, R. (1979). The interpretation of pronouns. In F. Heny & H. Schnelle (Eds.), *Selected Papers from the Third Groningen Round Table: Syntax and Semantics 10* (pp. 61–92). New York: Academic Press.

    (1996). The role of situations in generalized quantifiers. In S. Lappin (Ed.), *The Handbook of Contemporary Semantic Theory* (pp. 86–107). Malden: Blackwell.

Coppock, E., & Beaver, D. (2014). A superlative argument for a minimal theory of definiteness. In T. Snider (Ed.), *Semantics and Linguistic Theory (SALT), Vol. 24* (pp. 177–196).

    (2015). Definiteness and determinacy. *Linguistics and Philosophy*, *38*(5), 377–435. doi:10.1007/s1098

Coppock, E., & Champollion, L. (in preparation). *Invitation to formal semantics. Ms.*, Boston University and New York University.

Dayal, V., & Jiang, J. (2021). The puzzle of anaphoric bare nouns in mandarin: A counterpoint to index! *Linguistic Inquiry*. doi:10.1162/ling_a_00433

Déprez, V. (2016). Refining cross-linguistic dimension of definiteness: Variations on 'la'. Talk presented at the Workshop on the Semantic Contribution of Det and Num, Barcelona, May 27–28.

Elbourne, P. (2005). *Situations and Individuals*. Cambridge: Cambridge University Press.

(2008). Demonstratives as individual concepts. *Linguistics and Philosophy*, *31*, 409–466.

(2009). Bishop sentences and donkey cataphora: A response to Barker and Shan. *Semantics and Pragmatics*, *2*(1), 1–7.

(2013). *Definite Descriptions*. Oxford: Oxford University Press.

Evans, G. (1977). Pronouns, quantifiers, and relative clauses. *Canadian Journal of Philosophy*, *7*, 467–536.

(1980). Pronouns. *Linguistic Inquiry*, *11*, 337–362.

von Fintel, K. (1994). *Restrictions on Quantifier Domains*. Dissertation, University of Massachusetts at Amherst.

(2004). Would you believe it? The King of France is back! (presuppositions and truth-value intuitions). In A. Bezuidenhout & M. Reimer (Eds.), *Descriptions and Beyond* (pp. 315–342). Oxford: Oxford University Press.

Frege, G. (1892). Über Sinn und Bedeutung. *Zeitschrift für Philosophie und philosophische Kritik*, *100*, 25–50. Translated as "On sense and reference" by M. Black, in *Translations from the Philosophical Writings of Gottlob Frege*, P. Geach and M. Black (eds. and trans.), 3rd ed. Oxford: Blackwell, 1980.

Glanzberg, M. (2007). Definite descriptions and quantifier scope: Some Mates cases reconsidered. *European Journal of Analytic Philosophy*, *3*(2), 133–158.

Haddock, N. J. (1987). Incremental interpretation and combinatory categorial grammar. In *Proceedings of the 10 International Joint Conference on Artificial Intelligence, Vol. 2* (pp. 661–663). San Mateo: Morgan Kaufmann.

Hanink, E. A. (2017). The German definite article and the 'sameness' of indices. *University of Pennsylvania Working Papers in Linguistics*, *23*, 9. https://repository.upenn.edu/cgi/viewcontent.cgi?article=1949&context=pwpl

Hawkins, J. A. (1978). *Definiteness and Indefiniteness: A Study in Reference and Grammaticality*. London: Croom Helm.

Heim, I. (1982). *The Semantics of Definite and Indefinite Noun Phrases*. Dissertation, University of Massachusetts at Amherst.

(1990). E-type pronouns and donkey anaphora. *Linguistics and Philosophy*, *13*. 137–177. doi:10.1007/bf00630732

(1991). Artikel und Definitheit. In A. von Stechow & D. Wunderlich (Eds.), *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung* (pp. 487–535). Berlin: Mouton de Gruyter.

(1999). *Notes on Superlatives*. Ms., Massachusetts Institute of Technology.

Heim, I., & Kratzer, A. (1998). *Semantics in Generative Grammar*. Oxford: Blackwell.

Horn, L. R. (2001). *A Natural History of Negation*. Stanford: CSLI Publications.

Horn, L. R., & Abbott, B. (2012). <the, a>: (in)definiteness and implicature. In W. P. Kabasenche, M. O'Rourke, & M. H. Slater (Eds.), *Reference and Referring* (pp. 325–355). Cambridge, MA: MIT Press.

Jenks, P. (2015). Two kinds of definties in numeral classifier languages. In S. D'Antonio, M. Moroney, & C. R. Little (Eds.), *Semantics and Linguistic Theory (SALT), Vol. 25* (pp. 103–124).

(2018). Articulated definiteness without articles. *Linguistic Inquiry*, *49*, 501–536.

Kadmon, N. (1987). *On Unique and Non-unique Reference and Asymmetric Quantification*. Dissertation, University of Massachusetts at Amherst.

Kamp, H. (2018). Entity representations and articulated contexts. Unpublished manuscript, to appear as part of a tribute to David Kaplan, with the preliminary title: "Sense, reference and use – Afterthoughts on Kaplan."

Kamp, H., & Reyle, U. (1993). *From Discourse to Logic*. Dordrecht: Kluwer Academic Publishers.

Kaplan, D. (1977). Demonstratives: An essay on the semantics, logic, metaphysics, and epistemology of demonstratives and other indexicals. In J. Almog, J. Perry, & H. Wettstein (Eds.), *Themes from Kaplan* (pp. 267–298). Oxford: Oxford University Press.

Kripke, S. A. (2011). *Philosophical Troubles: Collected Papers*. Oxford: Oxford University Press.

Landman, F. (2004). *Indefinites and the Type of Sets*. Malden, MA: Blackwell.

Löbner, S. (1985). Definites. *Journal of Semantics*, *4*, 279–326. doi:10.1093/jos/4.4.279

  (2000). Polarity in natural language: Predication, quantification and negation in particular and characterizing sentences. *Linguistics and Philosophy*, *23*, 213–308.

Maldonado, V. V. R., Fajardo, J. G., Gutiérrez-Bravo, R., & Loyo, J. P. (2018). The definite article in Yucatec Maya: The case of le… o'. *International Journal of American Linguistics*, *84*, 207–242. doi:10.1086/696197

Neale, S. (1990). *Descriptions*. Cambridge, MA: MIT Press.

Oliver, A., & Smiley, T. (2013). *Plural Logic*. Oxford: Oxford University Press.

Ortmann, A. (2014). Definite article asymmetries and concept types: Semantic and pragmatic uniqueness. In T. Gamerschlag, D. Gerland, R. Osswald, & W. Petersen (Eds.), *Frames and Concept Types: Applications in Linguistics and Philosophy* (pp. 293–321). Cham: Springer International. doi:10.1007/978-3-319-0541-5_13

Owusu, A. (2020). Clausal determiners and definite propositions. Talk presented at BU Linguistics Colloquium, November 13.

Prince, E. (1992). The ZPG letter: Subjects, definiteness and information status. In S. Thompson & W. Mann (Eds.), *Discourse Description: Diverse Analyses of a Fund Raising Text* (pp. 295–325). Philadelphia/Amsterdam: John Benjamins.

Roberts, C. (2003). Uniqueness in definite noun phrases. *Linguistics and Philosophy*, *26*, 287–350.

Russell, B. (1905). On denoting. *Mind*, *14*, 479–493.

Schwarz, F. (2009). *Two Types of Definites in Natural Language*. Dissertation, University of Massachusetts at Amherst.

Soames, S. (1986). Incomplete definite descriptions. *Notre Dame Journal of Formal Logic*, *27*, 349–375.

Stanley, J., & Szabó, Z. G. (2000). On quantifier domain restriction. *Mind & Language*, *15*, 219–261.

Strawson, P. F. (1950). On referring. *Mind*, *59*(235), 320–344.

Szabó, Z. G. (2000). Descriptions and uniqueness. *Philosophical Studies*, *101*, 29–57.

Szabó, Z. G. (2003). Definite descriptions without uniqueness: A reply to Abbott. *Philosophical Studies*, *114*, 279–291.

Szabolcsi, A. (1986). Comparative superlatives. In N. Fukui, T. Rapoport, & E. Sagey (Eds.), *Papers in Theoretical Linguistics* (pp. 245–265). Cambridge, MA: MITWPL.

Wespel, J. (2008). *Descriptions and Their Domains: The Patterns of Definiteness Marking in French-Related Creoles*. Dissertation, University of Stuttgart. doi:10.18419/opus-5708

Westerståhl, D. (1984). Determiners and context sets. In J. van Benthem & A. ter Meulen (Eds.), *Generalized Quantifiers and Natural Language* (pp. 45–71). Dordrecht: Foris.

Yifrach, M., & Coppock, E. (2020). Defining definiteness in Țuroyo. *Glossa: A Journal of General Linguistics*, *6*, 1–24. https://doi.org/10.16995/glossa.5874