

Do we need two uniqueness conditions? A reply to Lewis (2022)¹

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Abstract. This paper revisits the long-standing issue of how uniqueness and anaphoricity interact in definite descriptions, particularly the disappearance of the uniqueness effect when a definite description is used anaphorically. Over years of research, two types of uniqueness conditions have been proposed to account for this effect: the individual uniqueness condition and the discourse uniqueness condition. Recently, Lewis (2022) has argued that both are necessary for a comprehensive explanation. However, this paper challenges the necessity of positing two distinct uniqueness conditions. Instead, we argue that grounding the individual uniqueness condition within dynamic semantics (Beaver and Coppock 2015; Köpping 2020) provides a more adequate account. While we disagree with the core premise of Lewis' dual-uniqueness analysis, we concur with her view that dynamicity is essential for understanding the interaction between uniqueness and anaphoricity.

Keywords: definite descriptions, uniqueness, anaphoricity, dynamic semantics, E-type

1. Introduction

A longstanding debate in linguistics and philosophy is whether a definite description presupposes the existence of a unique individual that satisfies its description in a given context. On one hand, examples like (1), which cannot be used in a situation where more than one student attended Fred's office hours, suggest that the definite description *the student* carries a uniqueness condition. This motivates the classical, Russellian analysis, which argues that a definite description presupposes the existence of a uniquely identifiable individual satisfying the description, as stated in (2).

(1) The student who came to Fred's office hours asked for a higher grade.

(2) **Individual-level uniqueness**

A definite description, $\llbracket \text{the NP} \rrbracket^g$, presupposes that there is a unique individual x in a given context such that $x \in \llbracket \text{NP} \rrbracket^g$.

However, the individual-level uniqueness condition is challenged by examples like (3), where, intuitively, *the student* is *anaphoric to* the referent introduced by the indefinite *a student*, suggest a negative answer—the use of the definite description in this case is entirely compatible with a situation where multiple students came to Fred's office hours.

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- (3) A^{*u*} student came to Fred's office hours. The_{*u*} student asked for a higher grade.

The consistent absence of uniqueness effects in the anaphoric uses of definite descriptions has led to the so-called familiarity approach, which does not assume an individual-level uniqueness condition. Instead, this approach treats anaphoricity as the semantic primitive of definite descriptions and argues that uniqueness effects arise pragmatically. A prominent analysis within this approach is proposed by Roberts (2003), who argues that a definite description carries a discourse-level uniqueness condition, formulated as in (4).

(4) **Discourse-level uniqueness**

A definite description, $[[\text{the}_{\langle u \rangle} \text{NP}]]^g$, refers a discourse referent u and presupposes that u is the unique discourse referent in a given context such that $g(u) \in [[\text{NP}]]^g$.

In (3), the discourse-level uniqueness condition is satisfied because the antecedent of the definite description is the uniquely introduced discourse referent associated with a student. This does not preclude the possibility that multiple students attended Fred's office hours. However, when a definite description is not used anaphorically, as in (1), the discourse-level uniqueness condition can be pragmatically strengthened to imply that only one student attended Fred's office hours.

While these two approaches have competed for years, Lewis (2022) recently proposed a dual-uniqueness analysis that reconciles the two types of uniqueness conditions. Building on Schwarz (2009), Lewis (2022) argues that the definite determiner *the* is lexically heterogeneous. Specifically, anaphoric and non-anaphoric definite determiners make distinct semantic contributions: the former carries a discourse-level uniqueness condition, while the latter encodes an individual-level uniqueness condition. Since these two conditions are designed to account for (1) and (3), respectively, combining them within a single analysis appears to offer greater explanatory power.

However, we argue in this paper that Lewis' dual-uniqueness analysis fails to capture the fundamental interaction between uniqueness and anaphoricity underlying the contrast between (1) and (3). Intuitively, in (3), anaphoric linking restricts the uniqueness test of the definite description to its antecedent, which trivially satisfies the individual uniqueness condition. Any analysis that models this intuitive interaction would be on the right track. Instead, as shown in Section 2, the dual-uniqueness analysis merely incorporates the discourse-level uniqueness condition via discourse referents while overlooking their anaphoric potential. As a result, it leads to empirical inadequacies.

To properly account for the cross-sentential anaphoric behavior of definite descriptions, dynamic semantics provides a natural alternative. This possibility has been noted by Beaver and Coppock (2015) and Köpping (2020), though it has not been discussed in depth by Lewis (2022). In Section 4, we present a specific implementation within dynamic semantics that models the interaction between uniqueness and anaphoricity. Our analysis demonstrates that the disappearance of the uniqueness effect in (3) follows naturally once an anaphoric link between the definite description and its antecedent is established across sentences, eliminating

the need to posit a discourse-level uniqueness condition. Moreover, we show that the dynamic uniqueness analysis is empirically more sufficient.

Despite our critical evaluation of Lewis (2022), we think it is nevertheless a highly valuable study. It is the first article written from the perspective of an E-type approach that officially proclaims the need for some form of meaning dynamics. This can be witnessed from the following quotes (Lewis 2022:562):

I will argue that the best implementation of a (static) D-type [E-type] theory is one that is integrated with a dynamic pragmatics.

I will argue that for D-type [E-type] theory to be viable, it has to incorporate discourse referents in the view.

By concluding that a dynamic uniqueness analysis is more adequate, we side with her view and argue that it is indeed necessary to capture the interaction between uniqueness and anaphoricity.

The rest of this paper is structured as follows. Section 2 outlines Lewis's dual-uniqueness account within her dynamic pragmatics (Lewis 2012). Section 3 evaluates its predictions and identifies empirical challenges. Section 4 introduces a specific dynamic uniqueness analysis, arguing that the discourse-level uniqueness condition is unnecessary. Section 5 discusses the necessity of dynamicity in modeling the interaction of uniqueness and anaphoricity. Finally, Section 6 concludes the paper.

2. Lewis' dual-uniqueness analysis

At the heart of Lewis (2022) is three assumptions: dynamic pragmatics, no interaction between anaphoricity and uniqueness, and dual uniqueness conditions. We show that these design features are not accidentally lumped together, but are *logically dependent*. In particular, non-interaction is a consequence of standard assumptions in dynamic pragmatics and dual uniqueness conditions are a consequence of non-interaction, as shown in (5). This logical relation is important as it would enable us to leverage the inadequacies of the dual uniqueness conditions to argue against accounts that do not allow compositional interactions between uniqueness and anaphoricity and ultimately against dynamic pragmatics, in favor of dynamic semantics.

- (5) Logical relationship between the various claims in Lewis (2022):
- a. Dynamic pragmatics \Rightarrow
 - b. no interaction between anaphoricity and uniqueness \Rightarrow
 - c. the need for dual uniqueness conditions

Lewis (2022) extends the thesis pursued in Lewis (2012) that a sentence is semantically static, denoting a set of truth conditions, but pragmatically dynamic. The pragmatic dynamicity means, when a sentence is asserted, it can still map an input context, modeled as a set G of variable assignments, to a set of output assignments, modeled as a set of variable assignments, as shown in Figure 1. When a sentence like (6a) is evaluated pragmatically, it maps an input

$$\{g\} \longrightarrow \text{Assert } \llbracket a^u \text{ student came in} \rrbracket \longrightarrow \left\{ \begin{array}{l} g^{u \rightarrow :)} \\ g^{u \rightarrow :(} \\ g^{u \rightarrow :/} \end{array} \right\} \longrightarrow \text{Assert } \llbracket she_u \text{ sat down} \rrbracket$$

Figure 1: A sample pragmatic update

assignment g to a set of output assignments h , such that h only differs from g in the value associated with the variable x and these values are students (represented by $:$), $:($, and $:/$) that came in some time before the utterance time.

- (6)
- a. A^u student came in.
 - b. Semantics: $\exists x \in \text{stu} : \text{came.in}(x)$
 - c. Pragmatic update: $G[u]H \wedge H(u) \subseteq \text{stu} \wedge H(u) \subseteq \text{came.in}$
In prose: Introduction of a new discourse referent u into the existing context G to create a new context H with u storing student-values that have the property of coming in some time in the past.²

Crucially, because this context mapping occurs in pragmatics rather than semantics, anaphoricity is also evaluated pragmatically. The distinction between pragmatic and semantic evaluation of anaphoricity remains unclear, but one plausible difference is that pragmatic evaluation is *collective* or falls somewhere between collective and distributive. In this case, (7a) would contribute the new information that $h(u)$ is a female who sat down, filtering out all $h(xu)$ values that do not meet these criteria.

- (7)
- a. She_u sat down.
 - b. Semantics: $\text{sat.down}(g(u))$
 - c. Presupposition: $\text{female}(g(u))$
 - d. Pragmatic update: $H(u) \subseteq \text{female} \wedge H(u) \subseteq \text{sat.down}$

Now, consider a non-anaphoric definite description, like the one in (1). According to Lewis, a non-anaphoric definite determiner has the definition in (8). This is the classical definition of uniqueness, known as individual uniqueness, as it requires that there is one and only one teacher in the context.

- (8) Non-anaphoric definite descriptions
 $\llbracket [\text{the}_\emptyset \text{ XP}] \text{ YP} \rrbracket = \exists x \in \llbracket \text{XP} \rrbracket : \llbracket \text{YP} \rrbracket(x)$ defined only if $\exists! y \in D_e : \llbracket \text{XP} \rrbracket(y)$

The empty set symbol \emptyset represents ‘non-anaphoric’. As illustrated in (8), a non-anaphoric definite description tests if there is a unique individual who has the $\llbracket \text{XP} \rrbracket$ property. In (1), the definite description requires that relative to the speech context, there is only a single individual

²The formal definitions in Lewis (2012):

- Input-output correspondence: $G[u]H := \forall g \in G : \exists h \in H : g[u]h \wedge \forall h \in H : \exists g \in G : g[u]h$
- Minimal modification: $g[u]h := h$ differs from g at most with respect to the value stored in u
- $H(u) := \{h(u) \mid h \in H\}$
- Lifted lexical relation: $H(u) \subseteq X := \forall h \in H : h(u) \in X$

$$\{g\} \longrightarrow \mathbf{Assert} \llbracket a^u \text{ stu cfh} \rrbracket \longrightarrow \left\{ \begin{array}{l} g^{u \rightarrow :} \\ g^{u \rightarrow :} \\ g^{u \rightarrow : /} \end{array} \right\} \longrightarrow \mathbf{Assert} \llbracket \text{the}_u \text{ stu afh} \rrbracket$$

Figure 2: The pragmatic update of (3)

who is a student and came to Fred’s office hours, as demonstrated in (9).

- (9)
- a. The_∅ student who came to Fred’s office hours asked for a higher grade.
 - b. Semantics: $\exists x \in \text{student} \cap \text{cfh} : \text{ahg}(x)$
 - c. Presupposition: $\exists! y \in D_e : y \in \text{student} \cap \text{cfh}$
 - d. Pragmatic update: (i) check that there is a unique student who came to Fred’s office hours in the model; (ii) if successful, introduce a new discourse referent x to store this teacher value, crash otherwise.

Next, let us examine how Lewis’ account analyzes anaphoric definite descriptions. As shown in (10), once a definite description is anaphoric, it no longer tests for a unique individual satisfying the description but instead checks for a unique previously introduced discourse referent that meets the description (*DR*: the domain of discourse referents). In other words, an anaphoric definite description lexically encodes discourse-level uniqueness. However, it remains an existential quantifier and is not anaphoric in the at-issue dimension.

- (10) Anaphoric definite descriptions
- $$\llbracket [\text{the}_u \text{ NP}] \text{ YP} \rrbracket = \exists x \in \llbracket \text{XP} \rrbracket : \llbracket \text{YP} \rrbracket(x) \text{ defined only if } \exists! u \in DR : \forall g \in G : \llbracket \text{XP} \rrbracket(g(u))$$

How this definition works is illustrated in (11) and the relevant pragmatic update is visualized in Figure 2. Although the input context of the second sentence involves three students, there is only one discourse referent u that satisfies the description of *the student*.

- (11)
- a. A^u student came to Fred’s office hours. The_u student asked for a higher grade.
 - b. Semantics: $[\exists x \in \text{student} : \text{cfh}(x)] \wedge [\exists y \in \text{student} : \text{ahg}(y)]$
 - c. Presupposition: $\exists! u \in DR : \forall g \in G : \text{student}(g_u)$
 - d. Pragmatic update: (i) require that u is the only discourse referent storing a student value; (ii) if successful, check that this student value satisfies the predicate meaning of asking for a higher grade; (iii) update a new discourse referent to store students asking for a higher grade.

3. Empirical insufficiency

While the dual uniqueness analysis predicts the absence of uniqueness effects when a definite description is anaphoric to an indefinite, it does not establish an anaphoric linking between the definite description and the indefinite, which is actually a crucial factor in filtering a uniqueness presupposition. In particular, the relevant definition is represented as in (10), where the definite description gives rise to existential quantification as well as triggers a discourse uniqueness presupposition. Therefore, an anaphoric definite description only requires exactly one discourse

referent in discourse to fulfill its description, but does not refer to a previously introduced discourse referent. As a result, the anaphoric relation between a definite description and an indefinite would not be guaranteed. Consider (12).

- (12) Several couples came in today. There was one, a woman and a man. The man was being so annoying. (Mandelkern and Rothschild 2019: 85)

In (12), the definite description is intuitively related to a particular man introduced by the indefinite. However, under the definition in (10), any man other than this specific man could verify the final sentence, due to the at-issue existential interpretation. In other words, the final sentence could mean that there was a man from a different couple who was being so annoying, contrary to fact.

Of course, Lewis (2022) is not unaware of this issue. In her article, a definite description is ‘pre-semantically disambiguated as anaphoric and resolved to the discourse referent 1 (by mechanisms of anaphora resolution that are beyond the scope of this paper; see Lewis 2022:593)’. Accordingly, the anaphoric relations in (12) and (14) are established independently to the lexical meaning of an anaphoric definite description. However, as the definition in (10) does not have an anaphoric component, it is not clear how anaphoricity is connected to the discourse-level uniqueness condition. In other words, the connection between anaphoricity and the discourse-level uniqueness condition of a definite description is rather arbitrary at the current version of the ambiguity analysis.

Moreover, even if an anaphoric definite expression is correctly linked to its antecedent in some way, the discourse-level uniqueness condition in (10) is still too strong. A problem arises when we consider (13), which is a variant of Partee’s ‘marble’ sentences (see Heim (1982)).

- (13) I lost ten^v marbles and found all but two^u. The_u marbles are probably under the sofa.

In this example, both *ten marbles* and *two* can introduce discourse referents that are marbles. The anaphoric definite expression is linked to the one introduced by *two*. Although it does not satisfy the discourse-level uniqueness condition due to the occurrence of *ten marbles*, the sentence is still acceptable.

A similar problem applies to so-called ‘sage-plant’ sentences. For example, in (14), the definite description is anaphoric to the indefinite in the first sentence, but it does not prevent the possibility that Mark will meet another agent.

- (14) Mark has made an appointment with an^v estate agent. He will also meet another^u one along with the_u agent today.

Similarly, there are two expressions—*an estate agent* and *another one*—introducing discourse referents who are agents. As a consequence, the discourse-level uniqueness condition is not fulfilled, but (14) is acceptable.³

³Roberts (2003) argues that the discourse uniqueness condition is able to capture the contrast between the fol-

4. A dynamic alternative

Although the dual uniqueness approach is empirically insufficient, it could still be viable if no alternative account could offer a better explanation of the relation between anaphoricity and uniqueness. However, this section introduces a dynamic analysis that avoids assuming the discourse-level uniqueness condition while providing a more straightforward and empirically robust account. Therefore, assuming two uniqueness conditions is theoretically unnecessary.

4.1. Anaphora plus Uniqueness

While not discussed in depth by Lewis (2022), another approach has emerged to explain why anaphoricity can influence the availability of uniqueness requirements. This approach assumes that definite descriptions can function anaphorically (Neale 1990; Elbourne 2001; Schwarz 2009; Beaver and Coppock 2015; Ahn 2020; Köpping 2020; a.o.). Concretely, it can be implemented as follows: under dynamic semantics, a definite determiner can be decomposed into three components—an existential operator (\mathbf{E}^u) that introduces a discourse referent u , an anaphoric component ($u = v$) linking u to a previously introduced discourse referent v , and an individual-level uniqueness condition $\mathbf{1}_u$ on u , as shown in (15) and (16). When a definite description is not used anaphorically, u is by default linked to itself, making a non-anaphoric definite description trivially anaphoric.⁴

$$(15) \quad \llbracket \text{the}_v^u \text{ student} \rrbracket_d = \lambda P. \mathbf{1}_u(\mathbf{E}^u ; u = v ; \mathbf{stu}\{u\}) ; P\{u\}$$

$$(16) \quad \begin{array}{l} \text{a. } \mathbf{E}^u := \lambda g. \{g^{u \rightarrow x} \mid x \in D_e\} \\ \text{b. } u = v := \lambda g. \{g \mid g(u) = g(v)\} \\ \text{c. } \mathbf{1}_u(\phi) := \lambda g. \phi(g) \text{ defined only if } |\{g(u) \mid g \in \phi(c)\}| = 1 \end{array}$$

$$(17) \quad \begin{array}{ll} \text{a. } \mathbf{stu}\{u\} := \lambda g \{g \mid \mathbf{stu}(g(u))\} & \text{(dynamic predicate)} \\ \text{b. } \phi ; \psi := \lambda g. \bigcup \{\psi(h) \mid h \in \phi(g)\} & \text{(dynamic conjunction)} \end{array}$$

In this dynamic framework, the uniqueness effect of an anaphoric definite description becomes trivial. For instance, the meaning of (3) is represented in (18). Since u is anaphoric to v , the uniqueness condition simply checks whether u is associated with a single value that matches

lowing sentences. In (i), exactly one discourse referent introduced prior to the definite description stores a value for a sage plant, whereas in (ii), there are two such discourse referents— u and u' . As expected by the discourse uniqueness condition, the former is felicitous, but the latter is not.

(i) Everyone who bought a^u sage plant or a^v rosemary planted the_u sage plant with extra bone-meal or the rosemary in a well-limed soil, (and if it was a sage plant, bought eight others along with it). (Roberts 2003: 327)

(ii) #Everyone who bought a^u sage plant or a^v rosemary got eight^{u'} other sage plants along with the_u sage plant or a free packet of lemon balm seed with the rosemary. (Roberts 2003: 327)

Comparing (ii) with (14), we observe a difference in the NP complements of the definite descriptions. In (ii), the NP complement repeats *sage plant*, whereas in (14), the NP complement contains the anaphoric element *one*. Given the difference, the infelicity of (ii) might be attributed to the repetition of *sage plant*. Of course, this conjecture requires confirmation in future research.

⁴This implementation is similar to the decompositional analysis proposed in Bumford (2017). However, it should not be considered essential to the present discussion. The anaphoric analysis of definite descriptions may be implemented in alternative ways.

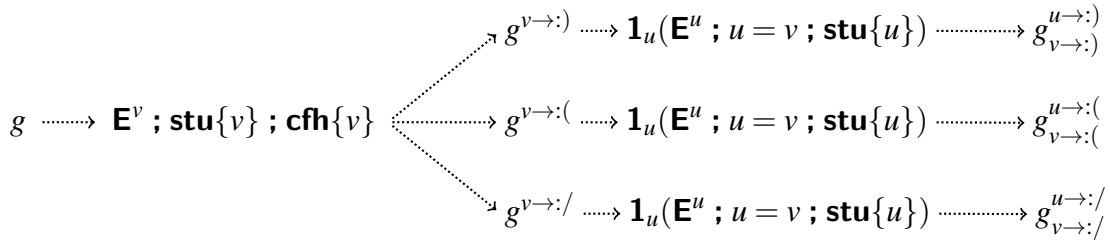


Figure 3: The update process of (18)

one of v 's values.

$$(18) \quad \mathbf{E}^v ; \mathbf{stu}\{v\} ; \mathbf{cfh}\{v\} ; \mathbf{1}_u(\mathbf{E}^u ; u = v ; \mathbf{stu}\{u\}) ; \mathbf{ahg}\{u\}$$

Consider a scenario in which three students— $:$, $:($, and $:/$ —attend Fred's office hours. The first sentence generates a set of assignments, each associating with one of the students. Due to dynamic conjunction, as defined in (17b), the second sentence is evaluated relative to each output of the first. This distributive evaluation guarantees that the individual-level uniqueness condition is met, since each output assignment of the first sentence stores only one value for v , and u is equated with v , as shown below.

$$(19) \quad \mathbf{1}_u(\mathbf{E}^u ; u = v ; \mathbf{stu}\{u\}) = \lambda g. \{g^{u \rightarrow x} \mid x = y, \mathbf{stu}(x)\}$$

defined only if $|\{g(u) \mid g \in G\}| = 1$
 here $G = \{g^{u \rightarrow x} \mid x = y, \mathbf{stu}(x)\}$

The update process of (18) is depicted in Figure 3, which clearly shows that the anaphoric definite description does not exclude the possibility that multiple students came to Fred's office hours. Hence, the global uniqueness effect does not manifest in (3).

In contrast, a non-anaphoric definite description includes only a trivial anaphoric component, as exemplified in (20), the semantic representation of the definite description in (1). As a result, a robust uniqueness effect is expected—there must be exactly one student who attended Fred's office hours.

$$(20) \quad \llbracket \text{the}_u^u \text{ student who came to Fred's hours} \rrbracket_d$$

$$= \mathbf{1}_u(\mathbf{E}^u ; u = u ; \mathbf{stu}\{u\} ; \mathbf{cfh}\{u\})$$

$$= \lambda g. \{g^{u \rightarrow x} \mid \mathbf{stu}(x), \mathbf{cfh}(x)\} \quad \mathbf{defined\ only\ if} \quad |\{g(u) \mid g \in G\}| = 1$$

here $G = \{g^{u \rightarrow x} \mid \mathbf{stu}(x), \mathbf{cfh}(x)\}$

All in all, dynamic semantics can lead to a straightforward account for the fact that the standard uniqueness requirement is filtered when a definite description is anaphoric to an indefinite. This is essentially facilitated by the distributive nature of information update.

4.2. Comparison

We are now in a position to evaluate the two approaches—the dual-uniqueness approach and the anaphora+uniqueness approach. Based on the previous discussions, the former does not explicitly establish a causal relation between anaphoricity and the absence of uniqueness effects, while the latter forges a clear link between them—anaphoricity implies uniqueness, circumventing the issues associated with a pragmatic derivation of uniqueness effects as posited by the original dynamic approach. In this sense, the anaphora-uniqueness approach provides a theoretically more adequate account for the uniqueness effects of definite descriptions.

Empirically, the dynamic uniqueness analysis circumvents the issues posed by the ‘marble’ and ‘sage-plant’ examples, as it does not require a unique discourse referent as the antecedent for an anaphoric definite description. Moreover, when the definite descriptions in these examples refer to indefinites, their uniqueness conditions are automatically satisfied.

Of course, it does not mean that this approach is without empirical limitations. It is potentially challenged by the fact that the use of a definite description is degraded in an environment with indistinguishable antecedents, as illustrated in (21).

(21) #When a^u bishop and another^v bishop meet, the^u bishop greeted the^v bishop.

(21) supports the two-uniqueness approach but causes a problem for the uniqueness+anaphoric approach. The former crucially assumes the discourse uniqueness condition, which prevents the context from including two discourse referents, i.e., *u* and *v* in (21), that fulfill the description *bishop*; whereas, the latter does not ban both definite descriptions from taking either indefinite as its antecedent in (21).

However, it has been noted that a definite description can be used once the context provides more information to distinguish indefinites with the same form, as evidenced by (22).

(22) In the morning, I saw a^u man and a woman. The_u man is working at Google, while the woman at Apple. In the afternoon, I met another^v man. The_v man is working at Meta.

In this example, the last definite description is preceded by two discourse referents *u* and *v*. Both are a man, so discourse uniqueness presupposition should not hold. However, this text sounds good to native speakers.

Given such a situation, the dual-uniqueness approach under-generates, but the dynamic uniqueness approach over-generates. We suggest that the over-generation problem could be addressed pragmatically. That is, the use of definite descriptions in (21) competes with demonstratives. It is widely assumed that demonstratives encode a deictic component to establish an unambiguous anaphoric relation, avoiding the confusion brought by indistinguishable antecedents. Therefore, in the case like (21), demonstratives are much more likely to be used.

5. Is dynamicity necessary

As noted by Lewis (2022), the dual-uniqueness analysis was developed to preserve the core principles of the E-type theory (Heim 1990; Elbourne 2005, 2013) while addressing empirical challenges related to the uniqueness effect of definite descriptions (see also Mandelkern and Rothschild (2019)). The strength of the E-type theory lies in its ability to resolve discourse anaphora within a classical, static framework of meaning. However, the dual-uniqueness analysis ultimately undermines this advantage. Lewis (2022) argues that to maintain the viability of the E-type approach, it must be supplemented by a dynamic pragmatic framework, as proposed in Lewis (2012), where the discourse referent introduced by an indefinite remains accessible in the subsequent discourse through pragmatics. Without this mechanism, the discourse-level uniqueness condition cannot be evaluated.⁵ Thus, the dual-uniqueness approach implicitly acknowledges that a dynamic mechanism is necessary even within an E-type framework.

Regarding the necessity of dynamicity, the dynamic uniqueness analysis advocated in this paper aligns with the dual-uniqueness analysis. In this section, we further evaluate the E-type theory, highlighting its limitations in accounting for the uniqueness effect of definite descriptions.

With the use of the individual uniqueness condition, Heim (1990) and Elbourne (2001, 2005, 2013) developed a situation-based E-type approach to explain cross-sentential anaphora. Under this view, the reference of a definite description is determined by the unique individual in a minimal situation, even when multiple individuals exist in a larger situation that contains it.

A defining feature of the E-type theory is that anaphoricity is reduced to uniqueness. Consider the donkey sentence in (23a). Here, the definite description is anaphoric to the indefinite not because it contains an inherent anaphoric component but because its reference is evaluated relative to the minimal situations universally quantified over.

- (23) a. Every boy who owns a donkey pays taxes for the donkey.
b. In a situation s' , for each boy x and each minimal situation s part of s' such that x owns a donkey y in s , x pays taxes for the unique donkey in s

Since the uniqueness condition of the definite description is satisfied within each minimal situation, the collection of all such situations results in multiple donkeys at the global level, thereby nullifying the uniqueness effect.

However, as Mandelkern and Rothschild (2019) points out, this approach struggles to explain the absence of the uniqueness effect in non-quantificational environments—such as those found in most of the examples in this paper, which primarily involve conjunctions rather than quantificational structures. Unlike quantificational sentences, conjunctions do not introduce minimal situations accessible to the definite description in the following sentence.⁶

⁵Roberts' (2003) analysis, by contrast, is formulated within dynamic semantics.

⁶Mandelkern (2024) further challenge the E-type analysis of donkey sentences from different perspectives. Since this paper does not focus on donkey sentences, we do not review their criticisms here but refer interested readers to their work for further details.

To address the issue, as suggested in Mandelkern and Rothschild (2019), E-type theorists could refine the definition of conjunction as (24). This revised definition enables the first conjunct to generate minimal situations, which are accessible to the second conjunct, similar to quantificational sentences.

$$(24) \quad \llbracket S_1 \text{ and } S_2 \rrbracket^s = 1 \text{ iff } \llbracket S_1 \rrbracket^s = 1 \text{ and for some minimal situation } s', s' \leq s \text{ such that } \\ \llbracket S_1 \rrbracket^{s'} = 1 \text{ and } \llbracket S_2 \rrbracket^{s' \rightarrow r, s} = 1$$

While this revision certainly accounts for the disappearance of the uniqueness effect when an anaphoric definite description is interpreted relative to a minimal situation, it inherits a fundamental problem from the E-type theory. For instance, it fails to account for "marble" sentences, such as (25) (repeated from (13)).

(25) I lost ten^v marbles and found all but two^u. The_u marbles are probably under the sofa.

In this example, the definite description clearly refers to the marbles that were not found. However, the minimal situations introduced by the first sentence necessarily involve multiple groups of marbles—those that were found and those that were not. Consequently, the individual-level uniqueness condition associated with *the marbles* should not be satisfied relative to these minimal situations. This issue is a variant of the indistinguishable antecedents problem, which is relatively trivial to resolve within a dynamic analysis.⁷

6. Conclusion

This paper critically evaluates Lewis's dual-uniqueness analysis of definite descriptions, arguing that positing two types of uniqueness conditions is neither empirically adequate nor theoretically necessary. A more compelling explanation of the uniqueness effect should stem from a deeper understanding of the interaction between anaphoricity and uniqueness. Through a series of comparisons, we conclude that a dynamic uniqueness analysis is explanatorily superior.

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⁷One possible counterargument is that (25) could be explained if the definite description includes an implicit modifier like *that I didn't find*. However, as Elbourne (2005) argues, this solution introduces a separate issue related to the sloppy reading of ellipsis.

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