

# Indefinites in Action

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**Abstract** Karen Lewis (Philos Stud, 158:313–342, 2012) argues that recognizing the importance of plans helps settle a debate regarding the semantics and pragmatics of indefinites. More specifically, Lewis argues against the dynamic approach (e.g., Kamp (In Groenendijk et al., Formal Methods in the Study of Language, pp. 277–322, Mathematics Center, Amsterdam, 1981), Heim (The semantics of definite and indefinite noun phrases, University of Massachusetts at Amherst, 1982), Groenendijk and Stokhof (Linguist Philos, 14:39–100, 1991), Kamp and Reyle (From Discourse to Logic, Kluwer, Dordrecht, 1993), and Asher and Lascarides (Logics of Conversation, Cambridge University Press, Cambridge, 2003)), according to which indefinite expressions are subject to a semantic Novelty condition. Drawing on data of the so-called summary uses, she claims that Novelty is best analyzed as a pragmatic, cancelable implicature. This chapter throws significant doubt on Lewis’ analysis. Not only is her objection in large part a misreading of dynamic semantics, but the proposed pragmatic account offers no real explanation of even the alleged counterexamples. Once we consider a wider range of linguistic phenomena involving indefinites, the verdict is on the side of the dynamic approach.

## 1 Introduction

Here is a widely endorsed picture of the meaning of linguistic expressions. The semantic content of a sentence is its truth conditions, and the semantic content of subsentential expressions are their contributions to the truth conditions of the sentences in which they are embedded. Following Russell (1905), indefinite expressions, i.e., expressions of the form “a F,” are semantically equivalent to existential quantification.

It is hard to ignore, however, that indefinites play a dual function in actual practice: They not only assert existence, but introduce an element that can figure in subsequent discourse.

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Consider:

- (1) Mary completed a paper on radical skepticism. She has just submitted it to a journal for review.
- (2) Every man who has a daughter adores her.

Intuitively, we have no problem understanding the pronouns as anaphoric, yet traditional, Russellian, static semantic theories have few resources to explain how indefinites can license anaphora beyond their syntactic binding scope.

In contrast, *dynamic* semantics takes the meaning of a sentence as its *context change potential* (CCP), and the meaning of subsentential expressions is their contribution to the CCP of the whole. This by no means suggests that truth conditions are not important, but that in order to fully capture what goes on in linguistic communication, one needs to embrace a broader notion of meaning and keep track of more fine-grained information. In particular, one needs to keep a record of “things being talked about” or the “objects under discussion” in a conversation. The discourse interlocutors’ task in understanding what is being said in the course of a conversation thus consists in (a) cataloguing an inventory of *discourse referents* as well as (b) altering the information associated with them as the discourse unfolds, where strictly speaking only the latter is truth evaluable.

Dynamic theories make the aforementioned dual function of indefinites explicit by offering a nonquantificational analysis: the CCP of indefinites is the introduction of a new “discourse referent” in discourse representation structures (DRS, e.g., Kamp (1981) and Kamp and Ryle’s (1993) discourse representation theory (DRT)), or the addition of a “file card” in file change semantics (FCS, e.g., Heim 1982, 1983). The existential quantification traditionally associated with indefinites is implicit: It is construed as part of the verification condition of a DRS or the satisfaction condition of updating a file with an utterance that contains an indefinite. By taking the Novelty Condition as the defining characteristic of indefinites, together with a formalism that allows for a wider binding scope, dynamic theories can successfully account for sentences like (1) and (2).

Recently, Lewis (2012) claims that the dynamic approach is mistaken, because Novelty cannot be semantic. She argues on the basis of what she calls the “summary uses” of indefinites that Novelty must be analyzed as a pragmatic, cancelable implicature. In addition, drawing heavily on the idea that planning and plan recognition are central to conversation and communication, she offers a neo-Gricean account that purportedly explains the uses of indefinites that conform to Novelty as well as those that do not.

This chapter aims to show that Lewis’ analysis is misguided. The alleged counterexamples to the dynamic approach to indefinites, i.e., the so-called summary uses, are at best dubious and borderline illusory. The rest of the chapter is structured as follows. Section 2 reviews Lewis’ argument that Novelty cannot be semantic and sketches her pragmatic analysis. In Sect. 3, I show that Lewis’ criticism of dynamic theories reviewed in Sect. 2 results from a confusion. Moreover, I demonstrate that Lewis’ own pragmatic proposal not only rests on problematic bases, but falls short of explaining the diverse linguistic phenomena involving indefinites,

including the very examples she puts forth. Section 4 discusses some general lessons from this dialectic.

## 2 A Pragmatic Account

The underlying thesis of Lewis' treatment of indefinites is that they are simply existential quantifier; indefinites have their traditional Russellian *semantic* content. She acknowledges that this simple static account does not suffice to explain the behavior of indefinites in discourse, but argues that what is needed is nothing more than a supplementary pragmatic story of the familiar Gricean kind. Specifically, a broadly Gricean story is required to spell out how indefinites are capable of (a) introducing a new "object under discussion" into the conversation and (b) licensing anaphora beyond their standard binding scope. Crucially, the claim is that not only can these two features, i.e., Novelty and Licensing, be accounted for in a pragmatic fashion, but that such a pragmatic picture is also empirically superior to the competing dynamic semantic theories.

The crucial evidence for the second point comes from examples such as the following:<sup>1</sup>

- (3) a. A student walked into Sue's office and asked her about his exam.  
b. Finally, a student needed her help!
- (4) a. I went to see *Star Trek* on Sunday.  
b. That's pretty much all I did all weekend: I saw a movie.
- (5) a. We have this nail here.  
b. Unfortunately, now we have a nail and no hammer.
- (6) a. I went out to dinner with the woman from the bar last night.  
b. Can you believe it—a woman went out to dinner with me!

Another example of this kind can be found in Gundel et al. (1993):

- (7) a. Dr. Smith told me that exercise helps.  
b. Since I heard it from a doctor, I'm inclined to believe it.<sup>2</sup>

In all these examples, the indefinite expressions in (b)—"a student," "a movie," "a nail," "a woman," and "a doctor"—do not pick out a new object in the discourse. Rather, their use is justified by an object previously mentioned in (a).<sup>3</sup> So, Lewis argues, (3) through (7) are not *introductory* uses; rather, they exemplify the *summary* uses of indefinites. More importantly, if novelty is a semantic feature of indefinites, it must be conventional, systematic, and cannot be overridden. That summary uses

<sup>1</sup> The following examples are from Lewis (2012) examples (6)–(9) on p. 318.

<sup>2</sup> Gundel et al. (1993, p. 296), example (49).

<sup>3</sup> The "antecedent" of the indefinites may be an indefinite (as in (3) and (7)), a proper name (as in (13)), a demonstrative (as in (5)), or a definite (as in (6)).

of indefinites are felicitous and robust and thus argues strongly against treating novelty as semantic.

Lewis then contends that a broadly Gricean pragmatic analysis of novelty is preferable, as it naturally explains the existence of both the introductory and summary uses. So long as novelty is treated as an implicature, there is no surprise that it is sometimes cancelable. Indeed, cancelability is often viewed as an indicator that the phenomenon in question is pragmatic rather than semantic. The real challenge, however, is the provision of a plausible and coherent pragmatic story. According to Lewis, recognizing planning as fundamental in conversation and communication is the key to such a pragmatic analysis.

Humans are essentially planning creatures. We are intelligent *actors* that inhabit complex, dynamic environments, which we manipulate in complex ways. One of the important ways that we connect and effect our environments, including other agents, is through language. From this perspective, “a well-run conversation is just like any other cooperative, rational activities” (Lewis 2012, p. 322). “A successful conversation [also] requires a coherent series of plans: not just what to talk about or how to answer a question under discussion, but also how an object under discussion relates to a question under discussion” (Lewis 2012, p. 323). In other words, interlocutors “do not make random, disconnected utterances.”

Planning and plan recognition are clearly closely related to intending and intention recognition. Lewis maintains that thinking of plan recognition as central is compatible with and extends Gricean pragmatics, since it emphasizes, besides “what a speaker wants the interlocutors to believe (or understand, or presume),” “how the speaker wants to fit her contribution into the overall conversation.” Moreover, the plan recognition framework provides a natural explanation of the fundamental interrelatedness between Grice’s maxim of relation (i.e., be relevant) and the maxim of manner (i.e., be perspicuous). Acknowledging that a complete plan for a conversation is oftentimes not predetermined,<sup>4</sup> Lewis nevertheless argues that *local discourse plan* should be recognizable, as they are the driving forces of particular utterances. A local plan is recognizable partly because it connects to the overall discourse plan in a transparent way. Put differently, “recognizable, perspicuous plans go hand in hand with relevant utterances.”

But how does this explain Novelty and the introductory uses of indefinites? Consider (8):

- (8) a. A woman walked in.
- b. She looked gloomy.

Lewis’ derivation goes like this. Semantically speaking, a sentence with an indefinite is simply a general, existential claim. By assumption, participants of a conversation are cooperative so that they only make relevant contributions to the conversation. Hence, the existential claim made in (8a) must be relevant to the conversational context and the overall discourse plan. Rational, cooperative conversation

<sup>4</sup> “[A] complete plan for a typical conversation is not decided upon beforehand, but the sort of plans we will be concerned with are speakers’ short-term plans, which we can call local plans” (Lewis 2012, p. 323).

participants would ask themselves why the speaker makes this specific choice. More specifically, had the speaker wanted to talk about a woman already under discussion, she had less misleading ways to do so; a pronoun, definite description, or name would all be more appropriate. Therefore, using the indefinite “a woman” is indicative of a plan to convey information about a new woman under discussion. Furthermore, the use of an indefinite is frequently a marker of a plan to say something further about its referent, which accounts for the anaphoric pronoun in (8b).

In short, Lewis argues against the semantic analysis of Novelty and Licensing. She makes no objection against the file-card metaphor, however, so long as it is understood pragmatically. Tracking a conversation, or updating a conversational context, is a pragmatic process that involves plan recognition; the conversational context that interlocutors must keep track of is, at the very least, a stack of file cards, or a collection of the objects under discussion. From the speaker’s point of view, the use of an indefinite is a perspicuous way to signal that a new object is being introduced into the conversation; the addressee grasps the speaker’s communicative intention and understands the speaker’s utterance as relevant to the overall discourse, resulting in the addition of a new card. Planning and plan recognition are not ad hoc; they are general reasoning mechanisms that are independently motivated. Taking them seriously as the underlying principles governing discourses makes the explicit coordination necessary for communication.

### 3 Weighing Between Semantics and Pragmatics

While I agree that planning and plan recognition are crucial in rational, cooperative activities, and linguistic communication should be no exception, I think Lewis’ objection to the dynamic semantic theories and her own pragmatic treatment do not stand close examination. First, it strikes me that her criticism of the dynamic theories is largely a misreading. Once the thesis of the dynamic approach is properly understood, it is a plain illusion that the so-called summary uses of indefinites pass as counterexamples. Furthermore, Lewis’ positive proposal lacks its claimed explanatory power. It hinges on dubious assumptions and does not adequately account for either the specific examples Lewis herself brings to spotlight or data involving indefinite expressions in general.

#### 3.1 *Is There Anything Wrong with the Semantic Approach?*

To begin, as the dynamic theories conceive it, Novelty is not a matter of reference, or objects in the world (i.e., the model), but a constraint on the construction of the semantic representation of the utterance containing an indefinite. In Heim’s FCS or Kamp’s DRT, the CCP of an indefinite is the introduction of a new file card to the file or a new discourse referent to the DRS, where a file or a DRS is a theoretical, representational construct mediating between language and the world. Novelty

simply leaves open whether distinct cards or discourse referents are mapped to the same or different objects in the model.

In dynamic theories, discourse reference and genuine reference are two distinct notions. Here are some quotes from Heim (1983):

[D]iscourse referents behave in ways which it wouldn't make any sense to attribute to real referents: not only are there discourse referents for NPs that have no referents, but moreover, discourse referents may suddenly go out of existence, depending on certain properties of the utterance.

[I]t is quite conceivable for there to be a file card that fails to describe a referent, or for two different file cards to happen to describe the same thing, or for file cards to be introduced into and be removed from the file, depending on what is getting uttered.<sup>5</sup>

In fact, with this distinction firmly in place, Heim discusses an example that bears much on our present discussion:

(9) John came, and so did Mary. *One of them* bought a cake.<sup>6</sup>

“One of them” is an indefinite noun phrase (NP), but clearly its referent, be it John or Mary, has been mentioned in the first part of (9). This, however, is not a violation of the Novelty condition. The prediction about “one of them” is simply that “its discourse referent must be new and must be distinct from the discourse referents of “John” and “Mary” in particular. There is no prediction about the reference of these three NPs, and we may consistently hold any assumption we please about those. In particular, we may assume that NPs with *discourse reference sometimes happen to coincide in reference* (my italics), and that [(9)], being a case of this kind, involves three discourse referents, but only two referents” (Heim 1983, p. 166).

As is clear from this example, a new discourse referent, or file card, does not entail a new individual. Judging from this light, examples of the summary uses are no challenges to the Novelty condition as dynamic theories depict it.

To be fair, Lewis is not completely unaware of this. She notes that “[i]t is important to note that novelty is not a matter of reference or denotation; no one claims that the object in the world that actually satisfies the indefinite description has to be new to the conversation. Novelty is the claim that, roughly, a speaker is talking about something that is novel for the purposes of the conversation.” Also, “On these views [of dynamic semantics], the CCP of an indefinite description dictates that a novel representation of an object under discussion should be added to the context. This representation then provides a value for subsequent anaphoric pronouns. Objects under discussion are represented in the context by discourse-level entities, i.e., representations that are neither linguistic expressions nor objects in the world (or in a model)” (Lewis 2012, p. 316).

Discourse-level entities, whether they are called file cards or discourse referents, are merely representations of the objects, which are under discussion, in the world. However, when Lewis goes on to discuss the summary use and treats it as evidence against the novelty condition, she completely disregards the representational level.

<sup>5</sup> The quotes are from Heim (1983, pp. 166, 168), respectively.

<sup>6</sup> Heim (1983, p. 165).

She writes, “[...] the second sentence in each discourse contains an indefinite that intuitively continues talking about an object already under discussion.” Also, “[...] [t]he most salient interpretation (if not the only interpretation) of [(3)] is that one and the same student walked into Sue’s office and needed her help.” (Emphasis mine)<sup>7</sup>

Ultimately, the problem here is that Lewis’ challenge rests on a shifty notion of “object under discussion”: At times she uses the term in its representational sense (as with respect to the introduction use), but at other times she uses it in the genuinely referential uses (as with respect to the summary use). So, the argument is fallacious because of the equivocation. When these two interpretations are carefully differentiated, as they should be, Lewis’ argument is at best categorically mistaken.<sup>8</sup>

To be sure, what is interesting about (3) through (7) is that the file cards must have the same reference. Lewis briefly considers a potential response from the proponent of a dynamic semantic account that explores the *merging* of file cards: File cards may be merged when conversation participants realize that what were being treated as distinct objects under discussion are in fact satisfied by the same object in the world. She then criticizes that merging is ad hoc and unsatisfactory as it “saves a technical notion of novelty” by sacrificing the significance and explanatory power of the file-card metaphor. While I am not convinced that the merging process is ever needed, I am sympathetic to the concern of how contentful the Novelty constraint really is.

Still, treating the summary uses as a decisive reason against a semantic account strikes me as a hasty conclusion. I have two points to make on this score. First, note that in the examples of summary uses (i.e., (3)–(7)), expressions such as “finally,” “can you believe it,” and “since” play an important role. The minimal pair (10) and (11) provides a vivid illustration:

- (10) a. A student walked into Sue’s office and asked her about his exam.  
b. A student needed her help!
- (11) a. A student walked into Sue’s office and asked her about his exam.  
b. Finally, a student needed her help!

In the absence of “finally,” the discourse in (10) allows for various interpretations; but in (11), there is no such flexibility. It is no longer ambiguous whether the two occurrences of “a student” pick out the same individual. The summary uses become natural only when there is a discourse particle that signals the discourse structure

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<sup>7</sup> Lewis (2012, p. 316).

<sup>8</sup> Here is another way to block Lewis’ argument. Consider a scenario where whenever a student needed Sue’s help, he did not go to her but asked one of his classmates instead. In this case, the second occurrence of “a student” is still a summary use in the relevant sense, yet it no longer denotes “one and the same student” as the first occurrence of the indefinite noun phrase, i.e., the student that walked into Sue’s office. Of course, such possibility is disastrous for Lewis’ account, but provides further evidence that favors the dynamic analysis. I am grateful to Josh Dever for drawing my attention to this possibility.

by marking the rhetoric relation between sentences (a) and (b). This is in complete agreement with the predictions of the dynamic theories.<sup>9</sup>

Moreover, the effects these structural markers contribute to do not seem to be cancelable. Consider

- (12) a. A student walked into Sue's office and asked her about his exam.  
       b. Finally, a student needed her help!  
       c. #But he is not the same student as the first one./#But they are not the same students.

What happens in (12) is that once the second occurrence of "a student" is interpreted as an instance of the summary use, that bit of information cannot be overridden no matter how the conversation further develops. If cancelability is a marker of pragmatics, then the difference in meaning that "finally" brings about to the overall discourse looks more like a semantic contribution.

The contrast between (10), (11), and (12) is evidence that indefinite expressions (e.g., "a student") and discourse particles (e.g., "finally") must interact in such a way that systematically constrains how the discourse can be interpreted. On the one hand, the two occurrences of "a student" need not pick out the same individual in the model in (10), though they must so in (11). On the other hand, the use of subsequent anaphora is highly regulated: While the speaker in (10) may carry on with the information that she is really talking about two distinct students, she cannot do so once the sentence that contains "finally" appears in the discourse, as (12) demonstrates. If the interplay between indefinites and markers of the rhetoric relations is limited at the pragmatic level only, however, it makes no sense why the summary uses cannot be retracted.

In short, Lewis' objection to the dynamic accounts is misleading. Once we recognize the status of file cards as theoretical, representational entities, as the dynamic theorists have it, examples involving the summary uses pose no real challenge. Even if these examples raise a question of the purpose of the Novelty constraint, they are no knock-down arguments against a semantic treatment. As a matter of fact, considerations of the interaction between indefinites and other parts of the discourse, particularly those signaling the conversational structure, favor such a treatment.

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<sup>9</sup> Earlier dynamic theories, e.g., Kamp (1981); Heim (1982); and Kamp and Reyle (1993), only predict the ambiguity of (10) and strictly speaking do not fully explain (11). But more recent DRT-based theories, such as Asher and Lascarides' Segmented Discourse Representation Theory (SDRT), do account for the semantic contributions of discourse particles. Very roughly, discourse particles signal the rhetorical structures, e.g., elaboration, consequence, contrast, explanation, etc., so that the discourse relations place more constraints on the accessibility conditions in the DRT-style model theory. Since the primary aim of this chapter is to demonstrate that Lewis' objections to the dynamic approach are misguided, I will not discuss the full details of a complete explanation of (11) along the lines of SDRT.



### 3.2 *What Is Not Right About the Pragmatic Approach?*

Lewis' own analysis of the relevant phenomena is equally dissatisfying. Besides lacking crucial details regarding the nature of plans, her theory suffers from obvious counterexamples and does not even explain the data she herself raises to salience.

One fundamental difficulty with the kind of account Lewis proposes concerns the speaker's explicit denial of any discourse plan. Take

- (13) a. I do not have any plan in telling you the following.  
       b. A student walked into Sue's office and asked her about his exam.  
       c. Finally, a student needed her help!

Despite the speaker's straightforward confession that she has no plan for the conversation, the addressee would engage in some plan recognition: The speaker's utterance of the indefinite "a student" in (13b) introduces into the conversational context a new file card no matter what. This raises the question of the nature of plans that the addressee is supposed to be able to recognize.

At one point, Lewis states that "speakers use and participants recognize maximally strategic plans." (2012, p 329) Taken as an unrestricted, empirical claim, this contention is plainly false as conversations are oftentimes random and extemporaneous. Her claim is more realistically viewed as an idealization or the goal of conversations. But what are maximally strategic plans and what makes them recognizable? One would expect an account that rests on the centrality of plans to address these fundamental questions. Yet Lewis says surprisingly little on either, and what she does say raises more worries.

In the artificial intelligence (AI) literature, planning is typically understood as "the process of formulating a program of action to achieve some specific goal" (Pollock 1992, p. 3). Given some initial conditions and the specification of a specific goal, the planning agent (or system) produces a series of actions whose execution will achieve that goal. I am not sure if this is the picture Lewis has in mind, for she wants to "remain neutral" on the nature of plan. She does, however, assert that her focus is on the speaker's short-term, or *local*, plans, which may be thought of as elements or subplans of an overall plan. Crucially, local plans should be recognizable, as they are the type of plans that "drive particular utterances."<sup>10</sup>

It strikes me that there is a puzzle regarding the connection between local plans and the overall discourse plan. On the one hand, Lewis admits that "a complete plan for a typical conversation is not decided upon beforehand." Yet according to her, a well-run conversation must be one where the local plans are maximally relevant and perspicuous with respect to the discourse plan. But if a complete plan is not established in the first place, it is unclear how local plans—the pragmatic import of subsentential, subdiscourse elements—can ever be judged as relevant and perspicuous. On the other hand, the problem that discourses such as (13) bring out is even more telling. In the sheer absence of an overall discourse plan, what maximally stra-

<sup>10</sup> The recognition of local plans allows "the participants to track the discourse, i.e., know what to expect will likely be a topic of conversation, an object under discussion, or a question being addressed" (Lewis 2012, p. 329).

tegic local plans can there be? To maintain the idea that conversation participants recognize maximally strategic local plans, Lewis would have to admit that these plans must, in general, be autonomous. But then it makes little sense to talk about local plans coming together and being relevant and perspicuous for the purpose of a conversation. Once again, the relation between local plans and the entire discourse becomes a mystery. Furthermore, as the denial of a complete discourse plan can be easily generalized, it is not helpful to counter the challenge by restricting the analysis to task-oriented dialogues. Doing so seriously reduces the significance of the theory and leaves the real problem unresolved.

Whether or not (13) is deviant, the general points it illustrates are clear enough. A theory of linguistic understanding and communication that builds upon planning and plan recognition is faced with two interconnected tasks of coordination. First, it must explain what makes the coordination between the speaker and the addressee possible. It must allow for the potential gap between (a) the speaker's possibly nonexistent plan, incomplete plan, or multiple plans and (b) whatever plan(s) the address is able to recognize. Second, it must explain what makes up a discourse plan. If its composition involves fine-grained levels of subplans, it must account for the contributions these subelements make to the global plan, and how this bears on the speaker's production and the addressee's understanding. There can be no dodging a precise explication of the nature of plans and what is it that makes plans recognizable, yet Lewis' proposal fails to adequately address these metaphysical and epistemological issues.

My second objection concerns the pragmatic analysis' inability to successfully account for the relevant linguistic phenomena, including both the summary uses and the introductory uses.

First, consider the following:

- (14) a. A student walked into Sue's office and asked her about his exam.  
b. Finally, a student needed her help!
- (15) a. A student walked into Sue's office and asked her about his exam.  
b. (?) Finally, some/at least one student needed her help!
- (16) a. A student walked into Sue's office and asked her about his exam.  
b. (?) Finally, he/the student/John needed her help!

Replacing the occurrence of "a student" in (14b) with other truth-conditionally equivalent phrases results in at least some difference in acceptability. We may consider two types of substitution: (a) substituting "a" with other indefinite expressions like "some" and "at least one"; (b) substituting "a student" with a *definite* expression—the pronoun "he," the definite description "the student," or a proper name. Even if type (a) substitution is marginally acceptable, type (b) substitution appears much worse.<sup>11</sup> However, it is not clear how the pragmatic analysis of indefinites can coherently explain these phenomena without being self-defeating. Here is a quote from Lewis:

<sup>11</sup> It seems to me that if (16) is to make sense at all, the discourse as a whole means something quite different from (14). The speaker must assume her addressee to have a much stronger degree of familiarity with the said individual.

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