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When Richard met CG: reference-point and English copy-raising*

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ABSTRACT

The aim of this paper is to develop a Cognitive Grammar-based analysis of English Copy-raising (CR) constructions such as *Richard seems like he is dancing*. We argue that the notion of reference-point plays a crucial role in licensing the matrix-subject of the construction. In CR, with the epistemic verbs *seem* and *appear*, the matrix-subject functions as a reference-point in relation to the pronominal copy (if a copy exists) in the embedded clause. The aboutness topicality of the matrix-subject in CR is expected, owing to its reference-point property. The epistemic CR construction is acceptable without a pronominal copy if the matrix-subject functions as a reference-point in relation to the complement clause. The same type of analysis is applied to the CR construction with perceptual resemblance (PR) verbs – *sound*, *look*, *feel*, and *smell* – leading to the conclusion that the strong dichotomy between epistemic and PR verbs is illusory. It is further demonstrated that expletive *there*-raising in CR is motivated by the same reference-point phenomenon. The difference between *there*-raising and other CR examples stems from the role of *there* as a setting subject. Our reference-point-based analysis

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predicts a metonymic interpretation of the matrix-subject, which we attribute to the connection between reference-point and metonymy.

KEYWORDS: Cognitive Grammar, copy-raising, perceptual resemblance verbs, perceptual source, reference-point.

1. Introduction

The English SUBJECT-TO-SUBJECT RAISING (SSR) construction illustrated in (1) has been an extensively researched topic across diverse theoretical frameworks since Rosenbaum (1967).

(1) Mia seems to be leaving for the concert. (SSR)

Albeit similar, COPY-RAISING (CR),[1] shown in (2), contrasts with SSR in three distinctive ways. First, in the SSR example (1), the subject of the matrix clause is co-indexed with the subject gap in the infinitival clause.[2] This is different from the CR example (2), where the matrix subject is co-indexed with the overtly realized pronoun in the complement clause. Second, unlike SSR, the CR predicate takes a tensed complement, headed by *like*, *as if*, or *as though*. The third noticeable difference is the choice of predicates. While SSR is not permitted with PERCEPTUAL RESEMBLANCE (PR) verbs,[3] as in (3), CR is compatible with this verb class, as shown in (4).

(2) Mia seems like / as if / as though she is leaving for the concert. (CR)
(3) * Mia sounds/looks/feels to be ready for the concert.
(4) Mia sounds/looks/feels like she is ready for the concert.

Compared to SSR, significantly less attention has been paid to CR. This is perhaps because CR was treated as a highly marked construction found only in English.[4] In reality, CR is a widespread phenomenon observed in many different languages such as Samoan (Chung, 1978), Hebrew (Lappin, 1984), Irish (McCloskey & Sells, 1988), Haitian Creole (Déprez, 1992), Persian (Darzi, 1996), Turkish (Moore, 1998), and Swedish (Asudeh & Toivonen, 2012).

CR was initially discussed from a generative linguistics perspective by Rogers in a series of CLS papers (1971, 1972, 1974) and his PhD dissertation (1973),

[1] Rogers (1971, 1972) calls this type of construction a 'Richard construction', based on his examples, which included sentences like *Richard seems like he is in trouble*. However, we will use the general term 'copy-raising' throughout this paper, despite our nod to Rogers' "Richard" in the title.
[2] The movement mechanism, of course, is relevant only to the generative approach.
[3] Rogers (1971, 1972, 1973, 1974) classifies these verbs as FLIP PERCEPTION VERBS.
[4] See Davies and Dubinsky (2004) for a review of raising in general.

and also by Postal (1974). More recently, Potsdam and Runner (2001) revisited this topic from a fresh perspective. Since then, CR has drawn renewed attention from scholars, as demonstrated by a handful of recent publications (Asudeh, 2002, 2005, 2012; Asudeh & Toivonen, 2012; Fujii, 2005, 2007; Kim, 2014; Landau, 2009, 2011; Mack, 2010). It is interesting to note that most of the aforementioned research was conducted from the formal linguistics perspective despite the diversity of theoretical frameworks the authors adopt.[5] As far as we are aware, very little research examines this topic within cognitive linguistics.

The main purpose of this paper is to develop an analysis of English CR constructions from a Cognitive Grammar viewpoint (Langacker, 1987, 1991a, 1991b, 2000, 2008, 2009) and to present some broader implications of our analysis. Our specific objective is modest: to show how CR can be naturally accommodated from a theoretical perspective very different from the previous proposals listed above. The data we present in this paper come from three sources: published papers, corpus and web searches, and our own intuition. Except for one Korean example, our data were surveyed among 102 native English speakers, who rated the acceptability of each example using a standard Likert scale.[6,7]

2. Proposal

We argue that the matrix-subject in (2) and (4) is licensed via the independently established informational construct known as REFERENCE-POINT. Our view contrasts with the dual-licensing approach (Horn, 1981; Mack, 2010; Rogers, 1973, 1974; Sag, 2010; inter alia), which assumes two distinct mechanisms: one purely syntactic and the other interpretive/informational. More specifically, we argue that the CR construction is an instance of reference-point. Reference-point is the human cognitive ability to conceptualize one entity through another; i.e., reference-point is a mental address to reach a target. The aspects of the reference-point relation are shown schematically in Figure 1. In Figure 1, C stands for the CONCEPTUALIZER, R for the REFERENCE-POINT, and D for the DOMINION. Dominion constitutes the possible set of targets that a given reference-point is related to. The dashed

[5] Mack (2010) provides an analysis from a discourse-pragmatic perspective.

[6] Sentences are rated as acceptable (scores 2.1 ~ 5) and unacceptable (1 ~ 2.0, notated by *). We understand that raters are more consistent with open-ended ratio scales than with the category rating scales like the one we adopted here (Johnson, 2008; Stevens, 1975), but we chose it as a guideline for the purpose of simplicity.

[7] The range of acceptable sentences is wider than that of unacceptable ones. Participants were generally not in favor of CR and PR constructions; for this reason, we gave the * mark when the examples received conspicuously low ratings.

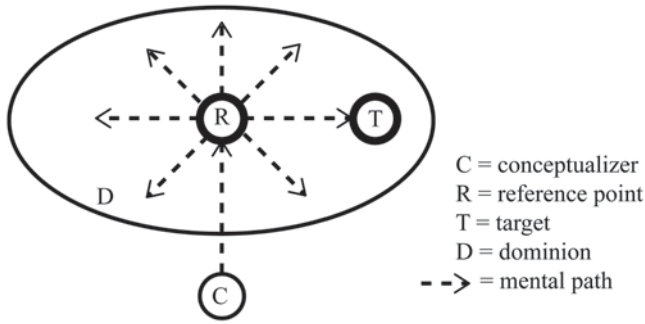

Fig. 1. Reference-point illustrated (redrawn after Langacker, 2008, p. 84).

arrow is the mental path the conceptualizer follows to reach the target, which is the entity accessed via the reference-point.

To illustrate a concrete case of reference-point, let us consider the possessive noun phrase *Sally's dog*. The possessive morpheme *'s* invokes a reference-point relationship in the sense that X, in the schematic possessive construction [X's Y], functions as a mental address for Y, by drawing a mental path from X to Y. In this example, *Sally* is invoked as a reference-point, and *dog* is accessed via *Sally*. The notion of reference-point has in fact been adopted in the analysis of various phenomena, such as possessor–possessee (Langacker, 2008; Taylor, 1996), multiple subject constructions (Kumashiro & Langacker, 2003; Park, 2011), and antecedent–anaphora (van Hoek, 1997), among others.

Reference-point plays an important role in discerning CR from SSR. The matrix-subject of CR with epistemic verbs (ECR) is almost always topical, whereas the same does not hold true for SSR (see Mack, 2010). We demonstrate that these differences are merely symptomatic of reference-point variation in regard to prototypicality. A prototypical reference-point relationship overtly identifies a reference-point and its target within a relevant dominion. While the matrix-subject of ECR exhibits a quintessential reference-point property, SSR does not, as it lacks an overt target (pronominal copy). Here, we would like to emphasize that reference-point is not identical to TOPICALITY. In his works, Langacker suggests that reference-point is a "sort of topic", without providing further detailed descriptions on how they compare. In our view, reference-point is a necessary condition for topicality. If *x* is a topic, then *x* is a reference-point. Reference-point is not a sufficient condition for topicality, because it is possible that *x* is a reference-point without being a topic. Indeed, in the literature that adopts the notion of reference-point, scholars such as Kumashiro and Langacker (2003) and Janda (2011) utilize an implicit reference-point, which cannot be interpreted as a topic. For example, in the Korean sentence (5), the relational nominal subject *hand* implicitly invokes

a reference-point, the owner of the *hand*, because without the owner, the speaker cannot access *hand* (see Park, 2011). The implicitly invoked reference-point functions as a mental address for *hand* in the lower clause without identifying a specific person, although it ultimately corresponds to *Trump* in the higher clause.

(5) [*Thulemphu-ka* [*son-i* *cakta*]].
Trump-Subj hand-Subj be.small
'Trump has small hands.'

Another interesting observation is the contrast between epistemic and PR verbs. While PR verbs do not require a pronoun copy in the embedded clause, as in (6b), epistemic verbs generally do, as shown in (6a).[8]

(6) a. * Dan seemed/appeared like Jean cooked salmon.
b. Dan sounded like Jean cooked salmon.

As will be discussed in detail later, several scholars attempted to explain the difference between (6a) and (6b) by heavily relying on the notion of PERCEPTUAL SOURCE (P-source). Here is a brief summary of the P-source-based analysis. *Dan*'s being the P-source in (6b) makes the sentence acceptable, whereas the infelicity of (6a) is attributed to the uninterpretability of *Dan* as an evidential P-source. Mack (2010, p. 169) rightly criticizes this type of approach by arguing that "the evidential source for [*sound*] need not be perceptual at all; evidence may also come from hearsay or inference". In other words, *Dan* does not have to be an evidential P-source to make (6b) felicitous; this is the view we, too, support. That being said, Asudeh and Toivonen (2012) and Landau (2011) provide more sophisticated treatments of CR based on P-source, which is naturally not reflected in Mack (2010) due to the timing of the publications. For this reason, we revisit the P-source-related predictions more carefully in this paper.

Instead of relying on the notion of P-source, we argue that the matrix-subject *Dan* in (6a) attempts to build a reference-point relationship with its target, whether it be a pronominal or the whole embedded clause. *Dan* then requires an explicit target to express an anaphoric link between itself and its corresponding pronoun, or *Dan* should be able to be interpreted within the context of *Jean cooked salmon*. In the former case, the target is the pronoun, while in the latter case, the target is the whole embedded clause. Because no target (pronoun) is identified, or cannot be established, the resulting sentence is unacceptable. (6b) differs from (6a) in that *Dan* is a reference-point in relation to the embedded clause, the reference-point's target. This is because the proposition made by the embedded clause can only be interpreted in

[8] A strong demarcation between epistemic verbs and PR verbs is untenable. As shown in Section 4.1, some epistemic verbs behave like PR verbs, and vice versa.

Dan's dominion if *Dan* is contextually related. In this sense, it functions very similarly to an external topic, which Mack (2010) identifies as a 'subjective topic'. Note that the same type of interpretation is not available in (6a).

Our approach exhibits great similarity to Kim's (2014, p. 183) PERCEPTUAL CHARACTERIZATION CONDITION (PCC). He states that "[t]he matrix-subject of the CR construction, serving as the topic, is 'perceptually characterized' by the rest of the utterance". That said, unlike Kim's PCC, our analysis employs reference-point, which is a way to construe semantic content through a dynamic mental scanning process, ubiquitously observed in human language.

The relationship between reference-point and topicality also brings into question the so-called expletive raising construction, demonstrated by (7), which needs to be handled somewhat differently than the two aforementioned CR constructions.

(7) There seems/appears like there's going to be a big mess in this department.

In this example, the two expletives are independently licensed as setting subjects at each level in Langacker's (2009, 2011) terms. Nonetheless, they are anaphorically linked. Note that the upper *there* functions as a reference-point and the lower *there* as the target.[9] In this regard, the underlying motivation behind *there*-raising is similar to other CR examples. Although our analysis shares general insights with Mack (2010), this is one major difference between her ideas and ours. Mack argues that examples like (7) are licensed via SUBJECT-TO-SUBJECT COPY-RAISING (SSCR), which is purely syntactically motivated. This is because the matrix-subject *there* lacks aboutness topicality, unlike subjects in other CR examples. In our analysis, (7) is almost identical to other CR examples, and the differences stem from the independent source, known as SETTING SUBJECT. As an abstract setting subject, *there* merely hosts a relationship, as opposed to being a participant in that relationship. As a non-participant TRAJECTOR, *there* cannot be interpreted as a topical subject.

Our analysis predicts a metonymic interpretation[10] of the matrix-subject in (8), since metonymy and reference-point are inextricably linked phenomena;

[9] As will become clearer in later sections, *there* in the examples like *there is a riot in the park* does not function as a reference-point, though it is indeed a setting subject.

[10] The metonymic status of *that book* in this example is somewhat controversial. If *that book* refers to a physical tome, some linguists (Croft, 1993; Ruiz de Mendoza Ibáñez, 2000) would not consider it metonymic, since they regard PHYSICAL OBJECT as primary in the BOOK domain as opposed to a secondary domain. Even so, other linguists, such as Barcelona (2011), would consider this at least peripherally metonymic. For detailed discussion on the definition of metonymy, please refer to Benczes, Barcelona, and Ruiz de Mendoza Ibáñez (2011).

both of them utilize the concept of one entity in order to invoke another which is closely related. As will be discussed in Section 3, this type of example poses challenges to the P-source-based approaches, because (8) is acceptable without a pronoun copy even though *that book* is not a P-source. We argue that the metonymic interpretation of *that book* is at the heart of this construction because *that book* functions as a reference-point with respect to *everyone should own a copy*.

(8) That book sounds like everyone should own a copy.
(Heycock, 1994, p. 292; Landau, 2011, p. 794)

We illustrate several variations of epistemic and PR verb examples accompanied by the challenges the examples face in a theory-neutral way. While we present the examples and the related issues, we provide our approach in a more impressionistic way, saving the technical analyses for a later section.

3. Variations of CR and the issues

In previous sections, we introduced a typical example of CR with a brief description. The focus of earlier research (Rogers, 1971, 1972, 1973) and its subsequent traditional movement analyses (Moore, 1998; Ura, 1998) revolved around this type of example, where the pronominal copy of the matrix-subject occurs in the subject position of the complement clause. Research conducted more recently (Asudeh, 2012; Asudeh & Toivonen, 2012; Kim, 2014; Landau, 2009, 2011; Mack, 2010) reports that the CR phenomenon is much more complex than earlier researchers assumed. This section illustrates an array of variations in CR in conjunction with related empirical and theoretical issues.

3.1. NON-SUBJECT CR

Though not central to their studies, a number of earlier researchers (Heycock, 1994; Lappin, 1984; Rogers, 1974) noted a variation of CR in which the pronominal copy is a non-subject, as illustrated in (9–11).

(9) Mary appears as if her job is going well.
(10) The broach looks to me like Abbie gave it to Myma.
(11) Bill sounds like Martha hit him over the head with the record.

Potsdam and Runner (2001, p. 456) also recognize this variation and provide a reasonable analysis by claiming that the CR predicates in (9–11) are used thematically, thereby differentiating them from the example shown in (2). According to Potsdam and Runner, there is no movement in (9–11); the matrix-subject is base-generated. Their evidence comes from idiom chunks

in the CR construction, as can be found in (12–13). Although some speakers do not like either of the examples, those surveyed unanimously agree that (12) is much more natural than (13). Considering the common wisdom that the fraction of the idiom chunk appearing in the matrix-subject position in (12) is indicative of the verb not assigning a thematic role (see Postal & Pullum, 1988), Potsdam and Runner's (2001) claim is justifiable. The epistemic verb *appears* in (13) does not assign a thematic role because the embedded clause contains the subject pronominal copy. In their analysis, the unacceptability of (13) is also straightforwardly explained: *appears* assigns a thematic role to the idiom fraction *the other foot*, because there is no subject pronominal copy. Therefore, *the other foot* receives two thematic roles, leading to the clash.

(12) The shoe appears like it is on the other foot.
(13) * The other foot appears like the shoe is on it.

That said, Potsdam and Runner's (2001) analysis leads to an incorrect prediction. Landau (2011, p. 801) rightly points out that, if Potsdam and Runner are right, both *your house* and *that noise* in (14) and (15) must be thematic because there is no subject copy in the complement clause in either example. Nevertheless, *your house* in (14) is not thematically related to *sounds*, while *that noise* in (14) is. In addition, the pronominal copy *it* is obligatory in (14), while (15) is felicitous without *it*. These differences cannot be explained in Potsdam and Runner's (2001) analysis.

(14) Your house sounds like nobody enjoys cleaning *(it).
(15) That noise sounds like somebody is cleaning.

To overcome the difficulties, Landau (2011, p. 787) proposes the Perceptual-source Copy Generalization (PCG). Simply put, PCG states that a copy is necessary in the complement clause if and only if the matrix-subject is not a P-source. Landau's PCG successfully differentiates (14) from (15). In (14), *your house* is not a P-source; so the pronoun copy is required. By contrast, *that noise* is a P-source in (15), which makes the sentence acceptable without a pronoun copy.[11] Here, we need to define exactly what P-source means in Landau. In all three examples in (16), the speaker makes visual contact with a stimulus. However, there are differences among the three. While the stimulus is unspecified in (16a), in (16b) it is the matrix-subject *John*. Landau calls this type of example a P-source reading. (16c) is different from the other two in that the visual stimulus is *the grade sheet*, not *John*, resulting in the matrix-subject's non-P-source reading.

[11] The notion of P-source was introduced earlier in Asudeh and Toivonen (2006, 2007). Their position is discussed in Section 3.2.

(16) a. It looks like John has failed the exam.
b. Here's John: oh, he looks like he has failed the exam.
c. Here's the grade sheet: oh, John looks like he has failed the exam.

There is no denying that Landau's (2011) analysis shows improvement over Potsdam and Runner (2001). Nonetheless, there are two important questions unanswered in Landau's approach. First, why does the notion of P-source play an important role in the CR? Landau's PCG can certainly make a distinction between (14) and (15), but why is a P-source crucial for the absence or obligatoriness of a pronoun copy other than theory-internal justifications?

Another challenge to Landau (2011) comes from the two examples borrowed from Heycock (1994, p. 292). In these examples, neither *that book* nor *her apartment* is a P-source, though both sentences are fully felicitous without a pronoun copy. Landau reports that his informants find (8) – re-introduced here as (17) – slightly problematic and (18) somewhat worse. Contra his report, the majority of our native speakers agrees that both are fully acceptable. Therefore, we conclude that these are indeed counter-examples to his PCG.

(17) That book sounds like everyone should own a copy.
(18) Her apartment sounds like there must be a wonderful view.

Landau is aware of this difficulty but he avoids detailed discussion of this issue by claiming that the examples are metonymic. He (2011, p. 794) states that "[t]he range and accessibility of metonymic readings, in various grammatical environments, is a topic in its own right, which we cannot delve into here". We believe this is unfortunate because metonymy is crucial in the CR construction, as demonstrated in later sections.

3.2. PR VERBS

While Rogers' earlier research (1971, 1972, 1973, 1974) does not make a clear distinction between epistemic and PR verbs, Asudeh (2002, 2005, 2012) and Asudeh and Toivonen (2012) do. The key criterion of their distinction is whether a copy pronoun is required in a complement clause. Consider (19a–b) from Asudeh and Toivonen (p. 324). The PR verbs in (19a) behave like epistemic verbs in that they can alternate with an expletive variant in (19b).

(19) a. Tina smells/looks/sounds/feels/tastes like / as if / as though she has been baking sticky buns.
b. It smells/looks/sounds/feels/tastes like / as if / as though Tina has been baking sticky buns.

The difference between the two types of verbs is illustrated in (20–21). According to Asudeh and Toivonen, while the epistemic verbs cannot occur without a copy pronoun, it is not obligatory for PR verbs.

(20) * Tina seems/appears like / as if / as though Chris has been baking sticky buns.
(21) Tina smells/looks/sounds/feels/tastes like / as if / as though Chris has been baking sticky buns.

We believe their observation is generally right. However, as several scholars (Kim, 2014; Potsdam & Runner, 2001; Rogers, 1971) have pointed out, it is not always straightforward to make a clear distinction between these two types of predicates. In particular, Kim provides a rich set of data extracted from COCA to illustrate ECR examples without pronoun copies. For example, as illustrated in (22–23), epistemic verbs may occur without a pronoun copy in a complement clause. These examples show that Asudeh and Toivonen's (2012) dichotomy is too strong.

(22) They seem as if a dragon hiding behind the cloud is drawing water from the sea. (<www.newscontent.cctv.com> last accessed 19 October 2015)
(23) She appeared as if the powers of life had been suddenly arrested. (Google Books, by John Inman & Robert A. West, *The Columbian Magazine* Volume 9)

Asudeh and Toivonen (2012, p. 341) are keenly aware of this problem and admit that certain speakers (Dialect D in their classification) accept sentences like (22–23). They argue that the epistemic verbs in these types of examples are used as a sort of "semantically bleached" PR verb. From the perspective of language change, the claim that the verbs *seem* and *appear* "gain" the perceptual resemblance meanings (albeit bleached) needs to be carefully assessed. In dealing with grammaticalization, Hopper and Traugott (2003, p. 94) state that "[t]here is no doubt that, over time, meanings tend to become weakened during the process of grammaticalization". It is clear that epistemic verbs exhibit less semantic complexity than PR verbs. We might expect PR verbs to become more like epistemic verbs, but not the other way around. However, the potential solution to explain (22–23) proposed by Asudeh and Toivonen (2012) assumes that the direction in the general grammaticalization cline is from epistemic to PR. Hopper and Traugott (2003) emphasize that this direction is not impossible, but this type of pragmatic enrichment is often observed in the beginnings of grammaticalization. Asudeh and Toivonen's (2012) claim thus remains unsatisfactory, unless there is clear justification to say that this type of change is in an early stage and accompanied by relevant pragmatic enrichment.

We support Kim (2014) by proposing that there is no critical difference between epistemic verbs and PR verbs concerning the optionality of a copy pronoun. Without respect to the type of a verb, the major function of examples (22–23) is to mentally access the embedded clause through the matrix-subject. Indeed, epistemic verbs are fully felicitous without a pronoun copy if the contextual information allows the interlocutor to access the embedded clause through the matrix-subject, which is the case demonstrated in (22–23).

3.3. EXPLETIVES

One interesting characteristic of epistemic verbs is that they can copy-raise expletives, with some limitations. For example, some speakers we surveyed do not accept (24), while others do. In a traditional movement-based analysis, (24) can be evidence for copy-raising the expletive *there*, because *there* is not usually compatible with *seems* without a copy expletive in the complement clause, as shown in (25). Rogers (1974) demonstrates that the copy of *there* must occur in the highest embedded subject position. If not, the sentence is not acceptable, as in (26). (27) illustrates that the expletive raising is also felicitous with the PR verb *looks*.[12]

(24) There seems like there is a problem in this linguistics department.
(25) * There seems like a lot of people are on the beach today.
(26) * There seems like John expects there to be an election.
(27) There looks as if there is a piece of evidence in this report to support the hypothesis.

In relation to *there*-raising, Kaplan-Myrth (2000, p. 3) reports that the number value of *there* between the two subjects must be identical, as in (28–29). Otherwise, the sentence is infelicitous, as shown in (30).

(28) There looks as if there is a problem.
(29) There look as if there are problems.
(30) * There looks as if there are problems.

Our survey data conflict with this judgment. Most of our survey participants rated (30) noticeably higher than (29), which they rejected.[13] In other words, the expletive *there* always takes a singular verb in the CR construction.

[12] We suspect that some PR verbs tend to be used as epistemic verbs. Examples like (i), where *look* is used in same environment as that of *appear* and *seem*, is readily observed in naturally occurring conversations.

(i) Mitch's father tells Terry he doesn't like how it looks that she's living with Stan. (www.imdb.com, last accessed 19 October 2015).

[13] While the mean score of (29) is 1.2, (30) shows a significantly improved mean score of 3.1.

Our observation suggests that the two expletives are not fully identical, although they are co-referential in the sense that the upper *there* cannot occur without the lower *there*, as illustrated in (25).

The co-referential requirement between the two subjects does not apply when the matrix-subject is *it*, as seen in (31) and (32). Similar to (25), (33) shows that *there* cannot occur in the matrix-subject position without its copy in the complement clause, even when the subject of the complement clause is *it*.

(31) a. It seems like there is a problem in this linguistics department.
b. It seems like it is raining.
(32) a. It looks/sounds like there is a problem in this linguistics department.
b. It looks/sounds like it is raining.
(33) * There seems/looks/sounds like it is raining.

This issue will be addressed in Section 5. In short, we will show that the expletive examples fully conform to other CR examples we have discussed thus far.

4. CR, SSR, and topicality

Now we would like to demonstrate how three related phenomena can be explained through reference-point: Copy-raising, Subject-to-Subject Raising, and topicality.

4.1. ECR AND SSR

We note that the epistemic verbs behave differently from PR verbs in a certain context. This is based on the observation that epistemic verbs readily alternate with the *it ~ that* construction, as shown in (34), while PR verbs tend to resist this alternation, as in (35). In this regard, the CR construction resembles SSR.[14]

(34) a. Mia seems/appears like she is leaving.
b. It seems/appears that Mia is leaving.
(35) a. Mia smells like she was in the chicken coop.
b. * It smells that Mia was in the chicken coop.

Let us consider (34a). This CR example is very similar to the SSR example (36), where *Mia's leaving* is located on the probability scale profiled by the epistemic verb. In terms of Langacker (1995, p. 32), the schematic process

[14] It is worth emphasizing that this is just a general tendency of PR verbs, and actual uses of these verbs might vary depending on speakers and their construals of a given situation.

indicated by *be leaving* in (36) is *Mia*'s active zone with respect to the scale. Therefore, SSR exhibits a discrepancy between profile (*Mia*) and active zone (the process), because what is located on the probability scale is not *Mia* (trajector), but the process (active zone). The same discrepancy is observed in ECR.

(36) Mia seems to be leaving.

One noticeable difference between SSR and ECR is the obligatoriness of a pronoun copy when the matrix-subject corresponds to the subject of the embedded clause in ECR.

(37) Mia seems like she is leaving.

To illustrate the differences between (36) and (37), first note that, in (36), the matrix-subject corresponds to the implicit subject of the embedded clause, exhibiting that the two entities are identical. Nevertheless, *Mia* in (36) is not a reference-point, at least not a prototypical one, because *Mia* does not have an overtly identified target.[15] Though the same correspondence relation applies in (37), *Mia* in this example is a reference-point in relation to its identified target *she*. In other words, in addition to the correspondence relation, a reference-point relationship is established in (37).

Viewing the relation between a full nominal and its corresponding pronominal as a reference-point/target relation is not surprising. According to van Hoek (1995, 1997), the special property of a pronoun is its self-identification as a reference-point. In this case, the reference-point itself is the easiest element to access among all those in its dominion. As a result, the reference-point (full nominal) and the target (pronoun) become co-referential. van Hoek argues that the likelihood of a nominal being invoked as a reference-point depends on its prominence, and the likelihood of an element being included in its dominion depends on the closeness of their conceptual connection. In (37), *Mia* is highly prominent by virtue of being a trajector of the process profiled by the clause that contains it. As a highly prominent entity, it is evoked as an antecedent for a pronoun. Here, *Mia* and the pronoun *she* are connected through the emergence of a coherent overall conception, e.g., the probability scale of (*someone*) *is leaving* is tightly associated with *Mia* under the given circumstance; thus *she* falls within the dominion of *Mia*.

The non-subject ECR examples in (38) are similarly explained, as the matrix-subjects and their corresponding pronouns exhibit the co-referential relations as a reference-point and target pair. The pronoun does not need to appear in the subject position because the fundamental function of this CR

[15] Note that a correspondence relation is not identical to a reference-point relationship.

construction is to establish a coherent connection between the matrix-subject and the corresponding pronoun.

(38) a. The lawn appeared as if someone had mowed it.
(COCA 1993 MAG, Kim, 2014, p. 169)
b. … the forest appears as if a tornado had passed over it.
(COHA 1850 MAG, Kim, 2014, p. 169)

On rare occasions, we observe that a pronoun copy can be omitted when the speech context provides relevant information and the target pronoun is not a subject. In a normal situation, for example, *someone had mowed* in (39a) is understood as *someone had mowed the lawn*. Similarly, *a tornado had passed over* in (39b) is understood as *a tornado passed over the forest*. If these are indeed acceptable, Asudeh and Toivonen's (2012) claim – that the epistemic CR construction requires a pronoun copy – needs to be reconsidered.

(39) a. The lawn appeared as if someone had mowed.
b. … the forest appears as if a tornado had passed over.

At this point, it is worth discussing how Kim's PCC accounts for examples like (39a–b). Kim argues that (40–41), cited from Lappin (1984) and Asudeh and Toivonen (2012), respectively, are unacceptable for reasons other than the lack of a pronoun copy: "[t]he fact that Mary is intelligent does not say any characteristic about Bill. Neither does Chris's baking sticky buns describe any characteristic about Tina" (Kim, 2014, p. 183).

(40) * Bill appears as if Mary is intelligent.
(41) * Tina seems like Chris has been baking sticky buns.

We fully agree with Kim's position. As shown in (39a–b), epistemic verbs are permitted in CR without pronoun copies if the matrix-subject can create a mental connection with the embedded clause. In other words, (39a–b) are acceptable because the matrix-subjects can function as reference-points in relation to their corresponding targets; i.e., embedded clauses.

The notion of reference-point is helpful in explaining two earlier examples re-introduced as (42–43). Idioms tend to maintain the trajector–landmark alignment. However, in the example *the other foot appears like the shoe is on it*, the original alignment of *the other foot* is altered due to its appearance in the reference-point position. The originally non-topical landmark, *the other foot*, is thus in an aboutness relation to the predication in (43) by being a reference-point trajector. (43) becomes infelicitous because focal arguments of idiomatic expressions are not permitted in positions in which they express what the information-structure literature refers to as switch topics – newly established topics (see Lambrecht, 1994; Lambrecht & Michaelis, 1998, for details).

(42) The shoe appears like it is on the other foot.
(43) * The other foot appears like the shoe is on it.

It is also worth discussing Mack's (2010) comparison of CR and SSR here. She states that "it is debatable whether SSR even constitutes a particularly appropriate comparison construction [to CR]" (p. 159). Her statement is based on the observations (pp. 179–180) in (44–45). In the CR examples (44), the bare nominals are obligatorily interpreted as specific (Lappin, 1984, p. 241). The same constraint does not apply to the SSR examples in (45), because the bare nominals in (45) can be interpreted either as *kinds* or existentially.

(44) a. Cows seem/look as if they are extremely intelligent.
b. # Cows seem/look as if they are grazing in Fred's field.
c. Sand seems/looks as if it is composed of tiny particles.
d. # Sand seems/looks as if it is blowing over the backyard.
(45) a. Cows seem to be extremely intelligent.
b. Cows seem to be grazing in Fred's field.
c. Sand seems to be composed of tiny particles.
d. Sand seems to be blowing all over the backyard.

We agree with Mack that ECR subjects are licensed to serve as topics. However, our opinions differ concerning the sharp demarcation between SSR and ECR. In her analysis, ECR, which contains a referential matrix-subject with a subject copy in the embedded clause, is ambiguous between an SSR-like interpretation and an ECR interpretation. The former is licensed by the SSCR construct, which is analogous to SSR, but the latter is licensed by the Topic Licensing (TL) construction. The major drawback of this demarcation is the difficulty of explaining examples like those in (46), which she herself admits (Mack, 2010, p. 193). In her analysis, the bare nominals in (46) must obey the type constraints imposed by TL, yielding their specific *kind* reading. Nevertheless, the bare nominals can also be licensed by SSCR, which is not a possible option in this case. She notes that "[she does] not presently have an explanation for why this should be the case" (p. 193).

(46) a. Cows seem like they're extremely intelligent.
b. A man from Hawaii sounds like he's the most popular candidate.

We argue that the different degrees of reference-point in SSR and ECR yield different predictions. The major function of reference-point is to provide the interlocutor with a mental address to reach the target. That is, the prototypical reference-point relationship establishes mental contact between two entities. In the CR examples in (46), both *cows* and *a man from Hawaii* exhibit this prototypical function of reference-point, because they contain their overtly

realized targets in the embedded clauses. This prototypicality strongly suggests that the bare nominals should be interpreted as topics. By contrast, the matrix-subject of SSR does not show the prototypical property of the reference-point because it lacks its profiled target. Nonetheless, the matrix-subject can still function as a reference-point by appearing in the prominent position. Owing to this non-prototypicality, the topicality of the matrix-subject is not strongly inferred. The unacceptability of (44b) and (44d) is unproblematically explained in our account as well. The matrix-subjects in these examples are prototypical reference-points, and they exhibit a high level of topicality, leading to a specific reading of the subjects. This reading, however, conflicts with the existential semantics of the complement, yielding infelicity.

The notion of prototypicality is important in explaining expletive raising. Although raised expletives are reference-points and they indeed correspond to their targets, they are not like the prototypical reference-point depicted earlier in Figure 1. As abstract settings, expletives themselves become their own dominions, rather than invoking a set of possible targets. This non-prototypicality blocks the topical interpretation of expletives.

4.2. CR AND THE EXTERNAL TOPIC CONSTRUCTION

The CR construction without a pronoun copy exhibits the properties of external topic constructions, as illustrated in (47). This is because the embedded clauses in (47a–c) can only be fully interpreted in relation to their corresponding matrix-subjects, which is also addressed by Kim's PCC (Kim, 2014, p. 183), introduced earlier.

(47) a. You smell like the Tube needs some cleaning.
b. Dan sounded like Germany won the 2014 World Cup.
c. Mr. Gunderson looked like the students didn't do their homework again.

Sentences (47a–c) contrast with (48a–c), where the context provided by the matrix-subject does not alter the interpretation of the embedded clause because the matrix-subject is anaphorically linked to its corresponding subject pronoun.

(48) a. You smell like you need to take a shower.
b. Dan sounded like he won the 2014 World Cup.
c. Mr. Gunderson looked like he didn't do the homework again.

We observe a similar pattern with non-subject CR constructions, as in (49). In (49a–c), the embedded clause can be readily interpreted without the context provided by the matrix-subject's dominion.

(49) a. You smell like Gina made an octopus dish for you.
b. Dan sounded like Germany won the 2014 World Cup for him.
c. Mr. Gunderson looked like his students didn't do their homework again.

For this reason, we propose that examples like (47) be analyzed as an external topic construction in which the matrix-subject is a reference-point with respect to the embedded clause. According to Langacker (2008, p. 504), "[b]eing a matter of sequential mental access, reference-point relationships are intrinsically dynamic but have no intrinsic content". Following this definition, the relational interpretation between the matrix-subject and the embedded clause is very flexible; the perceptual resemblance verbs used in (47) are interchangeable with each other.

Now we would like to revisit Landau's (2011) examples introduced earlier, which are renumbered as (50–51) for convenience. According to Landau, (50) is not acceptable without the pronoun *it*, while (51) is fully felicitous as it is (p. 794). His solution is that *your house* in (50) is not a P-source, whereas *that noise* in (51) is a P-source. Recall that his PCG states that a copy is necessary IF AND ONLY IF the matrix-subject is not a P-source. Since *your house* is not a P-source in (50), the copy is required.

(50) Your house sounds like nobody enjoys cleaning *(it).
(51) That noise sounds like somebody is cleaning.

However, Landau's PCG fails to explain some examples like (52a–c). Although the matrix-subject, *your house*, is not a P-source, the sentences seem to be acceptable.

(52) a. Your house sounds like nobody enjoys cleaning at this very moment.
b. Your house sounds like nobody is helping to clean right now.
c. Your house sounds like everybody helps with the cleaning.

This is because *your house* in (52a–c) functions as a reference-point in relation to the embedded clauses, where *your house* provides the context for apprehending and interpreting the propositions made by the complements. This is no different from the pivotless external topic construction, as in (53). The proposition in (53) can only be interpreted in the dominion of *the Oval Office* if it figures into its content.

(53) The Oval Office, I always thought I was going to have really cool phones and stuff. (President Obama's remarks at a DNC fundraiser, Chicago, 15 April 2011)

Then, why is (50) not acceptable without *it*? This is due to the difficulty in establishing a reference-point relationship between *your house* and *nobody*

enjoys cleaning. In (50), the speaker attempts to direct attention to *your house* for the specific purpose to make mental contact with *nobody enjoys cleaning*. However, without the pronoun, *nobody enjoys cleaning* is interpreted as a general statement. This genericity of *nobody enjoys cleaning* makes it hard for the interlocutor to establish mental contact with *your house*, rendering (50) unacceptable. By contrast, (51) does not pose the same problem, because *somebody is cleaning* can be interpreted with someone specific in the speaker's mind. Consequently, it is feasible to establish a reference-point relationship between *that noise* and *somebody [specific] is cleaning*, where the latter is accessed via the former. A closer examination also reveals that (50) can be rescued without *it*, when a more specific context is provided, as in (54).

(54) Your house sounds like nobody upstairs enjoys cleaning.
[Context: The speaker knows that the residents from the first and second floor of the addressee's house are supposed to be cleaning their bedrooms that day. While the ground floor is noisy with the commotion of cleaning, there is no noise emanating from above.]

These examples illustrate that the difference between (50) and (51) does not reside in the P-source interpretation of the matrix-subject. Rather, the difference is owed to the varying degrees of the conceptualizer's reference-point building capability.

5. Analysis

Moving from the impressionistic to the technical, we provide a full CG analysis of the CR construction in this section.

5.1. SUBJECT-TO-SUBJECT RAISING

Let us begin our analysis with an example of SSR. Langacker (1995) argues that raising, whether it be SSR, SOR, or OSR,[16] is a metonymic shift. For example, in the SSR sentence *Don is likely to leave*, the raising verb *is likely to* profiles a *thing* as its trajector, whose location on the probability scale is mediated by a process in which it participates. This schematic process is the trajector's active zone (p. 32). As a consequence, the raised noun phrase, *Don*, functions like a topic in that *Don* calls to mind a process involving *Don*. The CG diagram for this example is provided in Figure 2.

Figure 1, a typical example of SSR, demonstrates the discrepancy between active zone and profile. First, note that *Don* (D) in the left box corresponds to the trajector in the inside box of the middle box, as notated by the

[16] Langacker's OSR examples include sentences like *To like Don is easy*.

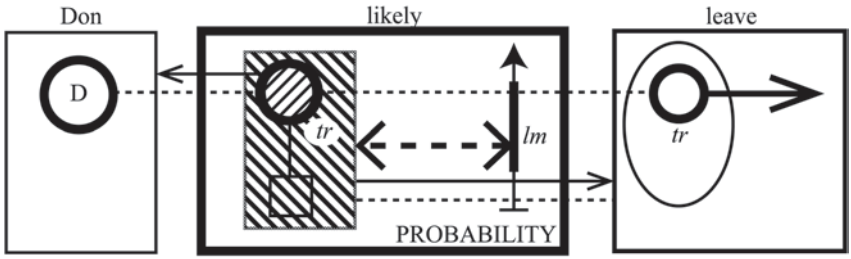

Fig. 2. *Don is likely to leave* (redrawn after Langacker, 1995, p. 32).

dashed line, which also corresponds to the trajector in the right box. Also note that the hatched rectangle in the middle box is elaborated by the right box (*leave*), and the trajector in the middle box is elaborated by the left box (*Don*).

Now, let us focus on the middle box to show the discrepancy. Here, what is profiled (note the thick line) in the hatched box is the trajector (*Don*), but the box (not the trajector) interacts with the probability scale. Then, as Langacker argues, SSR exhibits a case of profile/active-zone discrepancy.

5.2. THE CASE OF ECR

The epistemic CR examples with a pronoun copy exhibit a great similarity to those of SSR. Figure 3 shows the CG diagram for the sentence *Deandre seems like he is leaving*. The only noticeable difference between Figure 2 and Figure 3 is observed in the right box. As a schematic preposition,[17] *like* invokes a relationship between two entities and places the landmark on the probability scale, which corresponds to that profiled by *seems*. The implicitly invoked trajector of *like* corresponds to the trajector of the clause *he is leaving*, where *he* is a target of the reference-point subject *Deandre*. Similar to SSR, this CR example illustrates a profile/active-zone discrepancy in that the trajector's (*Deandre*) probability scale (*seems*) is mediated by the process (*he is leaving*) in which *Deandre* also participates as a trajector; the process (*he is leaving*) is an active zone in this case.

Next, let us consider the example *Darin seems like Jared hit him*, the diagram of which is provided in Figure 4. Figure 4 is identical to Figure 3 except that the reference-point relationship is established between *Darin* and the landmark of the relationship profiled by *hit*. Consequently, the

[17] Typical prepositions are represented as a relationship between a *thing* and an entity. Perhaps this more schematic type of structure for *like* and *as if/though* is what led some scholars (Bender & Flickinger, 1999) to categorize them as something other than prepositions.

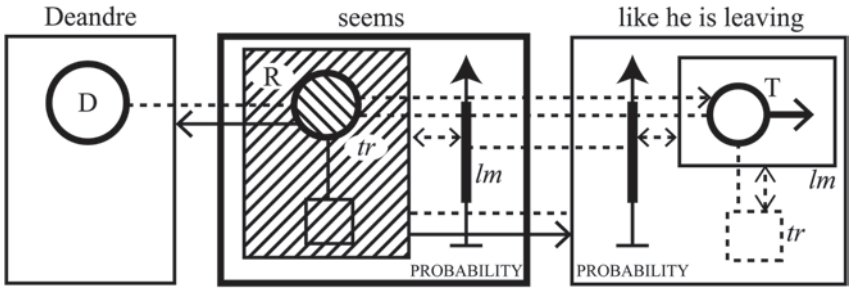

Fig. 3. The CG diagram for *Deandre seems like he is leaving*.

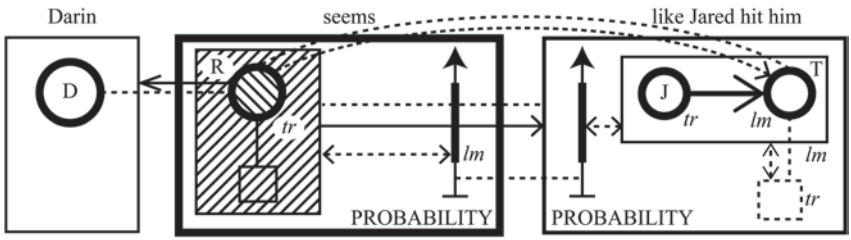

Fig. 4. The CG diagram for *Darin seems like Jared hit him*.

implicit trajector invoked by *like* corresponds to the landmark of the *hit*-relationship.

We have shown that the examples of ECR with pronominal copies are similar to SSR, particularly in the sense that both of them show a case of profile/active-zone discrepancy. The unique property of CR is an additional reference-point relationship established between the matrix-subject and a *thing* (whether it be a trajector or a landmark) profiled in the *like*-clause.

5.3. THE CASE OF THE PR VERBS

Figure 5 shows the CG diagram for the sentence *Derrick sounds like he is playing guitar*. The right box is identical to that of Figure 3 and Figure 4. However, the middle box that characterizes *sounds* is different from *seems*; *sounds* does not invoke a probability scale, and this construction does not exhibit a profile/active-zone discrepancy.

In Figure 5, the trajector of *sounds* (*Derrick*) corresponds to the trajector (*he*) of *is playing*, and both of them are anaphorically linked, where *Derrick* is a reference-point in relation to *he*. Just like Figure 2, the implicitly invoked trajector of *like* corresponds to *he*. Finally, the landmark of *sounds* is elaborated by the *like*-clause.

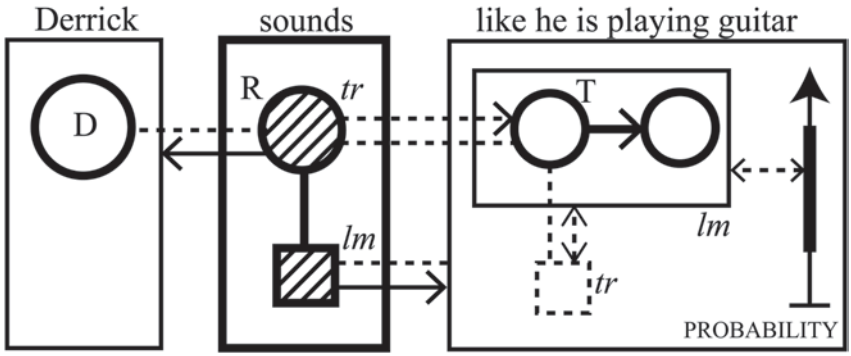

Fig. 5. The CG diagram for *Derrick sounds like he is playing guitar*.

We are also interested in PR verbs without a pronominal copy, such as *Erica sounds like Jean cooked salmon*. The CG diagram for this sentence is provided as Figure 6. The crucial difference between Figure 6 and Figure 5 is the matrix-subject's reference-point role. While *Derrick* is a reference-point in respect to a *thing* in Figure 5, *Erica* is a reference-point in relation to (*x sounds like*) *Jean cooked salmon*,[18] where *x* corresponds to *Erica*. This is because the implicitly invoked trajector of *like* does not correspond to *Jean* or *salmon* clause-internally. Instead, it corresponds to the trajector of *sounds* clause-externally. As a result, the preposition *like* establishes a relationship between the clause *Jean cooked salmon* and its trajector, *Erica*. This correspondence enables the conceptualizer to interpret *Jean cooked salmon* within the dominion of *Erica* via the given auditory stimulus, yielding a rough paraphrase like 'Considering how Erica talks, (I guess) Jean cooked salmon'. The clause *Jean cooked salmon* is interpreted within the dominion of *Erica*: precisely the function of the external topic construction.

Now, let us revisit Heycock's example, re-introduced as (55), which Landau treated as an anomaly or something that does not fall within the purview of his research.

(55) That book sounds like everyone should own a copy.

In our analysis, the metonymic nature of *that book* is naturally explained. Just like Figure 6, *that book* in (55) is a reference-point in relation to (*x sounds like*) *everyone should own a copy* with a rough paraphrase like 'As for that book people are talking about, (I believe) everyone should own a copy (of it)'.

[18] *x sounds like* is within parentheses because the real target of *Erica* is *Jean cooked salmon*, due to the correspondence depicted in Figure 6. What *sounds* does is to mediate *Erica* and *Jean cooked salmon* so that the conceptualizer interprets the depicted event as one which is inferred indirectly.

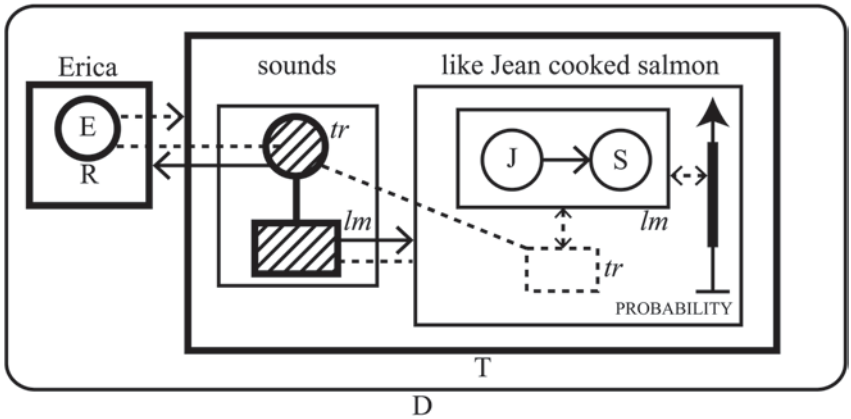

Fig. 6. The CG diagram for *Erica sounds like Jean cooked salmon*.

The reference-point phenomenon can facilitate a referential shift when the phenomenon is metonymic in nature. In (55), *that book* illustrates a referential shift from content to physical tome. Though being a reference-point does not guarantee a referential shift,[19] the metonymic reading of (55) is quite expected in our analysis due to the inherent connection between metonymy and reference-point. In fact, "metonymy is basically a reference-point phenomenon" (Langacker, 1993, p. 30).

5.4. EXPLETIVES AND SETTING SUBJECTS

Before we present our analyses of the expletives, we would like to illustrate the characterization of *there* (Langacker, 1991a, pp. 351–355). Langacker suggests that *there* and the *be* verb be treated as an integrated unit based on example (56). In this example, "*people* is not the logical subject of *say* but only of *dance,* yet the main clause verb is plural" (p. 354). Nonetheless, the choice of the number value is plural in this case. As Langacker briefly notes, it seems that *there* undergoes a semantic extension to be construed as a special type of plural. This is because multiple participants are involved in the situation described in (56).

(56) There are said to be people dancing in the streets.

The schematic CG diagram for *there* is shown in Figure 7. Here, *there* designates an abstract setting construed as hosting some relationship represented by the

[19] Defining metonymy, reference-point, and zone activation is a topic on its own, for which there is an ample amount of research. Please refer to Geeraerts and Peirsman (2011), Paradis (2004), and Ruiz de Mendoza Ibáñez (2000, 2011), among others.

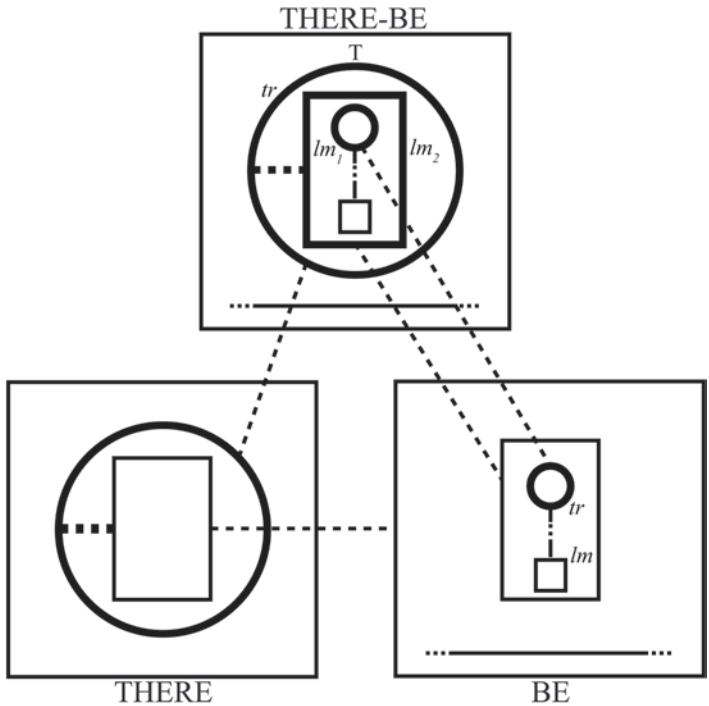

Fig. 7. The characterization of *there be* (redrawn after Langacker, 1991a, p. 353).

dotted line inside of the circle in the bottom left box. This corresponds to the relationship profiled by *be* as shown in the bottom right box. In the composite structure, illustrated in the top box, we observe the shift in focus, resulting in the trajector status conferred on the setting.

Based on Figure 7, Figure 8 illustrates the CG diagram for the sentence *There seems like there is a book*. In the right box of Figure 8, *there* acquires an abstract setting subject status, and it corresponds to the implicit trajector of *like*. The left box illustrates *seems*, which is almost identical to that of other previous examples. As shown in the right box, *there* shifts to the setting subject, which in turn corresponds to the trajector of the matrix-subject. As a setting subject, the trajector of the matrix clause does not have to be elaborated by another *thing*; the setting subject status fills the need for a subject. This is why the copy of *there* is permitted only in the subject position; this is where maximally generalized settings appear.

Our analysis correctly predicts the unacceptability of (57–58). In (57), while *there* is a setting subject, *in the street* is a location, which is part of a setting (Langacker, 1991a, p. 300). Therefore, the correspondence relation

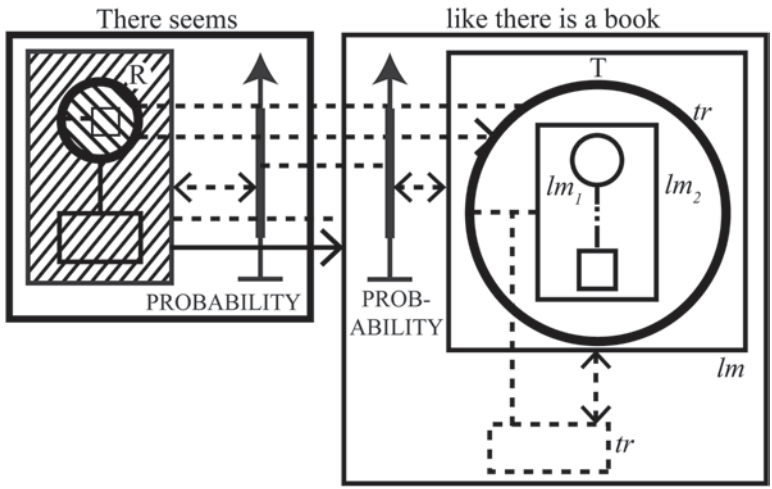

Fig. 8. The CG diagram for *There seems like there is a book*.

cannot be established between the two. Note that the reference-point and the target are anaphorically linked in the CR construction. (58) is unnatural due to the 'depth' of the correspondence. The upper *there* corresponds to the *there* in the 'deepest' clause.

(57) * There seems like people are dancing in the street.
(58) * There seemed like John said there were people dancing in the street.

Another expletive, *it*, is illustrated in Figure 9. The expletive *it* also functions as a maximally generalized setting subject in this case, while *there* denotes a thing-like property. Figure 9 is almost identical to Figure 8. The only difference is the lack of the correspondence relationship between the trajector of *seems* and the trajector of the *like*-clause. Instead of corresponding the two trajectors, the strategy adopted here is to confer the trajector status to the entire setting, which is very close to sentences like *it is raining* and *it's hard to finish this paper*, etc. For this reason, sentences like *it seems like there is a book* are no different from *it seems like John is happy*, etc.

Then, why is a sentence like *There seems like it is raining* unacceptable? This is because, as a *thing*-like setting subject, *there* (notated by a circle) needs a target, which is the property of the CR construction. However, as a maximally abstract setting subject without a referential identity, *it* fails to be *there*'s target. The rescue mechanism is to replace *there* with *it*, yielding *it seems like it is raining*, where two instances of *it* acquire their setting subject status independently, without requiring any referential identity.

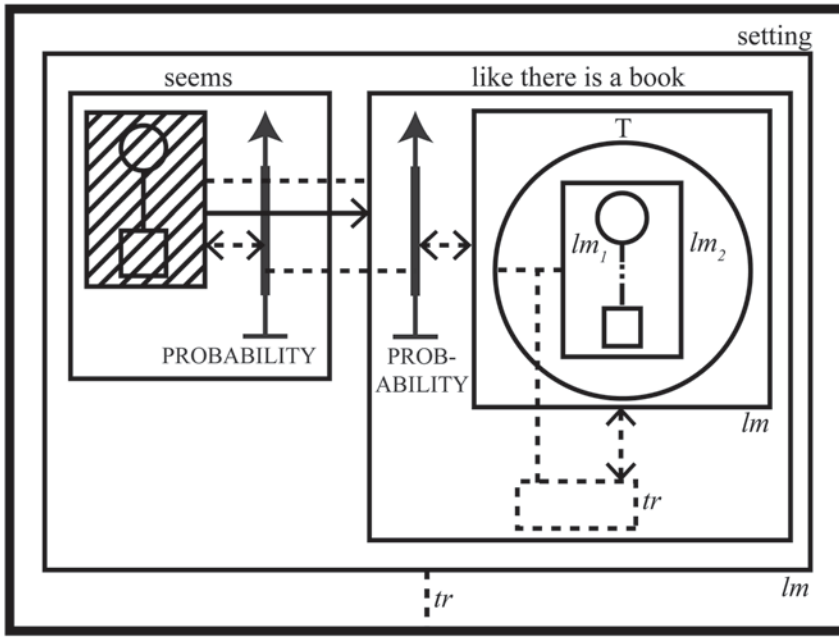

Fig. 9. The CG diagram for *It seems like there is a book*.

The maximally abstract setting subject status of *it* makes sentences like (59–61) acceptable in an informal context.

(59) You should eat the relevant pages. Seems like you'd get more of the test material in you that way. (COCA 2012 FIC)
(60) "Is he all right?" the girl said. "Appears like it," Raymond said. (COCA 1998 FIC)
(61) And he was in there. He was talking on the phone. Sounded like he was talking to Susan. (COCA 2010 SPOK)

The expletive *it* cannot be used as a reference-point to any *thing* target, nor can it build an anaphoric link with its pronominal form. What it does is to provide a setting which the participants occupy. Consequently, the setting is often contextually understood without its explicit grammatical realization.

6. Conclusion and summary

We developed a CG analysis of the CR construction and demonstrated that reference-point plays a crucial role in licensing the matrix-subject of CR, whether the CR verbs are epistemic or perceptual resemblance. In this sense,

our approach can be considered a single-licensing mechanism, distinct from the majority view of a dual-licensing mechanism.

We demonstrated that the ECR construction with pronominal copies exhibits great similarities to SSR in that both of them involve a typical profile/active-zone discrepancy. The differences between the two cases are symptomatic of the different degrees of reference-point manifestation. Since CR shows a prototypical reference-point relationship, the matrix verb of CR requires an aboutness topical reading. The same does not hold true for SSR, because the matrix-subject of SSR is a not prototypical reference-point. We extended our analysis to CR constructions containing PR verbs, demonstrating that they are not crucially different from those with epistemic verbs concerning the optionality of pronominal copies. We also demonstrated that expletive raising need not be treated separately as a purely syntactic mechanism, because the lack of topicality of the matrix-subject in this case is a natural consequence of expletives' setting subject nature.

Throughout this paper, we illustrated that our analysis explains a wider range of data without positing additional assumptions or mechanisms. Moreover, we argued that examples treated as marginal cases by previous researchers, such as possible metonymic interpretations of these constructions, are at the heart of the CR construction and are naturally explained in our analysis.

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