



The Order of Resistance to Stative Progressives and Thematic Roles

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Received: September 02, 2022
Revised: September 20, 2022
Accepted: September 30, 2022

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ABSTRACT

Hong, Junseon. 2022. The order of resistance to stative progressives and thematic roles. *Korean Journal of English Language and Linguistics* 22. 998-1015.

This article aims to verify the order of resistance to stative progressives and offer a plausible account for the order. Though Vendler (1967) predicts that stative progressives are normally anomalous, numerous grammars and corpus-based analyses show that stative progressives do occur. Still, most of them are limited to mere predictions. Unlike previous works, this paper justifies the hierarchical resistance order of states to the progressive by consulting the data from the corpus. The empirical data prove that states are hierarchically ordered into four classes: perception, emotion, cognition, and relation. It is proposed that this order of resistance derives from the thematic role of a subject, especially an *Experiencer*. Since perception, emotion, and cognition states have an *Experiencer* as a subject that involves action, they are less resistant to the progressive than relation states. The interaction with states and thematic role also clarifies why perception stative progressives are most frequent among the three states with *Experiencer*. The physical activity involved with an *Experiencer*'s perception leads perception states to bear the strongest dynamicity and allows them to be more tolerant of the progressive.

KEYWORDS

states, progressive, dynamicity, resistance order, thematic role

1. Introduction

It is generally agreed that the progressive closely interacts with lexical aspects (i.e., Aktionsart). The most influential study regarding the interaction between the two dates back at least to Vendler (1967). He divides predicates into four classes: state, activity, accomplishment, and achievement. Among the four classes, he argues that activities and accomplishments are compatible with the progressive, whereas achievements and states are not. To illustrate, see (1).

- | | |
|---|------------------|
| (1) a. #Dave <i>is knowing</i> Jim. | [state] |
| b. Mary <i>is running</i> . | [activity] |
| c. Dave <i>is crossing the street</i> . | [accomplishment] |
| d. #Kate <i>is realizing</i> the fact. | [achievement] |

An activity predicate *run* in (1b) and an accomplishment predicate *cross the street* in (1c) can be both felicitously accompanied with the progressive form. In contrast, a state and an achievement, (1a) and (1d), are ungrammatical without any specific prior contexts¹. Unlike his account, however, achievements and states may occur in the progressive. For example, achievement progressives can be commonly found as shown in (2).

- (2) a. The train *is arriving* at the station.
 b. Kim *is reaching* the summit.

Note that achievement progressives have marked meaning. The canonical interpretation of the progressive is that the event being denoted is ‘in progress’. It is that the time of the utterance is included in the interval of the event. In contrast, the most prevalent interpretation of (2) is the ‘preparatory stage’ reading, the event prior to the event denoted by the predicate is in progress. Another possible reading for achievement progressive is ‘slow motion’ reading (Rothstein 2004, Gyarmathy 2015).

When it comes to states, it is often believed that stative progressive is much more ungrammatical in a strict sense. The main concern is whether it is possible to overcome the semantic discrepancy between state verbs and the progressive. For example, *love* is static (i.e., non-dynamic) that does not involve deliberate action. As the progressive form is only compatible with dynamic verbs, it should be anomalous to say that *love* is in progress². Despite the semantic discrepancy, however, states do occasionally accompany by the progressive like (3).

- (3) a. I’m *loving* it.
 b. Sarah *is thinking* of Dave.

Progressives in (3) are acceptable when the sentence is supported by the specific context, or when the speaker has certain pragmatic intentions. In brief, (3a) indicates the emphasis on the feeling of loving of the speaker, while (3b) is a temporal restriction that Sarah is in the middle of thinking at that particular time. In both cases, verbs gain dynamic senses, though states themselves lack dynamicity unless contextual support is provided. Slightly different from (3), (4) is the example that predicates have both eventive and stative interpretations.

¹ The contexts that can make the stative progressive felicitous are discussed in Section 2.2.

² Section 2.2 offers more a detailed formal analysis of the semantic discrepancy.

- (4) a. John *is standing* at the corner of the street.
 b. The statue *stands* at the corner of the street.

(Ogihara 2007: 407)

With the same verb *stand*, (4a) is eventive with the progressive while (4b) is stative. From the evidence thus far, it seems that a complex pattern exists in the use of stative progressives. Nevertheless, accounts on stative progressive are rather scarce in contrast with achievements.

The aim of this paper is to give an account of stative progressive drawn from the empirical data in the corpus. The final goal is to present a plausible theoretical account for the order of resistance to the stative progressive. Previous corpus analyses on stative progressive are limited in that they are skeptical of the existence of the order of resistance or use corpus only in a restricted scope. However, this paper clearly justifies the existence of the order, proposing that the thematic role is an influential factor for that order.

The remainder of this paper is organized as follows. Section 2 starts with the theoretical background on state verbs and stative progressives. Previous grammar and corpus analysis on stative progressive are summarized in Section 3. Section 4 introduces the empirical data found in the Corpus of Historical American English (COHA; Davies 2010). Then, Section 5 proposes the account of the resistance order of stative progressive, especially focusing on its relation with the thematic role of the subject. Section 6 concludes the paper.

2. States and Progressives

2.1 States

The classification of lexical aspects³ or Aktionsart (from the German *Aktion* ‘action’ and *Art* ‘kind, sort, type’) is proposed by Vendler (1967). The lexical aspect of events consists of four categories: states, activities, accomplishments, and achievements. Examples of each lexical aspect are given in (5).

- (5) **Vendler’s four classes of lexical aspects**
- a. States: *be on, know, be angry, love, believe, ...*
 - b. Activities: *run, walk, eat, swim, flutter, ...*
 - c. Accomplishments⁴: *cross the street, eat a banana, run a mile, build a house, do the dishes, ...*
 - d. Achievements: *realize, spot, reach, fall, discover, ...*

Four classes are classified in terms of three main criteria: telicity, durativity, and dynamicity. First, telicity (from the Greek *telos* ‘end, goal’) indicates whether the event has a natural endpoint. The event is telic if the predicate itself contains

³ Lexical aspect is a property of a predicate that relates events or states with temporal forms based on the idea that ‘the use of a verb may also suggest the particular way in which that verb presupposes and involves the notion of time’ (Vender 1957: 143). It is one of the two aspects, and the other type is marked with morphological forms, namely morphological aspect (e.g., perfective, progressive, etc.). Interested readers may refer to Rothstein (2016) for the distinction between the two.

This paper focuses only on the ‘progressive’ aspect out of various morphological aspects and refrains from using the term ‘morphological aspect’ to avoid the confusion between two aspects.

⁴ The class may be altered when prepositions or noun objects change. For example, *build a house* is an accomplishment while *build houses* is an activity.

a culmination point, and atelic if not. For example, the state verb *love* in (6a) is atelic since when does *Kim loves Dave* end is not specified by the predicate itself. In contrast, an accomplishment *cross the street* in (6c) is definitely telic. The event of crossing the street ends when Kim reaches the other side of the street. Analogously, activities are atelic whereas achievements are telic. One of the most dominantly used tests for telicity is a modification of *in* adverbials. In a sentence in the simple past tense, *in* adverbials indicates the time of duration (as an accomplishment in (6c)) or the duration of the time before the event begins (as an achievement in (6d)). Meanwhile, atelic predicates are infelicitous with *in* adverbials (as in (6a) and (6b)).

- (6) a. #Kim loved Dave *in a year*. [state]
- b. #Kim walked in a park *in half an hour*. [activity]
- c. Kim crossed the street *in five minutes*. [accomplishment]
- d. Kim recognized Dave *in a minute*. [achievement]

Second, durativity stands for the duration of which an event occupies. It is whether the event indicates an instance or not. Achievements are the only type that is non-durative (i.e., punctual) from their definition. For example, for the achievement *fall*, the event of falling happens instantaneously. Meanwhile, states, activities, and accomplishments are durative as they all indicate an event that occupies temporariness that expands over times.

Lastly, dynamicity indicates whether the event culminates as time goes by or is uniform during the event time. One diagnostic for dynamicity (or stativity) is the modification of manner adverbials such as *slowly*.

- (7) a. #I know him *slowly*. [state]
- b. Julie runs *slowly*. [activity]
- c. Mike eats a banana *slowly*. [accomplishment]
- d. Water evaporates *slowly*. [achievement]

While states in (7a) cannot be modified by *slowly*, other classes in (7b), (7c), and (7d) are grammatical with *slowly*. The results indicate that only states are non-dynamic.

Table 1 summarized lexical aspects according to the three criteria.

Table 1. Summary of Vendler’s (1967) Four Classes

	Dynamicity	Durativity	Telicity
State	-	+	-
Activity	+	+	-
Accomplishment	+	+	+
Achievement	+	-	+

Similar to the classification in Table 1, the schema in Kamp and Reyle (1993) is helpful to understand the notion of four classes. Figure 1 and Figure 2 visually depict events and states, respectively.

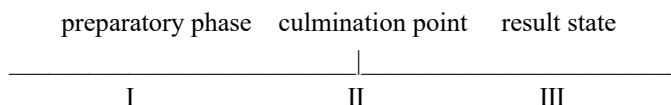


Figure 1. A Schematic Picture of Events (Kamp and Reyle 1993: 558)

Figure 1 is a picture of dynamic events that can be divided into three parts, preparatory phase, culmination point, and result state. All three dynamic classes are included in Figure 1. Since activities are durative and atelic without the built-in culmination point, it contains only the event in phase I (without the culmination II). Accomplishments do have a lexically indicated natural endpoint, making them be constituted of two subparts, I and II. Specifically, the culmination point II indicates the natural endpoint of the event. Unlike the prior two duratives, achievements are instantaneous that solely consist of a punctual culmination point II only.

state

Figure 2. A Schematic Picture of States (Kamp and Reyle 1993: 562)

Contrastively, Figure 2 shows non-dynamic (i.e., stative) events. States are internally uniform, thus indicated as a single line without any breaks. The distinction between Figure 1 and Figure 2 shows a contrast between events and states, visually showing that states cannot be subdivided. The uniformity of states is iconic and is the reason why stative progressive is treated infelicitous at most times.

To recapitulate, states are stative, durative, and atelic. The next section discusses the reason why the stative progressive is often considered an ungrammatical form.

2.2 Stative Progressive

The progressive is canonically understood as the inside time of the reported event when the event is in progress. Shortly, the utterance time is in the middle of the interval of the occurring event. (8) shows a contrast between the progressive and its non-progressive counterpart.

- (8) a. Dave *makes* a sandwich.
 b. Dave *is making* a sandwich.

Unlike (8a), (8b) has the ‘right now’ reading, namely the ‘sandwich making event’ is framed around the utterance time. Thus, Dave should be in the middle of making a sandwich event at the time of the utterance to make (8b) true.

In a few earlier works of semantics, the progressive form itself is frequently used as a diagnostic for the dynamicity and durativity of lexical aspects. For example, Rothstein (2004) defines verbs with [\pm stages] and [\pm telic]. Within her account, [\pm telic] indicates whether the verb naturally heads telic VPs, and [\pm stages] indicates whether or not the verbs naturally occur with the progressive. Rothstein reserves [$-$ stages] for states and achievements to clearly show that the stative progressive and achievement progressive are not natural aspectual forms.

The asymmetry between states and the progressive can be well captured by interval semantics. Dowty (1986) gives defining criteria for stative sentences in (9) and defines the subinterval property of the progressive as in (10).

- (9) A sentence φ is stative iff it follows from the truth of φ at an interval I that φ is true at all subintervals of I .
 (Dowty 1986: 42)

- (10) [PROG φ] (i.e. the progressive form of φ) is true at I iff there is an interval I' properly containing I such that φ is true at I' .
 (Dowty 1986: 44)

Informally, (9) means that the event φ is stative when the event and every subevent of it are identical. It matches with the non-dynamic property of states in Table 1, that they are uniform across the time. The definition in (10) as well shows that the progressive form has uniform subintervals. Combining both definitions (9) and (10), a progressive sentence is a stative sentence. Therefore, stative predicates are not compatible with the progressive, since the process of “stativize” is semantically vacuous (Ogihara 2007). Based on Dowty’s idea, more advanced modal concepts (e.g., Portner 1998, Ferreira 2016, Ogihara 2020, among others) are proposed, but the primitive proposal from Dowty will do for the purpose of this paper. Recall the schema by Kamp and Reyle (1993) in Figure 1 and Figure 2. They define the function of the progressive as ‘to select as the target of description that period which leads up to but does not include the culmination point’ (Kamp and Reyle 1993: 563). That is, the progressive indicates the preparatory phase I in Figure 1. As states do not have such a divided phase, stative progressive is strictly ungrammatical. In sum, the predicate φ must be dynamic and have adequate subinterval to be used as a progressive, and thus (11) is infelicitous in neutral contexts.

- (11) a. #Jim *is resembling* John.
 b. #Dave *was being* angry.

Both sentences in (11) are anomalous because stative predicates, *be resemble* and *be angry*, are uniform states. However, there are cases where stative progressives are felicitous. Smith (1991) argues that in these situations, states gain dynamic senses. For example, *being nice* in (12a) can be interpreted with the eventive sense ‘to act nice’ (e.g., Ogihara 2007). Sometimes the verb may have multiple denotations as in (12b) and (12c). (12b) expresses a temporary state with the progressive whereas (12c) expresses a more permanent state.

- (12) a. John *is being* nice.
 b. Kelly *is sitting* on the chair.
 c. Dave *sits* on the chair.

There also exist various marked uses of stative progressives including state changing by a degree in (13a), showing politeness in (13b), and intensifying an emotion in (13c).

- (13) a. The boy *is resembling* his father more and more every day.
 b. I *was wondering* if you could help me.
 c. I *’m loving* it.

Every example in (13) is an aspectual change to gain ‘heightened agentivity and greater vividness’ (Granath and Wherry 2014: 12) and departs from the original properties of states. Though stative progressives in (12) and (13) may contain different pragmatic reasons, they all become to have distinct dynamic aspects.

This paper also follows the formal semantic definitions in Section 2.1 and Section 2.2. Specifically, state verbs are defined as [-dynamicity, +durativity, -telicity] following the criteria in Table 1. Likewise, stative progressive is assumed as a state verb in a *be+V-ing* form, used as a predicate.

2.3 Classification of States

Though no consensus has been made yet on the interaction between state verbs and the progressive, numerous studies try to subdivide states in various ways according to different resistance orders to the progressive. One of the most recent

works that summarized the category of states is done by Rautionaho and Fuchs (2020). They give the order of resistance to the progressive based on Greenbaum and Quirk (1990) and Huddleston and Pullum (2002)⁵. Based on their account, the order of resistance to the progressive to be used in this paper is summarized in Table 2.

Table 2 The Resistance toward the Stative Progressive

Resistance	Category	Examples
Highest	Relation	<i>relate, contain, seem, own, resemble</i>
	Cognition	<i>believe, know, remember, think, understand</i>
↑	Emotion/Attitude	<i>agree, like, love, prefer, want</i>
	Perception	<i>feel, hear, see, smell, taste</i>
Lowest	Stance	<i>lie, live, sit, stand</i>

Relation states are most resistant to the progressive while stance states are least resistant (cf. Aarts et al. 2010). This paper analyzes four subcategories of state verbs, except stance. Stance verbs are omitted since they are ‘intermediate between the stative and dynamic categories’ (Quirk et al. 1985: 205). Therefore, they are assumed to be not purely states and fall within the boundary of states and activities. With the activity interpretation, they are able to be used as progressive almost identical to the canonical progressive as in (14).

- (14) a. They *are lying* on the floor.
 b. Kim *is sitting* on the bench.

Thus, the present study analyzes the corpus data in the framework of the four-way classification: relation, cognition, emotion, and perception.

3. Previous Approaches

As stative progressive has marked meanings, the speaker’s pragmatic reasons and contextual support for the use of the stative progressive have been fairly discussed in English grammars (e.g., Quirk et al. 1985, Bieber et al. 1999, Huddleston and Pullum 2002, among others). Quirk et al. (1985) claim that stative progressives are interpreted with the additional ‘temporary’ meaning, making states become dynamic via transfer or reclassification.

- (15) a. Tina *is resembling* her sister more and more⁶.
 b. I *am hoping* you will come.

(Quirk et al. 1985: 202; emphasis added)

⁵ The definition of states by Huddleston and Pullum (2002) is not perfectly identical to Vendler (1967). While Vendler’s states are extended to predicates, Huddleston and Pullum’s states are limited to verbs. However, they both agree that states do not involve change and have no internal temporal structure. An anonymous reviewer commented that Vendler’s states can turn into activities according to the object the verb takes. For example, ‘*smell + adjective*’ is a state while ‘*smell + object*’ is an activity. Among two types, this paper only concerns *smell + adjective* as ‘states’.

⁶ An anonymous review pointed out that additional use of a temporal element as in (15a) may also affect the use of the progressive. It is assumed that dynamicity can be given by various means. While the thematic role of the subject is one option, temporal adverbials can be another option to present dynamicity.

For example, (15) has a special effect of the progressive. In (15a), progressive form turns a ‘stative’ meaning into a ‘process’ meaning with the comparative construction by using *more and more*. (15b) is more of a tentativeness of the speaker’s attitude or indicating the intention to be more polite. Bieber et al. (1999: 471) also acknowledge that stative progressives express ‘the meaning of a temporary state that exists for a period of time’.

Huddleston and Pullum (2002) explicitly mention classes of states that are allowed for progressive use. They notice four types of states that are on the boundary of states and occurrences. The first type is perception/sensation verbs (e.g., *see, hear, feel*). Perception verbs have three distinguished uses, namely production (e.g., *It looked square*), experience (e.g., *I could see it*), and acquisition (e.g., *I looked at it*)⁷. Following their account, acquisition is the only dominant type for dynamic progressive use, while the uses of the other two are limited. The second type of verbs are verbs of hurting (e.g., *ache, hurt*). Such verbs can either indicate state with the non-progressive form or activity with the progressive form. Verbs of cognition, emotion, and attitude (e.g., *believe, fear, regret*) are the third type. The progressive of cognition verbs is prevalent as (16) may suggest limited duration, dynamic reading, or tentativeness.

- (16) a. *I’m thinking* we ought to accept.
 b. Don’t interrupt me when *I’m thinking*.
 c. You’re *forgetting* you said you’d help.
 d. *I’m hoping* you can help me.

(Huddleston and Pullum 2002: 170; emphasis added)

The last type is stance verbs (e.g., *stand, lie, sit*). They fall within the boundary of states and activities, thus more acceptable to become progressive.

However, prescriptive grammars offer only mere description while remaining silent on the accounts of the phenomenon. Another shortcoming is that they lack verifiable evidence. In attempts to overcome the deficiency, recent studies often consult empirical evidence from the corpus (e.g., Freund 2016, Granath and Wherrity 2014, Rautionaho and Fuchs 2020, among others).

Granath and Wherrity (2014) analyze the progressive form of two verbs, *love* and *know*, which are diametrically opposed in frequency in their previous work (Granath and Wherrity 2008). From the data in the COHA from 1810 to 2009, they conclude that the occurrence of stative progressives cannot be strictly predicted from their semantics. According to them, what defines the ‘acceptability’ of stative progressive is the intention of the speaker. However, the concept used by them is too vague and the data was limited to two verbs. Whether it is adequate to generalize the result is still an open question.

More quantitative research has been done by Freund (2016) and Rautionaho and Fuchs (2020). Freund (2016) analyzes spoken data in the British National Corpus (BNC; Davies 2004) and conducts an acceptability survey. She divides state verbs into four categories but fails to find the contrasts in the diachronic change among them. She concludes that semantic categories are not a deciding factor in the acceptability of stative progressive, but her statistical results are limited to diachronic changes. Moreover, the verbs chosen for the survey were too exceptional (e.g., *be, have*) that bear various other grammatical and pragmatic functions, thus contaminating the results.

Rautionaho and Fuchs (2020) also use BNC, focusing on the data in 1994 and 2014. They conclude that there was no

⁷ Definitions of each use are as follows (Huddleston and Pullum 2002: 169): i) Production verbs are intransitive, defined as ‘the evocation or production of the sensation by the stimulus for the experience’. ii) Experience verbs are normally transitive, defined as ‘experience or detection of the sensation by the experiencer’. iii) Acquisition verbs are normally transitive, defined as ‘deliberate action on the part of the experiencer to acquire or obtain the sensation’.

substantial change in the frequency of stative progressive in the last 25 years. Compared to the 1990s, however, a broader range of lemmata has become to be used in the progressive recently. With the collocation study, they show the difference in collocation strength for the progressive and non-progressive by semantic category. Like previous grammar, they are limited in that they do not give a plausible account of the difference.

In sum, even though previous approaches give some insight into the understanding of changes in stative progressive, no well-defined proposal on the stative progressive itself has yet been given. This paper aims to broaden the scope by giving a plausible account of the stative progressive, especially focusing on the difference across state verbs in the order of resistance to the progressive. What is novel about this approach is that it highlights the relation of the verb and its subject, while previous analyses focus on the lexical semantics of verbs alone. Before giving a proposal in Section 5, empirical evidence from the corpus is presented in the following pages.

4. The Corpus Study

4.1 Source and Methods

To collect the empirical data on stative progressive, the Corpus of Historical American English (COHA) was used in this study. The COHA is composed of more than 475 million words in more than 100,000 individual texts. The texts range from the 1810s to the 2010s with diverse genres including tv/movies, fictions, magazines, newspapers, and non-fictions. Within the COHA, the corpus of the 2010s (COHA 2010s), which consists of more than 35 million words, was retrieved for analysis. The detailed number of the corpus can be found in the Appendix.

Twenty-five verbs, five representatives for each category in Table 2, were the target for the search. Representative verbs were chosen according to the frequency found in the corpus: a minimum of 10,000 hits including every inflectional form (e.g., *V-ed*, *V-ing*, *V-en*). It is to include commonly used verbs only and avoid exceptions due to a specific use of verbs. The numbers of each verb can be found again in the Appendix.

With the target verbs, *be* + *V-ing* form was searched from the corpus. Then, any construction other than the progressive was extracted from the data manually. For example, sentences in the COHA 2010s like (17) are not progressive, though they have the same surface form.

- (17) a. What I'm enjoying *is knowing* we're about to turn the baby. (COHA, 2010 FIC)
 b. My dad was a mathematician, so loving math *was loving* my dad. (COHA, 2010 TV/MOV)

Also, any arguments that are unclear or ambiguous were excluded. Note that only verbs that appear in main clauses were included to keep the data manageable. As a final step, the frequencies of tokens were normalized.

4.2 Empirical Results

The findings are summarized in Table 3. Overall, about 2275 tokens of stative progressive were found in the corpus. Rautinaho and Fuchs (2020) hypothesized that there is a classical order of the resistance to the progressive but concluded that a firm conclusion regarding the semantic domain cannot be drawn from the corpus analysis. However, the general pattern in the table below seems to show the pattern: from the lowest frequency in relation states to the highest in perception states. The results of Rautinaho and Fuchs (2020) and this paper clearly contrast with the existence of an order of resistance to the progressive. Whether the difference between the two studies comes from the different layering of

diachronic change (e.g., Kranich 2013) or different regional backgrounds of Englishes (e.g., Smith and Leech 2013) still needs more investigation. Nevertheless, Table 3 evidently shows that there is a tendency that some verbs attract the progressive more often.

Table 3 Number of Tokens for Each Verb in COHA 2010s

Category		N of tokens (per 1000)
Relation	<i>relate</i>	1 (0.33)
	<i>contain</i>	1 (0.33)
	<i>seem</i>	2 (0.10)
	<i>own</i>	1 (0.35)
	<i>resemble</i>	-
Cognition	<i>believe</i>	2 (0.15)
	<i>know</i>	1 (0.01)
	<i>remember</i>	21 (1.77)
	<i>think</i>	1589* (24.90)
	<i>understand</i>	8 (0.69)
Emotion/Attitude	<i>agree</i>	7 (1.38)
	<i>like</i>	10 (0.10)
	<i>love</i>	31 (2.13)
	<i>prefer</i>	1 (0.54)
	<i>want</i>	70 (1.26)
Perception	<i>feel</i>	299* (9.20)
	<i>hear</i>	90* (4.22)
	<i>see</i>	127* (1.73)
	<i>smell</i>	9 (3.88)
	<i>taste</i>	5 (3.54)

* Estimated figures based on a random sampling of 10% concordances

Note that there is an exception, *think* as the most frequent expression. The frequency is even much higher than perception verbs which were predicted to show a higher frequency than *think* (cf. Mufwene 1984, Aarts et al. 2010). Some probable resolutions are briefly discussed in Section 5.3.

In table 3, the frequency of stative progressive is at most for perception states, followed by emotion and cognition while relation states are least frequent. The progressive of perception states is exemplified in (18).

- (18) a. Mike *was feeling* pretty good about Brick. (COHA, 2015 TV/MOV)
 b. Oh, it's *smelling* so bad. (COHA, 2019 TV/MOV)
 c. We're *seeing* mid-5.0 earthquakes... (COHA, 2013 MAG)

One reason for the use of perception stative progressive is the intention for extravagance (Petré 2017). Extravagance is 'the desire to talk in such a way that one is noticed' (Petré 2017: 227) to make the utterance more noticeable. Petré's (2017) main account of extravagance progressive is as in (19).

(19) The initial use of [BE *Ving*] in present-tense main clauses was motivated by a desire for making one's expression cognitively more salient, i.e., more noticeable.

(Petré 2017: 229)

In other words, the progressive is used when the speaker intends to convey a strong emotion toward the content of an utterance. The fact that progressive is less familiar and less expected than the simple present signals extravagance. Though it is a challenging task to infer a speaker's intention only on the bases of the given corpora, we might get some hints from the context and some overt markers. The examples for such markers given by Petré are emphatic markers, spatio-temporal deixis, and more general linguistic indications. Generally, the adverbs referring 'here' or 'now' can act as markers.

(20) a. Bono *was seeing* the show for the first time in months⁸. (COHA, 2011 MAG)

b. *I'm feeling* much better now. (COHA, 2011 TV/MOV)

In (20a), an adverbial phrase *for the first time in months* emphasizes the 'nowness' of the referent time. The nowness is even more obvious in (20b) by adding *now* explicitly. Undoubtedly, these adverbials are not mandatory. In actual conversational environments, interlocutors may rely on metalinguistic expressions as well.

Quite the opposite, relation states show the lowest frequency. Intuitively, verbs that fall into relation seem to be more homogenous than others. One probable hypothesis is that, unlike the other four classes, the mental or physical state of the subject is not involved with relation states.

(21) a. Your dad *owns* a casino resort! (COHA, 2012 FIC)

b. He *resembles* my father quite well. (COHA, 2019 FIC)

Even when human subjects are used with relation states as in (21), they are not in a state of 'feeling' some emotions. *Your dad* in (21a) does feel or perceive that he owns *a casino resort*. (21b) is analogous as well. Thus, it is more challenging for extravagance meaning to be involved as no expression of the speaker is related.

The hypothesis above is supported by one critical feature that almost every stative progressive has in common in the COHA 2010s data. That is, a human subject lies at the subject position of the sentence at most times, as in (22).

(22) a. She *was feeling* more and more flattered by the minute. (COHA 2010 FIC)

b. I'm *seeing* it right now. (COHA 2015 TV/MOV)

Similarly, the subject of stative progressive is usually first-person (e.g., *I*, *we*) though not only limited to. It seems that the subject is an important deciding factor for the use of the stative progressive.

Summing up, we can now have two tentative conclusions: i) occurrence of stative progressive is frequent in: perception > emotion, cognition > relation, ii) almost every stative progressive has a human subject. Drawn from these observations, it can be inferred that the thematic role of the subject plays an important role. The role of the thematic role is discussed in Section 5 in more detail.

⁸ Anonymous reviewers pointed out that contexts have to be considered to analyze cases like (20a) as a progressive. Likewise, there are cases where context plays a role in deciding whether the progressive meaning is produced, especially the cases where the progressive is used for future events (cf. Dowty 1979). Though this paper has limited its scope to the role of the subject, it is assumed that context also plays a significant role in the use of the progressive. Due to spatial limits, the role of the context is left as a topic for future research.

5. Discussion

5.1 Thematic Roles

In Section 2, it has already been discussed that state verbs are not compatible with the progressive in their nature. However, as in Section 3, stative progressives may become felicitous in certain circumstances. Especially, it is found that perception states are most frequently used in the progressive form as summarized in Table 3. This section explains the cause of the different rates of resistance to the progressive across state verbs. Unlike previous works, it is proposed that the thematic role of the subject should be considered.

As have noted, almost every stative progressive has a human subject in the COHA 2010s, mostly *I* or *we*. Formally, stative progressives have an *Experiencer* thematic role for their subjects. The verbs in Table 3 except relation states are psych verbs. Psych verbs must have an argument that feels or perceives, namely the *Experiencer*, and an argument that is being perceived, namely *Stimulus*. The *Experiencer* and the *Stimulus* can be placed at either subject or object position. Pesetsky (1996) subdivided psych verb classes into *subject-experiencer* and *object-experiencer*. A *Stimulus* of each class is classified as a *Target*⁹ or a *Causer*, respectively. The contrast is shown in (23).

- (23) a. [The article in the Times] angered/enraged [Bill].
 causer-stimulus *experiencer*
 b. [Bill] was very angry at [the article in the Times].
 experiencer *target-stimulus*

(adapted from Pesetsky 1996: 56)

Who feels anger in (23a) is Bill, the *Experiencer*. The article is a *Causer* as it causes Bill to feel a certain feeling or enagement. In contrast, with a subject-experience verb in (23b), there is no *Causer* thematic role. The article in (23b) does not cause Bill to be mad, but rather just a *Target* that Bill is angry at. The difference leads to the different truth conditions as well. To make (23b) true, Bill must have a direct negative feeling toward the article. He should have evaluated the article and may found some aspect of the article itself annoys him. It is because an *Experiencer* evaluates or perceives the *Target*. In contrast, inconstancy in the meaning is shown for (23a). Unlike (23b), even when Bill was delighted with the article, (23a) can be true. As Pesetsky (1996: 56) notes ‘the article does *cause* Bill to be angry, ... but he is not necessarily angry at the article itself’.

If we make (23) into the progressive aspect, it would be like (24).

- (24) a. ?The article in the Times *was enraging* Bill.
 b. Bill *was being very angry* at the article in the Times.

Intuitively, (24a) is much more anomalous than (24b). The empirical data in the corpus also imply that the acceptability differs. Every stative progressive found in the COHA 2010s has an *Experiencer* in their subject position as (24b). The main contrast between the two is that the *Experiencer* as (24b) is in the position of performing more deliberate action than the subject of (24a). Bill in (24b) ‘feels’ while Bill in (24a) ‘is caused’ to feel. Let us now move on to how the *Experiencer* can become a dynamic actor for the progressive.

⁹ Pesetsky (1996, Ch.3) distinguished *Target* and *Subject Matter* as well, but the term *Target* is used to cover both of them in this paper.

5.2 An *Experiencer* as a Dynamic Actor

This subsection shows how an *Experiencer* plays its role in a dynamic situation. In previous work, Huddleston and Pullum (2002) also seem to notice the difference in resistance, at least regarding perception verbs (while not strict enough to be called as an order of resistance). They divide the usages of perception into *production* and *acquisition*¹⁰. Production verbs indicate the production of the sensation by the stimulus whereas acquisition verbs involve a deliberate action of the *Experiencer*. Paraphrased with theta roles, the *Experiencer* of acquisition verbs has to do some action to perceive the *Target*. The other type, production does not have dynamic property, therefore generally non-progressive¹¹. The examples of both uses are shown in (25) and (26), respectively.

(25) *Production*

- a. It looked square.
- b. It tasted sweet.

(Huddleston and Pullum 2002: 169)

(26) *Acquisition*

- a. I looked at it.
- b. I tasted it.

(Huddleston and Pullum 2002: 169)

Following their taxonomy, acquisition situations in (28) are easily found in progressive form while production situations in (27) are not.

(27) *Production*

- a. ?It is looking square.
- b. ?It is tasting sweet.

(28) *Acquisition*

- a. I am looking at it.
- b. I am tasting it.

With the previous account, acquisition perception verbs with an *Experiencer* as their subject are widely used as a progressive, contrary to production. Therefore, combined with the discussion in Section 5.1, it is now reasonable to conclude that to make a progressive form of states, an *Experiencer* subject is needed.

Now we can also explain why perception states are the most frequent stative progressive. It is because perception stative progressive can be obtained by the involvement of the *Experiencer*'s action to perceive. This is a clear distinction between relation states, the least frequent class.

¹⁰ They also have a third type, *experience* as summarized in Section 3. However, they always need aid from the modal *can*. It does not seem that verb itself bears the 'experience' meaning.

¹¹ Note that this does not mean that the use of the progressive should be strictly avoided. It may be acceptable with more specific contexts such as waxing/waning situations (*It's smelling worse every day*) or temporary situations (*It's smelling awful*).

- (29) a. Mary resembles her mother.
 b. ?Mary *is resembling* her mother.

- (30) a. I see the picture.
 b. I *am seeing* the picture.

The contrast is presented in (29) and (30). A relation state, *resemble*, in (29) is much more anomalous to be used as a progressive than a perception state, *see* in (30). For *resemble*, there is no subject *Experiencer* who can take charge of the dynamic or tentative event. In contrast, as *Experiencer* exists, *see* is more dynamic. This (partial) dynamicity is what makes *am seeing* felicitous. It is because the physical act of a subject must be involved to perceive something. For example, to see the picture in (30), one must turn her eyes toward a particular direction, etc. Moreover, at least in the limited duration, the speaker must deliberately remain her action of *seeing*. It should not be confused that *see* or its progressive form *be + seeing* are interpreted as dynamic. They remain as states while being a little more dynamic than other states. It is assumed that the dynamicity of states is gradual. This gradual dynamicity also explains why cognition and emotion states are in the middle. They also involve *Experiencer*'s evaluations, but those actions take place in the mental domain. That is, while perception states involve physical movements, cognition and emotion states are limitedly related to mental activity, which is less dynamic than a physical one. Due to the relatively low dynamicity, the possibility of allowing the progressive becomes low. On the contrary, relation verbs do not have such a move, even mental, making them the most 'static' verbs. Even though states are classified with the criterion [-dynamic] (Rothstein 2004), the degree of dynamicity (or stativity) may differ across subcategories.

The diagnostics with manner adverbials in Section 2.1 can be also implemented to distinguish between relation and non-relation states.

- (31) a. #Mike owned a farm carefully.
 b. ?Dave saw his mom carefully.

Manner adverbials in both states, relation and perception, may not be perfectly accepted, but the degree of acceptability seems to differ. Relation states modified with manner adverbials in (31a) is much more unnatural than perception states in (31b). It is reasonable enough to conclude that relation states are less dynamic than other states since the modification of manner adverbials is related to dynamicity.

To summarize, an animate subject, especially an *Experiencer*, is important for stative progressive. Whether or not an *Experiencer* exists and which action the *Experiencer* is involved in (mental or physical) are causes of the resistance order across states.

5.3 I know, but I am thinking

This subsection briefly proposes some probable accounts for the exceptional distribution of *think*. *Think* is one of the verbs that are related to subjective meanings of the progressive, the progressive used for tentativeness. This tentativeness is often metalinguistically related to politeness. To avoid violating Gricean Maxim of Quality, the speaker may feel the need to weaken her assertion with *is thinking* showing that she is not fully committed to the uttered proposition as in (32).

- (32) a. And I *was thinking*... You know, maybe I should just go visit Canada.
 (COHA, 2010 TV/MOV)

- b. ...but I *was thinking* maybe at the store I could keep it. (COHA, 2012 FIC)
 c. ... so I *was thinking* it might be just the thing for our three wombles. (COHA, 2018 FIC)

Another possibility for the high use of *think* is due to quotative uses. Rautionaho and Fuchs (2020) also contend that the increased use of *think* progressive in 2014 compared to 1994 is due to quotative use. An example of quotative use is in (33).

- (33) next minute kitchen door goes we're *thinking* oh my god we're all gonna die.
 (Rautionaho and Fuchs 2020: 48)

However, in the COHA 2010s quotative use of the progressive was scarce. Rather, 'cogitate' meaning was often used (Levin 2013).

- (34) Stephens, aggrieved, *had been thinking* the same thing.
 (Levin 2013: 210)

- (35) Exactly what I *was thinking*, little brother. (COHA, 2010 TV/MOV)

The cognitive use of the progressive is to emphasize or intensify the action, analogous to extravagance (Petré 2017). Levin contends that progressive *think* is not solely used in aspectual ways and this less aspectual use often indicates informality. Prevalence of informal use is also supported by the result that *think* progressive used to inert cognition has not been found in the Time Corpus while does exist in the Spoken subcorpus from COCA and LSAC (Levin 2013).

Thus, it can be inferred that progressive with *think* is affected by at least two pragmatic reasons and maybe more. As it is impossible to all the justice here due to space limits, it will be left as an open question for a future research topic for now.

6. Conclusion

This study has analyzed the stative progressive from the COHA 2010s. Though it was not an easy task to draw generalizations from the data due to the small size of the sample, it is apparently shown that there is an order of the resistance to the progressive according to the semantic category of states. Specifically, perception states seem to be the most tolerant to the progressive while relation states are the least.

The account has been proposed that the difference in resistance order is due to how easily the verbs can be dynamic, indicated by the thematic role of verbs. Specifically, an *Experiencer* thematic role is an important factor. Perception states involve *Experiencer*'s physical action. Thus, they can be easily accompanied by the progressive. On the contrary, relation states do not have an *Experiencer* and thus avoided to be related to dynamic actions. From the absence of dynamic action of an *Experiencer*, they are heavily resistant to the progressive. Meanwhile, cognition and emotion states need evaluations, mental actions of the *Experiencer*. That is, they are less tolerant toward the progressive than perception and more tolerant than relation.

In conclusion, unlike previous studies that fail to give an explanation of stative progressive, this paper gives a plausible account by not only focusing on the lexical semantics of verbs. Understanding the order of resistance and its relations with the thematic role allows us to understand the diverse semantic domains across states. As this paper has highlighted

subtle semantic differences across state verbs and their interaction with the progressive, the result of the study should be considered as a guide in the right direction regarding the interaction between the lexical aspect and temporal aspect, especially between states and the progressive aspect.

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Examples in: English

Applicable Languages: English

Applicable Level: Tertiary

Appendix

A. Distribution of the COHA 2010s

Genre	N of words
TV/Movies	5,061,478
Fiction	15,150,555
Magazines	7,552,354
Newspapers	4,546,307
Non-Fiction	3,142,112
Total	35,452,806

B. Numbers of tokens in the COHA

Category	Verb	N of tokens in the 2010s	N of tokens in Total ¹²
Relation	<i>relate</i>	3046	29900
	<i>contain</i>	2992	49298
	<i>seem</i>	19065	359528
	<i>own</i>	2833	32661
	<i>resemble</i>	871	13298
Cognition	<i>believe</i>	13016	207719
	<i>know</i>	98267	1149480
	<i>remember</i>	11890	145689
	<i>think</i>	63822	766219
	<i>understand</i>	11568	143901
Emotion/Attitude	<i>agree</i>	5045	64817
	<i>like</i>	20878	233570
	<i>love</i>	14548	157493
	<i>prefer</i>	1838	25769
	<i>want</i>	55600	515786
Perception	<i>feel</i>	32493	349312
	<i>hear</i>	21326	326689
	<i>see</i>	73553	1021819
	<i>smell</i>	2664	18717
	<i>taste</i>	1414	11366

¹² From the 1810s to the 2010s.