Semantic Hierarchy of English Unaccusative Verbs Based on Telicity

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Abstract

The syntactic representation of unaccusative verb hierarchy is reflected through the use of auxiliary verbs in some languages. The choice of auxiliary verbs in syntax is not solely determined by agency and telicity at the semantic level. The semantic hierarchy of unaccusative verbs stems from the diversity of telicity, as telicity is not a traditional static point in time but rather an event's dynamic process that projects in various combinations with dynamic processes. Thus, when unaccusative verbs are derived syntactically, they do not simply manifest in one sentence pattern but instead derive different patterns based on the choice between static and dynamic telicity. This research not only helps us understand the characteristics of telicity semantically but also assists us in exploring the relationship between telicity and the semantic hierarchy of unaccusative verbs, effectively explaining the underlying mechanisms behind the generation of various unaccusative syntaxes.

Key words: Unaccusative verbs; Semantic hierarchy; Telicity; Events

1. THE HIERARCHICAL NATURE OF UNACCUSATIVE VERBS

The issue of unaccusatives originates from syntactic case theory and is based on Burzio's Generalization (Burzio, 1986). These verbs lack an external argument, which prevents the internal argument from being assigned a case, forcing it to move to the sentence-initial position to receive a case from infl. This phenomenon is represented by (1):

(1) NP infl [VP [V t]]

The arguments of unaccusative verbs are within the VP, implying the progression of the event characterized by the VP. Therefore, the internal argument carries the development of the event, while the external argument encodes the initiation of the event. If the event implied by the verb is divided into three parts—initiation, development, and result (Ramchand, 2008), then the external and internal arguments correspond to the initiation and result stages, respectively, with both types of arguments present throughout the intermediate development stage. When the semantic aspects of events at different stages are projected syntactically, they produce two distinct syntactic structures: unergative and unaccusative structures.

However, in languages such as Italian, French, and Chinese, when unaccusative verbs are used with auxiliary verbs, the distinction between unergative and unaccusative structures is not always clear-cut. Instead, some unaccusative verbs exhibit characteristics of unergative verbs when paired with auxiliaries. Due to the characteristic of agents being external arguments and telicity being a feature of internal arguments, if we represent syntactic differences semantically, we have summarized two semantic features so far: the dynamic agentive feature and the static completion feature or what is called telicity. Hence, based on the frequency of auxiliary verb usage with unaccusative verbs in syntactic structure, the concept of a hierarchy of unaccusative verbs has emerged.

The hierarchy of unaccusative verbs syntactically differentiates between the two types of intransitive verbs based on the choice of auxiliary. Sorace (1993, 2000) categorizes the hierarchy of unaccusative verbs as follows:

(a) change of location; (b) change of state; (c) continuation of a prior state; (d) stative existence. In languages like Chinese, core unergative verbs exhibit agentive dynamic semantics and syntactically choose the auxiliary "zhe(着)"; core unaccusative verbs express the completion of an event semantically and syntactically opt for the auxiliary "le(了). In Chinese, "le(了)" indicates the completion of an event, and "zhe(着)" indicates the ongoing nature of an event. Analyzing from the development of events, when choosing the auxiliary "have" and the Chinese particle "zhe(着)", it projects the developmental process of an event; whereas choosing the auxiliary "be" and the Chinese particle "了" projects the resultant state of an event. For example:

(1) Ganzishang gua -LE/-ZHE yimian hengfu,
pole-on   hang -LE/-ZHE one-CL banner
'On the pole hangs a banner.

In (1), though gua(hang) denotes a continuous state, it can still be associated with "zhe", a dynamic aspectual marker. Thus, it is worth discussing how the semantic meaning of unaccusative verbs determines the differing syntactic phenomena of these verbs. Besides Chinese, some Europen languages also show how the two types of particles reflect the differing phenomena of unaccusative verbs across various languages. The differences in auxiliary selection across languages are summarized in Table 1.

Table 1
Differences in the choice of particles in various languages

	Italian	German	Dutch	French	Chinese
Telic change of location	BE	BE	BE	BE	le(了)
Telic change of state	BE	BE	BE	HAVE / BE	le(了)/zhe(着)
Intelic change of location	Have- BE	BE	HAVE- BE	HAVE	le(了)/zhe(着)
Intelic change of stage	BE	BE	HAVE- BE	HAVE	le(了)/zhe(着)
Continuation of a prior state	BE	HAVE/BE	HAVE/(BE)	HAVE / BE	zhe(着)
Stative existence	BE	HAVE/BE	HAVE/ (BE)	HAVE / BE	zhe(着)
Activity	HAVE	HAVE	HAVE	HAVE	zhe(着)

Source: Aranovich, 2007; Liu, 2007

From the perspective of the selection and collocation of auxiliary words in various languages, it can be found that the hierarchical changes of unaccusative verbs have regularity. That is, when unaccusative verbs are transitioning to unergative verbs, the changes across different verb categories exhibit consistent regularity. However, there are differences in the choice of auxiliary words for unaccusative verbs at the intermediate level of the hierarchy. For example, in German, verbs related to changes in location and state both choose "be" type auxiliary words, while other languages differ from one another. But is the syntactic difference merely a matter of progression versus completion semantically? Why then do we observe overlaps between progression and completion? Is this especially true for the hierarchical phenomenon of English unaccusative verbs?

English lacks obvious grammatical markers to express unaccusative structures, hence it's impossible to indicate the hierarchical features of unaccusative verbs syntactically with auxiliaries. It is thus necessary to discuss the hierarchical features of English unaccusative verbs semantically. Furthermore, we only understand the hierarchical features of unaccusative verbs syntactically, and the related telicity has not reflected the hierarchy of unaccusative verbs, so we must further discuss the relationship between the hierarchy of unaccusative verbs and telicity. Based on the characteristics of event compositional projection (Verkuyl, 1993, p.22), we first analyze the significance of the hierarchy of unaccusative

verbs from the perspective of telicity so as to understand how to explain semantically the transitional development from completion endpoints to agents. We will focus on the relationship between parts and whole within events, paying particular attention to how changes in the nature of event participants lead to differences in telicity; next is the impact of this semantic hierarchy on syntax, or rather, how the relationship between semantic hierarchy and syntax is manifested, with special emphasis on the attributive relational differences within events in the process of achieving telicity. By adopting methods to interpret telicity features, we analyze the relationship between the hierarchy of unaccusative verbs and the encoding of lexical aspectual terminal features. The relationship between different unaccusative verbs and their arguments is not consistent, and based on examining how arguments measure the development of events, we understand that the hierarchical differences in telicity of unaccusative verbs essentially reflect the projective differences between the resultant state and the process development of events.

2. TELICITY OF UNACUSATIVE HIERARCHY

In unaccusative structures, the unique argument dominated by the verb moves to the subject position to satisfy the EPP (Extended Projection Principle), and at the interface between syntax and semantics, the derivation

of unaccusative structures is to check the telicity feature. In event semantics, since the internal argument reflects the development of an event, it is present in both the developmental stages of the event and the final resultant state. As the sole argument in an unaccusative structure, the internal argument is a participant in the event and possesses the characteristic of telicity (Tenny, 1987; Ritter & Sara, 2005). The distinction between unaccusative and unergative structures is precisely based on the presence or absence of this characteristic, and the syntactic movement of arguments can be seen semantically as being driven by the telicity feature within the predicate (van Hout, 2004). For languages with distinct auxiliary features, the telic semantic feature of unaccusative verbs determines the choice of auxiliary in syntax.

2.1 Telicity Hierarchy

Viewing the temporal progression of an event, it can includes two parts: dynamicity and terminus, which is proposed by Aristotle (Arche, 2006, p.40). When a verb denotes an event, some verbs have an inherent terminal or culminating point, while some others do not have any definite terminus. Telicity signifies the culmination or completion of event development, reflecting the specific characteristics of the event's final stage. Traditionally, for intransitive verbs that entail a single argument, if one starts from the onset of the event, considering the initial phase as the cause initiated by the agent (Ramchand, 2008, p. 39), it is syntactically projected as an unergative structure; whereas the syntactic projection of the event's final stage can be seen as either ergative or unaccusative structures. Telicity is the most crucial semantic feature of unaccusative verbs (Tenny, 1987), and some scholars primarily views telicity as the endpoint of an event (Li Kesheng & Man, 2013). Regarding the choice and use of auxiliary verbs, unaccusative structures do not exhibit a clear-cut division but rather show a syntax where two types of auxiliaries overlap. Therefore, telicity should not be simply understood as a completion point, nor can it be straightforwardly attributed to whether the verb itself contains this feature. Instead, it is necessary to analyze and elucidate the relationship between the overall event and the resulting state, as well as comprehend the role telicity plays between syntax and semantics. If one merely considers this final stage as the last completed point in the event's development process, then in the relationship between semantics and syntax, telicity can easily be encoded within the lexical body, implying the condition of the event, such as unaccusative verbs like "arrive" or "disappear" that directly describe the resultant state of position. However, the temporal point that signifies the end of an event is not necessarily fixed and may have a close relationship with the direct object, which can be reflected in the Aspectual Hierarchy Hypothesis (ASH) (Tenny, 1994; van Hout, 2000). Following this line of thought, the semantic telicity can also be manifested in syntax. Hence, telicity should not be viewed as an immutable endpoint but could also express the conclusion of an event based on the relationship between the event and its arguments.

Telicity is not a point, but rather the range of a function's values within a fixed scope. Scholars have recognized this characteristic of telicity. Verkuyl (1972) described telicity as a result produced by specific quantificational substances, with the quantification method stemming from two aspects: one is the ever-changing and increasing features [+ ADD TO] contained in verbs, and the other is the specific quantificational features possessed by arguments. Therefore, the quantificational effect jointly possessed by the verb itself and the arguments leads to the realization of telicity. Moreover, from the perspective of event completion, telicity can also be regarded as the quantification of the events implied by the verbs. Krifka (1998) considers telicity as the quantification of the denotation of predicates, and this quantificational approach indicates that the feature of telicity does not merely represent a terminal point. This syntactic manifestation is that the same word may have different projection differences in different syntaxes. Since the hierarchy of unaccusative verbs reflects the change between the endpoint and the starting point of event development at the semantic level, through quantification methods, telicity does not only describe a point but may also encompass a whole composed of multiple points.

Languages represent different events in various ways, and the manner in which events end varies. The lexical aspect of unaccusative verbs does not always imply consistent event properties, hence the diversity of telicity. The lexical aspect of core unaccusative verbs represents the telicity feature of an event through the resultant sub-event, directly indicating a point of an event and implying its completion. However, various non-core unaccusative verbs may lack a semantic resultant sub-event at the language level and imply results through the process of the event, thus characterizing telicity. Therefore, the telicity feature is not confined solely to the combination with result sub-events. When the development of an event does not show a clear resultant state, the telic feature can also be manifested during the event's development, thereby projecting a non-core unaccusative syntactic structure.

2.2 The Relationship Between Telicity and Lexical Aspect

For a complete event, the information within the lexical aspect is divided into two levels in syntactic representation. One is the cause leading to the event's occurrence, projected by the light verb; the other is the state of the event, projected by aspect, indicating whether the event is completed or not. Therefore, if we consider the event solely from the perspective of internal arguments, the structure of the event is divided

into development and result. Accordingly, events are categorized differently based on their development: states and activities express the continuity of an event, while accomplishments and achievements imply the telicity of an event (Vendler, 1967). The verbal aspect determines the nature of the event associated with the verb. Following Vendler's analysis, different verbs should be classified into fixed categories according to their verbal aspect properties. However, as understood from the previous section's analysis, telicity does not necessarily have a fixed position. When projecting internal arguments, how is the verbal aspect of unaccusative verbs encoded?

In the syntactic projection of events, lexical aspect of each verb encodes unique event information, and the specific arguments associated with the verb rely on different representational methods. The verb not only expresses an action or state but also encodes the event relationships involved in the action or state. Aspect expresses the progression of an event, whether it is completed over time. Lexical aspect, on the other hand, represents this condition at the lexical level. When an event is incomplete, it is still in a dynamic process, depicting the development of the event. Once the event is completed, it characterizes the resultant state after the process. Since there is diversity in the combination of process and result when representing events, there are various situations for the characterization of telicity by lexical aspect, which can be reflected in the lexical aspects of accomplishment and achievement verbs.

If we judge telicity based on the terminal nature of time, both achievement and accomplishment verbs contain the feature of telicity in their lexical aspect. Just as achievement verbs contain the event initiation process projected by the light verb v, syntactically they can carry agent arguments. Accomplishment verbs also contain a resultant state in their lexical aspect, which reflects the feature of telicity in syntax, so the internal argument of accomplishment verbs can move to the subject position, indicating that these verbs highlight their telicity feature more prominently. Take "open" as an example.

(2) The door opened and Alan walked in

In (2), "Open" in English corresponds to "da kai (打开)" in Chinese, which essentially consists of two parts: "da (打)" which means an action and "kai (开)" which means a resultant state of being open. In the example above, although "open" implies the meaning of "da (打)", it does not project syntactically, but only projects the resultant state of "kai (开)". The telic state produced by "开" is associated with "da (打)". In English, the telicity of "open" is fixed within the lexical aspect. Therefore, when projecting the sentence, its telic features can be checked, the internal argument moves to the subject position, and the resultant state of the event is reflected in the realization.

When unaccusative verbs are projected, the internal arguments can reflect the characteristics of the event implied by the lexical aspect. There are two influencing factors: one is the nature of the lexical aspect itself; the other is the participants of the event (Arsenijevic, 2006, p.36). Therefore, not every unaccusative verb's telicity is fixed in the lexical aspect; it may also be displayed through the internal arguments of the event. For example,

(3) The population continues to increase.

The word "increase" in (3) merely reflects a change in the event and does not imply the final resultant state of the event. However, the outcome of this change is manifested in the argument "population," as it transitions from one state to another. The stage of event change implied by "increase" can only be reflected through "population." The continuous changes in the population also embody Verkuyl's (1972) understanding of the telicity of change characteristics. It is precisely because the projection of an event relies on the interaction between lexical aspect and arguments that when the lexical aspect only represents the process of the event, then the arguments represent the development of the event. When the lexical aspect mainly encodes the resultant state of the event, the entire event projection produces a static effect, and the arguments do not undergo any changes. However, when the lexical aspect primarily encodes the development process of the event, the entire event projection has a dynamic effect, and the arguments change along with the development of the event.

Yet, the core of the event lies in the representation of the lexical aspect, which determines the role of the arguments in the event projection. As participants in the event, arguments simply exhibit the state of the event. When the lexical aspect represents the result of the event, then the arguments display the final result state. Conversely, when the lexicon represents the development of the event, then the arguments show the intermediary state of the event, relying on the quantificational characteristics of the arguments to define the development of the event.

2.3 Lexical Aspect Hierarchy Projection

When a lexical aspect does not carry terminal features, it is necessary to verify the telic feature in syntax through the method of grammatical aspect. At this point, the changing characteristics of the participants in the event are relied upon to project the resultant state. Therefore, the role of internal arguments in semantics is to measure the development of an event, and the event encoded in the lexical aspect can be either the endpoint of an event or the process of an event. It is precisely the telicity differences in the lexical aspect that lead to the combinatorial nature of unaccusative structures, rather than being projected by a single lexical aspect.

The combinatorial characteristics of the lexical aspect are mainly reflected in the various ways that the process and conclusion of an event can be combined. Since the objective structure of events is not singular, linguistic

encoding is closely related to cognitive concepts of objective events, and this diversity is also manifested in linguistic encoding. Therefore, lexical aspects can project telicity features through different combinations. When representing the resultant state, it can be directly encoded within the lexical aspect or projected syntactically. In psychological concepts, events primarily describe the external environment of things or their internal nature. The external environment reflects changes in spatial displacement; at this time, the nature of the thing itself does not change, only its position in space. For such cases, there is only one result, so the resultant state is directly projected in linguistic representation, like with verbs of spatial displacement such as "arrive," which carry terminal features and directly project the resultant state. If the event describes a change in the nature of the thing itself, and the described result involves a change in the thing, when characterizing the event, one must reflect both the development of the event and the change in the thing itself. In this case, telic features may be projected syntactically or implied within dynamic projections. It is precisely because of the differences in the nature of events that verbs adopt different methods when projecting result. For descriptions of space, the lexical aspect only encodes the resultant state without describing the process that occurred before the result, which can be proved by verbs belonging to the change of location during projection. It is also possible to merge the process of the event with the resultant state into one projection, which can be proved by unaccusative verbs belonging to the change of state, or to describe the process within the lexical aspect and project the resultant state syntactically, such as passivation projection.

3 . T E L I C I T Y P R O J E C T I O N CHARACTERISTICS AT VARIOUS STAGES OF EVENTS

Due to the variability in telicity within the lexical aspect of unaccusative verbs, their projection also differs syntactically. This variation can be reflected in the choice of auxiliary verbs in some languages, but not in English syntax through auxiliaries. We, however, can describe the hierarchical nature among unaccusative verbs through semantic differences, as the various telicity projections of events essentially represent a transition from static to dynamic states. The aspectual hierarchy among unaccusative verbs can be reflected from the perspective of telicity.

3.1 Telicity in the resultative stage of static projection

Classifying events based on the temporal projection properties, unaccusative verbs belong to the achievement class of verbs. Their lexical aspect includes the resultant

state of event development, and telicity is an inherent characteristic. The core unaccusative verbs imply telicity in their lexical aspect, marking the end of an event. During syntactic projection, the verification of telicity within the autonomous realization of aspect is automatically achieved without the need for explicit syntactic marking of telicity. At different stages of event development, the nature of results and processes differs. Therefore, for some positions or non-accusative verbs that highlight the change in properties, they exhibit a static characteristic. In syntax, some static lexical aspects only encode the resultant state, projected from [BECOME]. For example:

(4) And if you get on that plane right now, it'll disappear forever.

Because the argument "plane" of (4) does not change in the static stage, the reflection of static events on the language level is not obvious. Therefore, the events contained in the lexical body cannot be reflected through the arguments, nor can the event composition in the lexical body be understood according to the change of arguments. It cannot represent the displacement in the external space and the change of the subject's inherent nature. When things move, not only a part of them will move in space, while another part remains unchanged, so the spatial displacement involving the whole thing has the characteristics of integrity. This kind of integrity indicates that the nature of the event only occurs at the lexical level and is not affected by the nature of the argument. For the projection of this kind of unaccusative verbs, the lexical body itself implies a single result event. If the displacement verb emphasizes the final arrival state, its dynamic process will not be highlighted, and syntactically, only the static result state will be presented.

For typical unaccusative verbs, the goal is to display the final state of an event. Therefore, their telicity is implied within the resultant state, indicating the end of the event. However, this bounded quality can change because in the events expressed through language, the final state in the objective world is not always presented. In syntax, only the final condition of the process can be implied. The nature of the result does not differ from the process; the result is not fixed in the lexical aspect and remains in a free-floating state in syntax. Hence, unaccusative verbs do not always exhibit uniformity in their choice of auxiliary verbs. Accusatives, semantically, refer to arguments affected by agents, holding uniqueness in the nature of events, reflecting the resultant state of the event. Core unaccusative verbs aim to project this nature, while peripheral unaccusative verbs possess not only resultativity but also imply the nature of event development. When the result is projected by [Become], even static results may show dynamic tendencies. In the transformation of events, it's possible to project not just the outcome of the transformation but also highlight the process of transformation, indicating the process of state change. For example:

(5) However, timber structure is disappearing gradually in China because of historical reasons. (from on-line dictionary)

In (5),"disappear" encodes the process into the lexical aspect, which is demonstrated by -ing. The telic nature of "disappear" not only reflects the process before the change but also emphasizes the resultant state after the process. Although such verbs with a bounded nature may exhibit characteristics of the process, they are always realized through the mode of the resultant state. Therefore, it is inappropriate to use a temporal phrase led by "for" to modify this process. For example:

(6) *The plane was disappearing for 2 minutes.

Every resultative verb has different dynamic tendencies. For instance, "arrive" cannot directly project a dynamic process like "appear" does; it can only directly highlight the resultant state. For example:

(7) a. *John arrived at the airport for one hour.

b. John arrived at the airport in an hour.

The prepositional phrase in an hour of b reflects the culmination of the event conveyed by arrive. In the relationship between process and result, there is a temporal projection difference between the process and the result. This is not only reflected in the collocation of time phrases but can also be demonstrated through tense. If the lexical aspect implies a process, then the verb can be used in the progressive tense; otherwise, it cannot be used in the progressive tense, which has been demonstrated by example (6).

3.2 Telicity in the Dynamic Projection

The hierarchy of unaccusative verbs is not only reflected in the static representation of telicity, but it can also project by being integrated with the dynamic process of events. Take "break" as an example:

For instance:

(8) a. The vase broke.

    b. #The vase was breaking.

(9)

Broke e
- (vase) Broken (explicit result) e'
- break (vase) (implicit process) e''
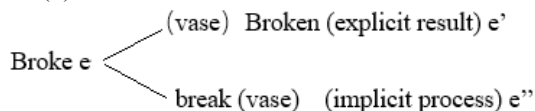
In the lexical aspect of "break", the event 'e' in (9) encompasses both the implicit dynamic process "break (vase)" and the explicit result "(vase) broken", which can be illustrated in (9). These two events do not have the same status when syntactically projected. Only (8a) has a legitimate status, with the result event occupying a prominent position. Although (8b) is illegitimate, the process always exists within the lexical aspect and can be reflected in its transitive syntax.

The lexical aspect discussed above reflects the telicity of different verbs, which results in various end states. Whether it's spatial displacement or a change in the nature of the object itself, when projecting telicity, the lexical aspect encodes not only one result state of an event but also the dynamic process. The semantic hierarchy of unaccusative verbs reflects the change between static and dynamic states. If we take verbs of motion as an example, the static mainly refers to the final state after displacement, while the dynamic refers to the process of the event's displacement. According to Montague's (1969, pp. 149-150) description of event properties, the endpoint indicates the state of the described object at the final stage of the event's development. The development of an event leads to a result state, so the nature of the result state and the process will not be the same. A typical feature of unaccusative structures is their telicity, which is reflected through the resultant event. However, when projecting the resultant event, the lexical aspect can imply not only the changing process of the result but also the development process of the event. If we consider the change of the result and the development of the event as different dynamic processes, it is clear that the dynamics of the process are more pronounced than the dynamics of the change in the result. This is why verbs like "break," which imply a dynamic process, have corresponding transitive verbs.

The verbs we discussed earlier all have clear resultant state events. However, there are also unaccusative verbs that do not have obvious resultant states, and their telicity is directly reflected in the dynamic process. These verbs are progressive verbs, such as "melt", "increase", etc. They are always in the process of development, so the event process they encode and the result are integrated, and the telicity in the result is reflected in the dynamic process. When an event occurs, the process itself implies the change of the event and the resulting outcome, which can be demonstrated through the event's participant arguments. The continuous changing state of the argument reflects the telicity of the event, so for these verbs, there is no clear cognitive demarcation between the process and the result. For example,

(10) The ice melted into water in a minute.

Every moment of the 'melt' event in (10) involves the production of water, which, like verbs of location change within the lexical body, directly reflects the endpoint within the lexical body. The event information encoded in the lexical body is not fixed and is susceptible to contextual influence. Therefore, the lexical body of such verbs is quite flexible.

(11) The rate of inflation increased by 5%.

In (11), the argument evolves with the development of "increase" and the final result of 5% is presented in syntax. In the lexical body, what's encoded is mainly the dynamic process of increase, not the final result. It is precisely because the change of the argument may have certain continuity that this telicity contains a continuous dynamic process. This process can be demonstrated through the ongoing tense. For instance,

(12) The number of reported crimes is increasing at an alarming rate.

The "-ing" form highlights the dynamic process of the "increase" event, making it impossible for the telic nature of the event's result to be reflected in syntax. However, in lexical aspect, the telicity implied in the process presents a diversity of characteristics of the event's telicity. Such words exhibit non-terminative characteristics, for example.

(13) The soup cooled for ten minutes.

(14) The boat sank for forty minutes.

(15) The submarine ascended for thirty minutes.

Verbs of this type imply a duration of dynamic processes, and they stand in stark contrast with "disappear", which, although it can be paired with time phrases indicating duration, emphasizes the duration of the result. From the above analysis, we can see that gradual unaccusative verbs have significantly stronger dynamic features in their lexical aspect than unaccusative verbs of location change. At the same time, the processes implied by gradual verbs are always changing, and there is another class of verbs where the result state and the process are integrated. These are verbs of process continuation. In the lexical aspect of verbs of process continuation, the described properties or positions do not change at all, such as "stay", "exist". The lexical aspect of these verbs can only represent the continuation of properties or positions, so they cannot reflect the changing process of event development, only the development of the event itself. "He stayed there for one hour." The lexical aspect does not encode any event information internally. Moreover, it can also use words like "intend" (16) that indicate intention to show the agentivity of these verbs.

(16) a. He intends to stay there for one hour.

　　b. *He stayed there in an hour.

Furthermore, they cannot use time phrases introduced by in-adverbials of (16b) to diagnose the telic reading. Since these verbs convey the same information from beginning to end, they can be seen as encoding either the final state or the intermediate developmental process.

4. CONCLUTION

English language does not have a syntactical explicitness in hierarchical division of unaccusative verbs, which is based on the gradient study of unaccusative verbs using auxiliary words in some languages. The hierarchical feature, however, can be reflected through the semantic behavior. we find, based on Verkul's understanding of telicity, that the telicity of English unaccusative verbs does not have consistent characteristics. If we consider core unaccusative verbs as the end of an event, then their telicity shows traditional static features, implying the completion of an event. The telic features of some unaccusative verbs are not always in an unchanged state;

they can generate corresponding atelic features as the event develops, thus showing dynamic characteristics. Based on this, it is easy to explain the different syntactic structures derived from these unaccusative verbs, especially being able to match different time phrases according to the event conditions implied in the lexical aspect. It is the integration of telicity into dynamic eventual progression that leads to the different syntactic structures. Therefore, analyzing the telicity characteristics of unaccusative verbs not only helps us enhance our understanding of telicity but also account for the overlapping phenomena of dynamic progression and telicity in eventual aspect, allowing us to distinguish English unaccusative verbs and explain their different syntactic behaviors semantically.

Though our study has shown the hierarchy of unaccusative verbs by illustrating the features of telicity, there are still some points which are not clearly examined. Firstly, we have mainly discussed how the telicity should not be defined to have natural, culmination points, regardless of what it took to get there. While we have proved how some unaccusative verbs show different features of telicity, there are still lack of principles guiding the relation between telicity and hierarchy of unaccusative verbs. Secondly, many unaccustive verbs are related to the change of certain properties, just as Beavers (2012, p. 52) mentioned change-of-state predicates are often analyzed as describing change along a scale defining the possible states the patient can have. Thus, it is necessary to set up a mereological model to account for the crucial fact that the event is always related to some argument in some way that generates a transfer of reference properties. we still need more work to capture the correlation of telicity to the expression of the incremental theme of those unaccusative verbs.

REFERENCES

Arche, M. J. (2006). *Individuals in time: Tense, aspect and the individual/stage distinction.* John Benjamins.

Arsenijevic, B. (2006). *Inner aspect and telicity: The decompositional and the quantificational nature of eventualities at the syntax-semantics interface.* Netherlands Graduate School of Linguistics.

Aranovich, Raúl. (2007). Split auxiliary selection from a cross-linguistic perspective. In R. Aranovich (Ed.), *Split auxiliary systems* (pp.1-23). John Benjamins.

van Hout, A. M. H. (2000). Projection based on event structure. In M. Everaert, P. Coopmans, & J. Grimshaw (Eds.), *Lexical specification and insertion* (pp.403-427). John Benjamins Publishers.

van Hout, A. (2004). Unaccusativity as telicity checking. In A. Alexiadou, E. Anagnostopoulou, & M. Everaert (Eds.), *The unaccusativity puzzle: Explorations of the syntax-lexicon interface* (pp.250-254). Oxford University Press.

Beavers, J. (2012). Lexical aspect and multiple incremental themes. In V. Demonte & L. McNally (Eds.), *Telicity, change, and state: A cross-categorial view of event structure* (pp.23-59). Oxford University Press.

Burzio, L. (1986). Italian syntax: A government-binding approach. Reidel.

Kempchinsky, P. (2000). Aspect Projections and Predicate Type. In H. Campos, E. Herburger, A. Morales-Front & T. J. Walsh (Eds.), *Hispanic linguistics at the turn of the millennium* (pp.171-187). Cascadilla Press.

Krifka, M. (1998). The origins of telicity. In S. Rothstein (ed.), Events and grammar (pp.197-235). Springer.

Liu, F. H. (2007). Auxiliary selection in Chinese. In R. Aranovich (Ed.), *Split auxiliary systems* (pp.181-205). John Benjamins.

Montague, R. (1969). On the nature of certain philosophical entities. *The Monist, 53*(2), 159-194.

Ramchand, G. (2008). *Verb meaning and the lexicon: A first phase syntax*. Cambridge University Press.

Sorace, A. (1993). Unaccusativity and auxiliary choice in non-native grammars of Italian and French: Asymmetries and predictable indeterminacy. *French Language Studies, 3*(1), 71-93.

Sorace, A. (2000). Gradients in auxiliary selection with intransitive verbs. *Language, 76*(4), 859-890.

Tenny, C. (1987). *Grammaticalizing aspect and affectedness.* PhD dissertation. MIT.

Tenny, C. (1994). *Aspectual roles and the syntax-semantics interface*. Kluwer.

Ritter, E., & Rosen, S. T. (2005). Topic or aspect: Functional heads, features and the grammaticization of events. In P. Kempchinsky, & R. Slabakova (Eds.), *Aspectual inquiries* (pp.21-39). Springer.

Vendler, Z. (1967). *Linguistics and philosophy*. Cornell University Press.

Verkuyl, H. (1993). *A theory of aspectuality: The interaction between temporal and atemporal structure.* Cambridge University Press.

Li, K. S., & Man, H. X. (2013). The boundedness of VP and the event structure of serial verb constructions. *Modern Foreign Languages, 2,*127-134.