

# The Method of Causative-to-Unaccusative Entailment for Identifying English Ergative Verbs Based on the Criteria

**Linlin Zhu**

*School of English, Xi'an International Studies University, Xi'an, 710119, China  
1208973619@qq.com*

**Abstract:** Extensive research has been conducted on ergative verbs both domestically and internationally. However, there is still ongoing debate concerning the classification and criteria for ergative verbs. This paper subscribes to the notion that unergative verbs are a subset of unaccusative verbs, and aims to contribute to the ongoing debate on their classification and criteria. Additionally, this paper discusses the method of causative-to-unaccusative entailment for identifying ergative verbs based on these criteria.

**Keywords:** ergative verbs; causative-to-unaccusative entailment; unaccusative verbs; unergative verbs; argument

## 1. Introduction

The study of verbs is a crucial part of linguistics, and there are different types of verbs that can be classified based on their properties in a sentence. Transitive verbs are those that take a direct object.

(1a) I eat the apple.

The object of the verb eat is the apple, and it receives the action of the verb *eat*. Intransitive verbs, on the other hand, do not take a direct object. Instead, they may have an optional adverbial phrase or prepositional phrase that adds more information to the sentence. Perlmutter proposed a theoretical division of intransitive verbs into unergative and unaccusative verbs. Unergative verbs are intransitive verbs that express an action performed by the subject of the sentence, such as *dance*.

(2a) She dances well.

The subject of the sentence is the one doing the dancing, and there is no direct object. Unaccusative verbs, on the other hand, are intransitive verbs that describe a change of state or a process that happens to the subject of the sentence, such as *fall*.

(3a) The vase fell.

In this sentence, the vase is the subject and it has undergone the action of falling.

In addition, ergative verbs have always been the research focus among scholars at home and abroad. *Collins COBUILD English Language Dictionary* uses V-ERG to describe verbs which are both transitive (V+O) and intransitive (V) in the same meaning. The subject of the intransitive form is the same entity as the object of the transitive form.

(4a) He broke the mirror.

(4b) The mirror broke.

In English, *break* is an ergative verb. In (4a), *break* is a transitive verb and in (4b) *break* functions as an intransitive. The object in (4a) consists with the subject in (4b).

The classification of the ergative verbs have always been ambitious. Some scholars identify the unaccusative verbs with ergative verbs, while some support that the ergative verbs belong to the unaccusative verbs. This paper adopts the version that the ergative verbs belong to the unaccusative verbs based on the causative-to-unaccusative entailment proposed by *An Introduction to English Semantics and Pragmatics*, as shown in Figure 1.

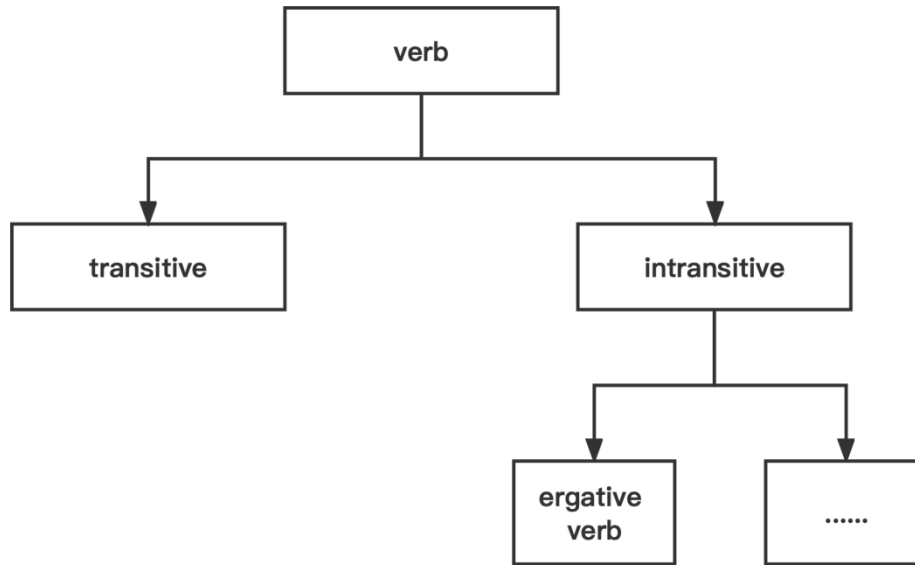


Figure 1. The Classification of Verbs

The criteria for identifying ergative verbs have been a subject of debate among linguists. This paper aims to delve deeper into the criteria for ergative verbs and present a method for identifying them.

## 2. The famous unaccusative hypothesis

Perlmutter first discussed the unaccusative verbs and proposed the famous unaccusative hypothesis, which distinguishes two types of intransitive verbs: unergative verbs, whose subjects are agents that can be assigned the role of the doer of the action, and unaccusative verbs, whose subjects lack volition and generally receive the role of theme. The feature of unaccusative verbs can be summarized as follows: their only argument acts as an object in the deep structure and as a subject in the surface structure; semantically, they describe a change of state or process, and their subjects lack volition.

Burzio inherited and developed Perlmutter's ideas in his research on Generative Grammar. He proposed that, based on the argument structure, the direct arguments of an unaccusative verb that are semantically selected should be analyzed as internal arguments, while the arguments of an unergative verb should be analyzed as external arguments.

Afterwards, many linguists conducted extensive research on the phenomenon of unergative and unaccusative verbs in different languages, achieving a large amount of research results. In the meanwhile, the further classification of unergative and unaccusative verbs have been studied for a long time and the debate concerning this issue is still ongoing. Some scholars who focus on syntactic research believe that the ergative verb phenomenon is mainly a syntactic phenomenon. Therefore, they are committed to finding practical syntactical patterns to identify the ergative verbs. These patterns mainly include: participle adjective conversion, middle formation, causative alternation, intransitive structure conversion and so on.

Research on the topic of ergative verbs in China started relatively late. In-depth exploration of the explicit accusative phenomenon and the comparative study of ergative verbs in different languages have been made. Furthermore, scholars started to use the ergative verbs to study the second language acquisition. The research has deepened the academic community's understanding of ergative verbs in Chinese.

Despite significant research on ergative verbs, there remains no consensus on what qualifies as an ergative verb. While scholars have described the phenomenon of ergativity in various languages, there is little agreement on the specific characteristics, scope, and criteria that define an ergative verb. Some researchers have even conflated ergative verbs with unaccusative verbs, which further complicates the concept. Moving forward, future research should prioritize establishing clear and precise definitions, as well as identifying criteria for identifying and categorizing ergative verbs across languages. This will enable scholars to better understand the nature of this linguistic phenomenon and its implications for

language processing and acquisition.

Overall, the study of verb classification is an ongoing and complex area of linguistics, and further research is needed to fully understand the relationships between different types of verbs and their syntactical and semantic functions in language.

### 3. Criteria for English ergative verbs

#### 3.1 The combination of three-dimensional meanings

Ergative verbs contain three-dimensional meanings, including the meanings of action, causation and resultant state. And when the ergative verb functions as the intransitive verb in the sentence, this verb only shows the resultant state[1].

(5a) John broke the vase.

(5b) The vase broke.

In (5a), *John* is the subject of the verb *broke*. In sentence (5b), *the vase* functions as the subject and the verb *broke* as the predicate. From these two examples, it can be seen that the verb *break* can be used as both a transitive verb and an intransitive verb without changing its form and meaning. In the first sentence, when *break* is used as a transitive verb, it indicates action. The subject *John* acted on the object *vase*. In addition, sentence (5a) can also be said that *John* made the vase become broken. In this respect, the verb *break* has the function of causation. Besides, the object *vase* became a “broke” state, which means that the vase was broken. It shows the resultant state of the object *vase*. In sentence (5b), when *broke* is used as an intransitive verb, it only expresses the resultant state of the object *vase* being “broke”.

#### 3.2 The quality of causation

The ergative alternation means the phenomenon of using intransitive ergative verbs and transitive causative verbs interchangeably. And the ergative alteration has been seen as an important criterion for the ergative verbs[2]. Therefore, the second criterion for judging the validity of ergative verbs can be described as whether the verb in the transitive structure has a causative meaning. The basic meaning expressed by a causative sentence is to cause someone or something to carry out a certain behavior or process.

(6a) John rolled the rock down the hill.

(6b) John caused the rock to roll down the hill.

Sentence (6a) is equivalent to sentence (6b). The experiencer of the verb *roll* is *the rock*, and the agent is *John*.

From the above two criteria, a method called causative-to-unaccusative entailment can effectively reflect these two criteria.

### 4. The method of identifying ergative verbs

#### 4.1 Causative-to-unaccusative entailment

In *An Introduction to English Semantics and Pragmatics*, causatives entailing accusatives with the same verb form can prove that the verb is an ergative[3]. Causative-to-unaccusative entailment is a linguistic phenomenon where the meaning of a sentence changes from causative to unaccusative when a certain grammatical transformation is applied.

A causative sentence describes a situation where the subject causes an object to undergo a certain action. In contrast, an unaccusative sentence describes a situation where an object undergoes a change of state or an action without an external agent.

In certain cases, it is possible to transform a causative sentence into an unaccusative sentence through a grammatical process known as causative-to-unaccusative transformation. This involves changing the verb from a causative to an unaccusative form and removing the external agent from the sentence. This transformation works because the verb can be used both transitively and intransitively.

Table 1. Causative with One Entailment

<i>Causatives</i>	<i>Entailments</i>
He shattered the window.	The window shattered.
He grew several vines.	Several vines grew.
The guide walks tourists through the park.	Tourists walk through the park.

From the above table, it seems that *shatter*, *grow* and *walk* are all ergative verbs because both in *causatives* and *entailments* they have the same verb form. Nonetheless, according to *An Introduction to English Semantics and Pragmatic*, *walk* is an unergative verb instead of an ergative verb. Hence, through the table of causative with one entailment is not enough for the criteria. The premise that the verb in the entailment must be an unaccusative is neglected. After causative-to-unaccusative entailment, we still need to judge whether the verb in the entailment is an unaccusative.

#### 4.2 Distinction between unergative verbs and unaccusative verbs

##### 4.2.1 A test of the acceptability with the adverb carefully

In *An Introduction to English Semantics and Pragmatics*, a test of acceptability with the *adverb carefully* has been offered to make a distinction between the unergative and unaccusative verb. When *carefully* is added to the entailment and the sentence still makes sense, the verb in the entailment is an unergative verb. Conversely, the verb is an unaccusative. Below are examples:

- (7a) They walked through the park.
- (7b) They walked through the park carefully.
- (8a) The flowers grew.
- (8b) \*The flowers grew carefully.

Sentence (7b) is unproblematic, so we can arrive at the conclusion that *walk* is an unergative verb. However, sentence (8b) does not make sense, so *grow* is an unaccusative verb.

This method applies to the above situation. However, there are some situations where this method cannot work.

- (9a) They sleep.
- (9b) \*They sleep carefully.
- (10a) He cries.
- (10b) \*He cries carefully.

*Sleep* and *cry* are both the unergative verbs. Nonetheless, it is clearly that sentence (9b) and sentence (10b) do not make sense. Hence, the method of testing the acceptability with the adverb *carefully* is not applicable to all cases. It is necessary to find other universal ways to distinguish between the unergative and unaccusative verbs.

##### 4.2.2 Distinction between the unergative verbs and unaccusative verbs

Before finding a universal way to make a distinction between the unergative and unaccusative verbs, we should have a command of the principle lying behind the method of testing the acceptability with the adverb *carefully*. Adding *carefully* is to test whether the subject of the sentence is responsible for the verb. In the unergative structure, the subject is responsible for the unergative verb because the subject of the sentence is the agent of the verb. By contrast, the subject of the unaccusative sentence is not responsible for the action because the subject in the sentence is actually the experiencer of the verb.

The direct arguments of unaccusative verbs in terms of argument structure is analyzed as internal arguments. The inner arguments stand for the logical object in the deep structure of the sentence, similar to the direct object of transitive verbs. However, the arguments of unergative verbs are analyzed as external arguments. The external arguments stand for the logical subject in the deep structure of the sentence, similar to the subject of transitive verbs[4]. Unergative verbs have only external arguments and no internal arguments, while unaccusative verbs have only internal arguments and no external arguments. The difference in argument structure between these two types of intransitive verbs is extremely clear, without ambiguity or intermediate states. However, argument structure reflects the lexical semantic structure of the verbs and represents the initial or underlying generated position of

argument components in the verb structure, which is not always visible in surface syntax. In the syntactic operation of the sentence structure, once the internal argument of an unaccusative verb moves into the regular subject position of the sentence, its linear position is exactly the same as the position of the external argument subject in a non-accusative verb sentence. Obviously, once surface syntax obscures the inherent differences in the argument structure, linear order cannot distinguish between the unergative verbs and the unaccusative verbs. Therefore, the method based on the argument structure to distinguish the unergative and unaccusative verbs does not act as an effective and quick way.

The method based on the syntax is not useful. Then we can turn to the method based on the semantics to make a distinction between the unergative verbs and the unaccusative verbs. The unaccusative hypothesis raised by Perlmutter in 1978 offers us a way to distinguish the two types of the verbs based on the semantics. Perlmutter noticed that the unergative and unaccusative verbs have different semantic features. Unergative verbs tend to refer to the activities that express volitional or self-controlled behavior, including all self-controlled action verbs (such as *dance*, *play* and *work*) and verbs describing the physical functions (such as *cough*, *sleep*, *cry*). In contrast, unaccusative verbs tend to express non-volitional or non-controlled actions, including verbs with a patient subject (such as *burn*, *open*, and *sink*), existential verbs (such as *exist*, *occur*, and *disappear*), as well as verbs expressing time, duration, and continuity (such as *begin*, *stop*, and *remain*). These verbs mainly convey non-volitional events and changes in the state or location of their subjects. In the former case, the subject's semantic role is the agent, while in the latter case, the subject's semantic role is the experiencer. Hence, based on the volitionality of the verbs, we can make a distinction.

Additionally, it is worth noting that the adverb *carefully* cannot be used with all sentences containing unergative verbs, as the self-controlled verbs are only a subset of unergative verbs. By contrast, all sentences containing unaccusative verbs cannot be modified by the adverb *carefully*. Therefore, if the addition of *carefully* to a sentence results in an ungrammatical or nonsensical sentence, it is an indication that the verb in that sentence belongs to the unaccusative verb category.

Besides, there is a quick way based on the unaccusative hypothesis to distinguish the unergative and unaccusative verbs. Unergative verbs can be understood as the “do” type verb structures because they tend to select animate nouns, such as people or animals, as their agent argument to describe the voluntary actions of their argument. Conversely, the unaccusative verbs can be understood as “become” type verb structures because they mostly use inanimate nouns as their patient or theme arguments to describe the state or location changes of their argument[5]. Hence, we can add the suffix “-er” to the verb to make a quick distinction. This method only applies for part of the unergative verbs which display the self-controlled action.

## 5. Conclusion

The causative-to-unaccusative entailment method is useful for identifying ergative verbs, based on the criteria established for such verbs. However, it is important to consider whether the verbs involved in these entailments are actually unaccusative verbs. While testing the acceptability of the adverbs *carefully* may be helpful in distinguishing between unergative and unaccusative verbs, it is not always applicable. As an alternative, the unaccusative hypothesis proposed by Perlmutter, which examines the volitionality of the verb, can be a valuable tool in this regard.

## References

- [1] Wang Wenbin, Luo Siming, Liu Xiaolin, Yu Shanzhi. *The Semantics and Syntax of English and Chinese Ergative Verbs and Their Interface: A Comparative Study [J]*. *Foreign Language Teaching and Research*, 2009, 41(03): 193-201+241.
- [2] Li Zongyang. *Typological Origination of Transitive Features of Ergative Alternation [J]*. *Foreign Language Research*, 2016, (02): 56-59.
- [3] Patrick Griffiths, Chris Cummins. *An Introduction to English Semantics and Pragmatics Second Edition [M]*. Edinburgh University Press, 2017
- [4] Donna Jo Napoli, Luigi Burzio. *Italian Syntax: A Government-Binding Approach [J]*. *Language*, 1988, Vol. 64(1): 130
- [5] Han Jingquan. *On the Unaccusativity of the English Verb DIE [J]*. *Foreign Language Teaching and Research*, 2020, 52(06): 817-829+9