The Unergative-Unaccusative Split: A Study of the Verb DIE [1]

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ABSTRACT

This article aims to diagnose the unergative-unaccusative distinction with reference to the verb die which often displays differing behaviours because it can appear in many different syntactic constructions. Particularly, the study seeks to establish whether die is an unergative or an unaccusative verb, using eight diagnostics for unaccusativity (e.g. the one's way construction, the pseudo-passive construction, the cognate object construction) Results of the study have shown that the verb die stands astride the border between an unergative verb and an unaccusative verb. There is no single reliable diagnostic test for the unergative/unaccusative contrast, which can dictate whether die is either unergative or unaccusative. It is more likely to depend on which diagnostic test is adopted.

บทคัดย่อ

บทความวิจัยนี้มีวัตถุประสงค์เพื่อหาสาเหตุความบกพร่องในการแบ่งกริยาอกรรมออกเป็น 2 ประเภท (unergative และ unaccusative) โดยอ้างอิงจากคำอกรรมกริยา "ตาย" ซึ่งมีลักษณะการปรากฏในหน่วยสร้างต่างกัน บทความนี้ยังมุ่งพิสูจน์ว่า "ตาย" เป็นกริยาอกรรมแบบมีผู้กระทำเป็นประธาน (unergative) หรือแบบมีผู้รับการกระทำหรืออรรถบทเป็นประธาน (unaccusative) โดยอาศัยแบบทดสอบวินิจฉัย 8 แบบ (อาทิ หน่วยสร้าง one's way หน่วยสร้างกรรมวาจกเทียม หน่วยสร้างแบบกรรมที่มีรูปแสดงเหมือนกับคำกริยา เป็นต้น) ผลการศึกษาพบว่า "ตาย" เป็นได้ทั้งกริยาอกรรมแบบมีผู้กระทำเป็นประธานและแบบมีผู้รับการกระทำหรืออรรถบทเป็นประธาน ฉะนั้นจึงยังไม่ปรากฏว่ามีแบบทดสอบวินิจฉัยที่ใช้แยกกริยาอกรรมออกเป็น 2 ประเภทอย่างชัดเจน โดยเฉพาะอย่างยิ่งกรณีของกริยาอกรรม "ตาย" หากขึ้นอยู่กับว่าจะใช้แบบทดสอบวินิจฉัยใดทดสอบมากกว่า

Introduction

It has long been observed cross-linguistically that intransitive verbs show some non-random grammatical heterogeneity (Ryu, 1996). This study investigates a dichotomous classification for intransitive verbs in English, namely 'split intransitivity' which was first proposed by Perlmutter (1978) under Relational Grammar and later adopted into the framework of Government and Binding theory (GB), proposed by Burzio (1986). The heterogeneous behaviours of intransitive verbs are accounted for by assuming that intransitive verbs are divided into two distinct categories: unergative verbs and unaccusative verbs, both of which project their sole argument differently according to their thematic natures.

On the one hand, intransitive verbs such as laugh, walk, smile, talk, grin, sleep, jump, yawn, and shout subcategorize for one external argument, a subject, as in Jane smiled. The verb smile subcategorizes for the subject argument John who is responsible for, or has volitional control over, the event denoted by the verb. In other words, the verb smile is said to theta-mark the subject argument John with the Agent role. This subcategory of intransitives that takes Agent as their subjects is called unergative verbs.

On the other, intransitive verbs such as arrive, appear, leave, occur, exist, thrive, emerge, remain, elapse, drift, happen, arise, wilt, fall, exist, glisten, seem, linger, prevail and rise subcategorize for one internal argument, an object, as in Nimbus appeared. The verb appear, and such like, subcategorizes for one underlying object nimbus which obligatorily surfaces in the subject position (Burzio, 1986). This sole argument is internal (or an object at the initial level of representation) and theta-marks the underlying object argument nimbus with the Theme (Patient) role. Unlike unergative verbs, this subcategory of intransitives that takes Theme/Patient as their subjects, which are affected by the event denoted by the verb, is called unaccusative verbs.

This phenomenon is dubbed 'the Unaccusative Hypothesis' (henceforth, UH) stipulating that across languages intransitive verbs are of two types: unaccusative verbs and unergative verbs, each of which is associated with a distinct underlying syntactic structure (Perlmutter, 1978; Burzio, 1986); this distinction is illustrated by the syntactic configurations in (1).

(1)   a. Unergative: [$_S$ [$_{NP}$ Johni] [$_{VP}$ [$_V$ spoke]]

      b. Unaccusative: [$_S$ [$_{NP}$ The problem$_i$] [$_{VP}$ [$_V$ arose] [$_{NP}$ ti]]]

The unergative spoke in (1a) originally has an underlying subject as an external argument bearing the participant role AGENT (Jackendoff, 1974), which is originated in the subject position and remains as such throughout the syntactic derivation. The unaccusative arose in (1b) originally has an underlying object the problem as an internal argument, thereby assuming the participant role THEME (Jackendoff, 1974), but lacks an underlying subject. Not only do unaccusative verbs have an external argument, but they also lack the ability to assign accusative Case (see Burzio, 1986). As a result, the underlying object the problem (the internal argument of arose) moves to a subject position to serve as a surface subject and receives nominative Case in this very position.

It can be stated that unaccusative verbs do not imply the existence of an Agent. Unaccusative verbs are therefore akin to passive verbs in that a subject on the deep structure level originates as an initial direct object. The object of the unaccusative verb has to move to the subject position, presumably because of the Case filter, whereby all overtly realized noun phrases (NPs) are required to be assigned Case at some stage of the derivation (Lasnik and Uriagereka, 1988; Haegeman, 1994 and 1999).

Within the GB approach, the single argument of unaccusative verbs is syntactically equivalent to the direct object of transitive verbs (or direct internal argument), whereas the single argument of unergative verbs is syntactically equivalent to the subject of transitive verbs (or external argument). Described as single-argument verbs, both unergatives and unaccusatives are said to be semantically different. Contrary to unergatives, unaccusatives generally have some kind of causative meaning. Oshita (2001) states further that the distinct properties of the two verb classes of intransitive verbs become very clear when they are compared to transitive causative verbs (e.g. crush as in Joe crushed his cigarette) because at the argument-structure level the single argument of an unaccusative exhibits the same characteristics as the object of a causative (his cigarette), whereas that of an unergative behaves like the subject (Joe). Each verb class can be characterized in terms of the lexico-semantic configurations as in (2).

(2) a. Causative argument structure: (x <y>)

b. Unaccusative argument structure: <y>

c. Unergative argument structure: (x)

In (2), <y> stands for the direct internal argument of an unaccusative which appears to be the subject after the syntactic derivation, while (x) stands for the external argument of an unergative of which its predicates denote willed and volitional acts. Simply put, (x) originates as the subject and remains as such throughout the course of the syntactic derivation (Dowty, 1979; Van Valin, 1990).

A substantial body of research has shown that most of the syntactic diagnostics of unaccusativity-unergativity (e.g. auxiliary selection in Italian (Burzio, 1986), resultative constructions in English (Iwata, 2006)) tend to identify semantically coherent subsets of verbs. Sorace (2000) investigates auxiliary selection in L2 Italian and French. Levin and Rappaport Hovav (1995) explain the distinction between unaccusative verbs and unergative verbs. Although the difference between unaccusative and unergative verbs is syntactically encoded in terms of d-structure configurations, it is also semantically determined (as originally assumed by the UH).

The unaccusative-unergative dichotomy is also related to differences in the semantic properties of these verbs and the constructions in which they appear. Agentivity (intentionality) tends to correlate with unergativity. Patienthood correlates with unaccusativity (Dowty, 1991). In addition, the unergative/unaccusative distinction can be captured in terms of semantic properties. Dowty (1979) suggests the aspectual classification of a verb by following the intuition of Vendler (1968) as follows:

(3) a. States which encode actions lasting for a period of time, e.g.

know, believe, love, exist, like, have,…..

b. Achievements which encode instantaneous events, e.g.

learn, die, arrive, notice, find, cough, break (intransitive),……

c. Accomplishments which encode events with duration, e.g.

teach, kill, walk to the park, learn Thai, break the window, eat the spaghetti, run

for an hour, make a decision, build,…….

d. Activities which encode processes, e.g.

walk, run, cough all the time, eat spaghetti, drive a car, dance, swim,…..

These aspectual classes of verbs can also be grouped on the basis of stativity/activity and telicity/atelicity. 'Stativity' encompasses states and achievements, while 'activity' activities and accomplishments. 'Telicity' (encoding events with natural endpoints) consists of achievements and accomplishments, while 'atelicity' includes states and activities. Unergatives are typically activities (open-ended processes) such as run, dance, speak, talk, play, fight, grin, walk, yawn, sleep, frown, bark, work, hobble, etc, and unaccusatives are achievements (point events which end as soon as they start) such as happen, collapse, arise, fall, thrive, (dis) appear, blush, elapse, die, emerge, vanish, rise, survive, wilt, flow, occur, transpire, ensue, expire, depart, etc.

What turns activities into accomplishments is the accompaniment of a prepositional phrase (PP) indicating endpoints; consequently, unergative verbs (found in activities) such as run, swim, and talk become unaccusative verbs (found in accomplishments) when accompanied by phrases like to the station, across the pool, for an hour. In order to reconcile the variable behaviour of this class of verbs with their approach, Levin and Rappaport Hovav (1995) propose that verbs like run, swim, and talk are originally unergative, but they can undergo a 'lexical meaning shift' such that the verbs become unaccusative in the presence of a directional phrase, representing telic eventualities, viz., their single external argument is 'demoted' to a direct internal argument, and an additional directional argument is added to the argument structure of the verb.

Contrary to Levin and Rappaport Hovav's claim, however, Goldberg (1995) argues that if the one's way construction is taken to be a directional phrase, why there are the following examples still unergative:

(4) a. Little Jennie *jumped* her way to the sandbox.
     b. John *dogpaddled his way* from one end of the pool to the other. (Goldberg, 1995)

Both jump and dogpaddle in (4a) and (4b) are unergative, since they represent volitional events concerning their subject referents. Sentences 4a and 4b counter Levin and Rappaport Hovav's claim in that both verbs take directional phrases, and therefore, they must be considered unaccusative, but they are unergative nonetheless. In a nutshell, it seems there is no demarcation line using four verbal aspectual classes to distinguish between unergatives and unaccusatives.

In addition, both unaccusatives and unergatives cannot undergo causativization. Let us observe the following sentences:

(4) a. *The magician disappeared the rabbit.
     b. *The clown laughed the children.

Both (4a) and (4b) are ungrammatical, because in no way can the added arguments the rabbit in (4a) and the children in (4b) be identified in their lexico-semantic representation.[3] However, these verbs in (4) are perfectly natural with periphrastic make, as in (5).

(5) a. The magician made the rabbit disappear.
     b. The clown made the children laugh.

Furthermore, according to Perlmutter (1978), the same intransitive verb can behave both like an unergative and an unaccusative, which is semantically determined by a volitional act, as shown in (6).

(6) a. The wheels slid on the ice. (unaccusative)
     b. Joe slid into theird base. (unergative) (Perlmutter, 1978)

The verb slid (6b) is unergative because it denotes a willed action, but the same verb in (6a) is considered unaccusative because no volitional act is concerned. In addition to the same verb designated as both an unergative and an unaccusative, Perlmutter also points out that in some cases the distinction between unaccusativity and unergativity can collide. Let us look at (7).

(7) Joe slid on the ice. (unergative/unaccusative)

Sentence (7) is ambiguous between a volitional act, in which case slid would be unergative, and a non-volitional one, in which case slid would be unaccusative.

Although Perlmutter's original formulation of the Unaccusative Hypothesis states that the difference between unergatives and unaccusatives is syntactically represented, it is also assumed by Levin and Rappaport Hovav (1995) that this distinction is semantically determined. Rosen (1996) argues that all unaccusative predicates, regardless of their

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[3] See (1)

semantic class, share certain syntactic properties (i.e., the inability to assign accusative case, selection of a single internal argument, and lack of an external argument). Van Valin (1990) adopts the semantic approach by claiming that unaccusativity is not a unified syntactic phenomenon based on the fact that some verbs can test as unaccusative for one diagnostic and unergative for another.

This study seeks to find out whether die is an unaccusative verb or an unergative verb by demonstrating different diagnostic tests in determining its syntactic as well as semantic behaviours as follows:

(11) a. The one's way construction (e.g. Willy jumped his way into Jane's arms);

b. The pseudo-passive construction (e.g The bed was slept in by Napoleon);

c. The cognate object construction (e.g. Merlyn laughed a sarcastic laugh);

d. Telicity as a semantic parameter;

e. The resultative construction (e.g. Don't swim yourself sober);

f. Extrapostion from subject NPs (e.g. A man appeared with blond hair);

g. Auxiliary selection in some Romance languages; and

h. Prenominal adjectival passive participle (e.g. a fallen angel)

DIE: Unaccusative or Unergative?

Kuno and Takami (2004) explore a variety of constraints that are conventionally related to unaccusative and unergative constructions. For example, to name but a few, unergative verbs can emerge in the resultative construction, as in Jane shouted herself hoarse, but it is believed that unaccusative verbs cannot. They find that the verb die displays conflicting behaviours which seem to straddle the unergative and unaccusative border. The following section puts forward eight diagnostic tests (11a-h) in order to investigate whether the verb die can be characterized as unergative or as unaccusative. The four diagnostic tests (11a-d) for the unaccusative-unergative distinction claim that the verb die can be seen as an unergative verb, while the other four (11e-h) lend themselves to the way die can be viewed as an unaccusative verb.

1. The one's way construction

One of the characteristics of the one's way construction is that the given intransitive verb can take an object NP, one's way, together with a directional prepositional phrase denoting a path such as around the world, down the street, out of the class, etc (Jackendoff, 1990). Unergatives are said to co-occur with the construction, since they are not inherently syntactically intransitive. Observe the following sentence.

(12) a. John jumped his way into Harriet's arms.

b. John jumped into Harriet's arm.

Sentence (12a) implies a series of jumps, whereas (12b) strongly implies a single jump. Levin and Rappaport Hovav (1995) suggest that this has to do with the unaccusative classification of jump in (12b), as opposed to its unergative classification in (12a). Other examples of unergative uses found in this construction are as follows:

(13) a. Sally swam her way to three gold medals.

b. The Beatles sang their way around the world.

c. John yelled his way down the street. (Kuno and Takami, 2004)

The following examples with unaccusative uses in this construction are grammatically unacceptable.

(14) a. *John appeared his way to fame.

b. *The oil rose its way to the top.

c. *The apples fell their way into the crates. (Kuno and Takami, 2004)

The verb die can co-occur with the one's way construction which is an aforementioned diagnostic test for unergatives, as observed in (14). Thus, die in the following scenario behaves more like an unergative verb.

(15) a. She could die her way out of it.   (Kuno and Takami, 2004)

b. He has died his way out of office.

Not only is the one's way construction limited to an unergative use, but some transitive verbs are also found to appear in this construction, as in (16).

(16) a. He made his way into the room. (Goldberg, 1995)

b. Sue forced her way through the crowd. (Kuno and Takami, 2004)

The one's way construction can be ruled out as a diagnostic tool to pinpoint whether die is an unergative verb, in that some transitive verbs in (16) can be compatible with this construction, and above all, there are some unaccusatives found perfectly compatible with this construction, too, like The driftwood floated its way to the south shore of the island (Kuno and Takami, 2004).

2. The pseudo-passive construction

In English, if a verb selects a case-licensing preposition (V+P) such as sit on the table, sleep on the bed, etc., as opposed dramatically to a phrasal verb, such V+P has a passive form, since it forms one lexical item. What seems to happen is that P pied-pipes into V. This construction is called a pseudo-passive. Levin and Rappaport Hovav (1995) argue that pseudo-passive sentences in English are compatible with unergative verbs, as clarified in (17e-h) below, whereas the verb die, like most of the unaccusative verbs in (17a-d) below, evidently cannot appear in this construction.

(17) a. *Jack was died before by Jane. e. This table was sat on by John.

(cf. Jane died before Jack.) f. The closet was slid into by Jane.

b. *The bed was fallen on by the dust. g. The bed was jumped on by the children.

(cf. The dust fell on the bed.) h. This hall has been lectured in

c. *The hall was increased in by the noise. by three Nobel laureates.

(cf. The noise increased in the hall.)

d. *The room was burst in by the bubble.

(cf. The bubble burst in the room.)

Given this pseudo-passive construction, die is considered an unaccusative verb, because it is not compatible with this construction. But the same account cannot be applied to the unaccusative verb arrive in English. Look at the following sentences:

(18) a. The conclusion was arrived at late at night.

b. The decision was arrived at with no regard to the evidence.

The verb arrive cannot co-occur with this pseudo-passive construction, while unergatives can, despite intransitive verbs. Hence, it can be somewhat sufficient to assume that die with a preposition as a one lexical item fails to passivize according to this construction.

As seen, the pseudo-passive construction cannot serve as the right diagnostic test for classifying die as an unergative verb, or even an unaccusative verb, since die cannot be compatible with this construction, though exercised by the verb arrive.

3. The cognate object construction

Jones (1988) states that intransitive verbs, particularly unergatives, can take nouns of the same forms, the so-called cognate objects, whereas unaccusatives rarely do. Look at the following sentences.

(19) a. The baby slept a sound sleep.

b. The ball bounced a funny little bounce.

c. Jane danced a merry dance.

The verbs sleep, bounce and dance are unergatives; they can perfectly take a cognate object. Levin and Rappaport Hovav (1995) have proposed an Unergative Restriction as shown below:

(20) Unergative Restriction on the Cognate Object Construction:

Only unergative verbs can appear in the cognate object construction.

No other classes of intransitive verbs can.

Observe the following examples of the construction:

(21) a. Mary laughed a sad laugh at the meeting. (Kuno and Takami, 2004)

b. Bill sighed a weary sigh. (Jones, 1988)

c. Luisa slept a restful sleep. (Levin and Rappaport, 1995)

d. Michelle walked a long walk in high heels.

e. Jane smirked a self-satisfied smirk.

f. Jeff dreamed a secret dream.

The verbs laugh, sigh, sleep, walk, smirk, and dream in (21a-f) do not need a direct object to complete their meanings, but in these examples allow object NPs of the same form, cognate objects. Levin and Rappaport Hovav (1995) and Macfarland (1995) propose that all intransitive verbs that can co-occur with cognate objects are unergative verbs. This is on a par with what the Unergative Restriction on the Cognate Object Construction observes.

Apart from the verbs in (21), die can also appear in the cognate object construction. Let us look at the following examples:

(22) a. The flower phase died a natural death.

    b. I did not have the courage then to die the death that she died. (Longman, 2004)

The verb die is considered prototypically an unaccusative verb, selecting a single internal argument, thereby allowing a theme subject, because it represents a nonvolitional event concerning its subject referent (Kuno and Takami, 2004). Thus, die exhibits a behavior that runs contrary to the Unergative Restriction. It goes without saying that, on the one hand, die behaves semantically like an unaccusative verb, since the subject of die does not exercise volitional control over the action of dying taking place. On the other, die can co-occur with a cognate object, which contributes to the unergative-like behavior of die.

As clearly seen above, die allows cognate objects, since Jones (1988) argues that die can be treated as an operator verb roughly equivalent to undergo, whose direct object must denote a process of death, as observed in the following sentence:

(23) She died a natural/peaceful/violent/agonizing death.

Besides, sentences like (19a) and (19c) can be passivized, since their cognate objects denote a type of sleep and dance and the unergative verbs suggest a volitional involvement in (24), but with regard to sentence (19b), the subject the ball does not have deliberate volition over the action of bouncing. Therefore, this sentence is unlikely to be passivized.

(24) a. A sound sleep was slept by the baby.

    b. A merry dance was danced by Jane.

However, it is still debatable whether die with its cognate object can be passivized or not. Jones (1988) regards a sentence like A gruesome death was died by John as unacceptable, while Kuno and Takami (2004) consider a sentence like A gruesome death was died by the soldier on the battlefield acceptable. Furthermore, the use of cognate objects can alternate with adverbials, as exemplified in (25).

(25) a. She died a gruesome death./She died gruesomely.

    b. Mary laughed a mirthless laugh./Mary laughed mirthlessly.

    c. The baby slept a sound sleep./The baby slept soundly.

Note that cognate objects can be moved away from the verb by Wh-movement, as observed in (26) with special reference to (25):

(26) a. What sort of death did she die?/ What a gruesome death she died!

    b. What type of laugh did Mary laugh?

    c. What kind of sleep did the baby sleep?

In addition to cognate objects, unergatives can take postverbal elements that do not bear the semantic role of Patient or Theme, otherwise known as non-subcategorized postverbal NPs, which is generally associated with the object, if compatible with resultative phrases, as exemplified in (27a-d), while die fails to do so.

(27) a. Oprah cried her false lashes off.

    b. She always sleeps her wrinkles away.

    c. The dog barked the baby awake.

    d. Amy ran her feet to pieces.

Levin and Rappaport Hovav (1995) argue that the resultative predicates found in the sentences in (27) are interpreted as being predicated by the postverbal NPs. Thus, for example, (27c) means that the dog barked, and as a result of it, the baby became awake.

It should be noted that die as well as other unaccusatives are incompatible with resultative phrases with a non-subcategorized NP in them:

(28) *The general died (himself) famous.

Sentence (28) is unacceptable in the sense that the general became famous as a result of his death.

In essence, die might be considered an unergative verb with respect to cognate objects; however, it is hardly pinpointed that die is an unergative verb, since it fails to take a non-subcategorized object NP, while other unergatives do.

4. Telicity as a semantic parameter

Verbs like die, come, arrive, appear, vanish, wilt, arise, depart, and become can co-occur with a durative in-phrase insofar as those verbs denote the resultant end states which occur instantaneously, as shown in (29).

(29) a. John died in the hospital *for/in two hours.

    b. John came to my house *for/in two hours.

    c. The guests arrived *for/in half an hour.

    d. The problem arose *for three hours/during the first session.

Note that unergative verbs, such as run, dance, smile, sleep, sigh, grin, walk, yawn, frown, etc, can in no way be modified by an in-phrase used as a temporal adverbial, but rather by a for-phrase, like Jane ran for two hours yesterday. Tenny (1994) points out that the reason why unergatives can co-occur with a durative for-phrase is because they are typically activities with no built-in boundary and thus express atelicity. However, it appears that telicity cannot serve as a diagnostic test for classifying die as an unaccusative verb, but as stated earlier die with an adverbial attached to it may yield differences in telicity/ atelicity. For example, a sentence like Jane died denotes telicity, but a sentence like Jane died slowly denotes atelicity.

5. The resultative construction

Die is claimed to result in a change of state which occurs instantaneously. As well as other unaccusative verbs which are considered achievement verbs[4], die designates the resultant end state of being 'dead.' Thus, it cannot co-occur with resultative predicates, as shown in (30).

(30) a. *The painter died famous. (See 2.3 for resultative interpretation)

    b. *The flowers wilted small.

    c. *The plane crash occurred famous.

    d. *The old building trembled apart.

The verbs in (30) are all unaccusative verbs which are change-of-state verbs, and therefore, they are unacceptable on the resultative reading. It can be assumed that die tends to behave like an unaccusative verb, since it is compatible with the resultative construction. Although unaccusative verbs cannot co-occur with the resultative construction, die can have manner adverbials/adjectival phrases/NPs modifying it, as in (31).

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[4] See (3)

(31) a. James Dean lived fast and died young.

    b. Marilyn Monroe died beautiful.

    c. Jane died sleeping.

    d. Gillette Blade died penniless.

    e. John died a hero.

    f. Jack died a beggar.

All sentences in (31) cannot have a resultative reading (cf. Jack wiped the table tired and Dave hammered the metal flat). Thus, it would sound against the perception if, for example, (31d) meant that Gillette Blade became penniless as a result of his dying; rather, Gillette Blade died while he was penniless.

6. Extraposition from subject NPs

Extraposition from NPs are acceptable with unaccusative uses, not with unergative ones, observe (32) and (33):

(32) a. A man with blond hair appeared.

    $[[_{NP}$ A man $[_{PP}$ with blond hair$]]$ appeared.$]$

    b. A man appeared with blond hair.

    $[[_{NP}$ A man$]$ appeared $[_{PP}$ with blond hair$]]$

(33) a. A man with blond hair whispered.

    b. *A man whispered with blond hair. (Kuno and Takami, 2004)

In (32b), the PP with blond hair, once a part of the subject NP a man with blond hair in (32a), is extraposed to sentence-final position over the verb appeared which is an unaccusative verb, but it becomes unacceptable when with blond hair is extraposed over the verb whispered which is an unergative verb in (33). However, when it comes to the verb die, it is found that some PPs can be extraposed over die, while others cannot.

Let us observe the following sentences:

(34) a. The man with green eyes died.

    b. *The man died with green eyes. (Kuno and Takami, 2004)

(35) a. A woman died from Peru/in the car accident.

    b. A woman from Peru/in the car accident died.

Unlike the verb arrive, the PP with green eyes in (34) cannot be extraposed over the verb die, but the PPs from Peru and in the car accident can be extraposed over die, and (35a) and (35b) are acceptable. Extraposition from subject NPs, therefore, is compatible with die in some situations, but is incompatible in others; consequently, it cannot serve as a diagnostic test for classifying die as an unaccusative verb.

7. Auxiliary selection in some Romance languages

In Romance languages like Italian, and Spanish, intransitive verbs tend to be categorical in the selection of auxiliaries in the compound past tense. Unaccusativity strongly correlates with 'be', exhibiting telic change, while unergativity highly correlates with 'have', associated with agentivity, as illustrated by (36):

(36) a. Giovanni ha lette il libro.

Giovanni HAVE read the book

'Giovanni read the book.' (Italian)

b. Marie est arrivée en retard.

Marie BE arrived late

'Marie arrived late.' (French)

The verbs read and arrive are unergative and unaccusative respectively; therefore, they select different auxiliaries to appear with, that is, the use of 'have' marks read which is unergative in Italian, and the use of 'be' marks arrive which is unaccusative in French.

The verb die is also consistent with its choice of auxiliary 'be' in the compound past tense across Romance languages. The Italian auxiliary essere 'be' marks the past tense die, as in the following sentence:

(37) È morto l'anno scorso.

BE died last year.

'He died last year.' (Italian)

Given auxiliary selection as a diagnostic test, the verb die is considered an unaccusative, which is found consistent across the languages, since the auxiliary 'be' marks the occurrence of die. However, Rosen (1996) offers an interesting insight, noting that

there are cases in which given intransitive verbs are classified differently depending on their language. Hence, according to auxiliary selection in the compound past tense in the aforementioned Romance languages, die is typically deemed unaccusative.

There are many languages other than the Romance languages mentioned above, which exhibit auxiliary selection used as an unaccusativity diagnostic test to determine whether the verb die is unaccusative or unergative. For example, Kishimoto (1996) classifies the corresponding Japanese verb sinu 'die' as unergative, based on the assumption that it can co-occur with the Japanese adversity passive construction, which is consistent with Korean. Interestingly enough, there are conflicting behaviours regarding die in Japanese, since sinu can be considered an unaccusative verb in indicative sentences, as confirmed by (38):

(38) sini-kake-no kontyuu

　　 die-KAKE-GEN insect

　　 'an insect, almost dying'

It seems that the Japanese unergative use of intransitive verbs is determined by agentivity, while nonagentivity found in the adversity passive construction suggests unaccusativity.

In much the same vein, the verb meaning die in Choctaw is also classified as an unergative, not an unaccusative, based on the fact that it receives nominative Case, as in (39).

(39) Illi-li-tok kiyo

　　 die-1-Nom not

　　 'I did not die' (Rosen, 1984)

8. Prenominal adjectival passive participle

Levin and Rappaport Hovav (1995) claim that unaccusative verbs can co-occur with the formation of adjectival passives, while unergative verbs including die cannot, as shown in (40).

(40) a. a fallen tree　　　　　　　　　f. a recently perished knight

　　 b. the newly arrived ship　　　　　g. *a recently died knight

　　 c. the recently departed guests　　h. *a run man

　　 d. wilted lettuce　　　　　　　　 i. *a jumped athlete

　　 e. a collapsed tent　　　　　　　 j. *the swum contestant

As clearly seen in (40f and 40g), despite being synonymous, perish is compatible with the formation of adjectival passives, but die is not. It might be the case that a given intransitive verb exhibits idiosyncratic properties which have an effect on its syntactic operation. Added to this is the formation of –able adjectives in which die fails to have this –able forms, but perish allows this formation as in perishable goods. On this account, die behaves more like an unergative, since no possible unergatives including the verb die allow the formation of adjectival passives.

There are also many other unaccusative verbs that are not compatible with the formation of adjectival passives as shown in (41):

(41) a. *never-existed dragon

　　 b. *a suddenly come guest

　　 c. *a recently happened incident

　　 d. *a still remained doubt

Strictly speaking, up to this point, adjectival passives do not seem to serve well as a criterion for classifying die as an unergative verb.

Discussion and Conclusion

Intransitive verbs are unquestionably bifurcated into two categories with respect to split intransitivity phenomena. However, it is not the case that intransitive verbs which are not unergative are unaccusative, or vice versa. Likewise, the verb die serves to illustrate some mixed, if not idiosyncratic, properties depending on its use; therefore, it does not fall neatly into one of the two classes. On the one hand, die can be regarded as an unergative verb inasmuch as it can appear with durative in-phrases and in the cognate object construction, the pseudo-passive construction, and the one's way construction. On the other hand, die prototypically selects a patient subject and is considered an unaccusative verb, because it can become a prenominal adjectival passive participle, is marked by 'be' in Italian, French, etc., and cannot co-occur with a durative phrase.

It can be claimed that the most effective and reliable diagnostic test has not yet been found to differentiate unaccusative from unergative verbs. Putting die into those tests sheds further light on the fact that die can co-occur with a certain syntactic construction in

which unergatives are assumed to appear, like the cognate object construction (Burzio, 1986; Jones, 1988; and Levin and Rappaport Havov, 1995). In contrast, the there-construction in which only unaccusatives have been widely assumed to appear has been proven invalid to diagnose die behaviour; therefore, *There died the King of France is ungrammatical, but There occurred an error message is grammatical. In short, some diagnostic tests are not of much assistance in finding solid grounds for reconciling the conflicting behaviour of die such as the cognate object construction, the one's way construction, and auxiliary selection in some Romance languages.

Another yet unsolved problem is that oftentimes different diagnostic tests which supposedly distinguish unaccusative from unergative verbs, according to the UH, within a given language draw the boundary in different languages. This makes the diagnostic tests appear to be indeterminate. Such a view resonates with inconsistent unaccusative behaviour found in Dutch by Perlmutter (1978) and the Romance languages (Dowty, 1979; Fagen, 1992; Levin and Rappaport Hovav, 1992; Sorace, 2000). In addition, the verb die might behave inconsistently across languages. Unlike in Italian and French, no morphosyntactic operation can be detected in a compound past tense in English. Thus, auxiliary selection as an unaccusative diagnostic, among others, does not seem to work in English.

It has been confirmed from the study that a particular diagnostic test to determine whether die is unergative or unaccusative would give rise to a serious problem. If unergatives can appear in such a test with which die co-occurs perfectly, like in the cognate object construction, the verb die must be automatically presumed to be unergative. Given the verb jump which is typically regarded as an unergative verb, a volitional verb, however, in the sentence like Profits jumped, the verb jump is a nonvolitional verb, thereby behaving more like an unaccusative verb. It is heavily context-dependent to reconcile the two semantically conflicting behaviours of the verb jump, as well as the verb die. It is true up to the point that if die is presumed to be ambiguous between unergative and unaccusative where there does not seem to have a tenable diagnostic test, such a decision would be made on an ad hoc basis.

Within the same diagnostic test, a given verb behaviour is still varying; therefore, the unergative/unaccusative distinction is indeterminate. Dowty (1991) suggests that intransitive verbs with volition as well as sentience (experiencing through senses) correlate

with unergatives, but volitionality can either be present or absent, varying from one language to another. Given that, sneeze is less of volition, compared to sing and dance. Intransitive verbs, by contrast, implying a change of state and high patient properties are manifested by unaccusative verbs, like vanish, disappear, arise, become, etc. Hence, there has not yet been any unified approach to make a distinction between unergatives with less volitional behaviours (e.g. vomit, bleed, snore) and unaccusatives which are low in patient properties (e.g. continue, begin, blush, arrive, depart), since those verbs tend to blur the distinction between unergatives and unaccusatives.

Over and above that, Kuno and Takami (2004) remark upon the conflicting behaviours of intransitive verbs that it might be underlying semantic differences for their differing syntactic behaviours; conversely, the syntactic constructions in question, herein referred to as diagnostic tests, might not in their own right select unergative and unaccusative verbs but are controlled by the more complex interactions of verb semantics, sentence semantics, and the discourse factors involved.

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