# Reconsidering the End-point Approach: (A)telicity and (Un)boundedness Distinction

Lei Liu

Changchun University of Science and Technology, Changchun, China

*Abstract*—The present paper is a discussion of the end-point approach to event-types such as activities and accomplishments. Due to the fact that activities and accomplishments have been grouped into different categories such as events, situations, actions etc., no particular category will be favoured and there can be reference to all of them. In essence, the notion of the *end-point approach* aims at defining telicity in terms of temporal properties of situations, namely, their (reaching of) a temporal limit or end-point.

Index Terms-end-point approach, telicity, boundedness

# I. INTRODUCTION

The present paper is a discussion of the end-point approach to event-types such as activities and accomplishments. Due to the fact that activities and accomplishments have been grouped into different categories such as events, situations, actions etc., no particular category will be favoured and there can be reference to all of them. In essence, the notion of the *end-point approach* aims at defining telicity in terms of temporal properties of situations, namely, their (reaching of) a temporal limit or endpoint. As it will be shown, the idea of the end-point is adopted either explicitly or implicitly and under two names in a wide range of theoretical literature: telicity (Dahl, 1981; Declerck, 1989; Krifka, 1992; Depraetere, 1995; Dik, 1997), boundedness (Declerck, 1989; Depraetere, 1995). The paper is structured as follows. Section II deals with the definition of an (a)telic predicate and its properties. This proposal will be adopted in Dik's (1997) work within the framework of Functional Grammar (FG) and followed by presenting ways of testing (a)telicity. Section III is an attempt to contrast Dik's (1997) proposal with a more encompassing theory of the end-point approach. Summary and conclusion will be made in Section IV.

## II. TELICITY AND ATELICITY DISTINCTION

The distinction between telic and atelic predicates is perhaps best captured by the algebraic definition proposed by Krifka (1992). His approach to (a)telicity is traditionally regarded as lexical and has to do with cumulativity and quantization of nominal arguments that stand in incremental relation with verbal predicates. More to the point, Krifka (1992, p.32) says what follows:

"A predicate P is cumulative if whenever it applies to entities x and y, it also applies to the sum of x and y (provided that it applies to at least two distinct entities)";

"A predicate P is quantized if whenever it applies to x and y, y is not a proper part o x".

Krifka (1992) provides the following examples of cumulative and quantized arguments:

Cumulative arguments	apples, houses, tea, whisky
Quantized arguments	two apples, a house, a cup of tea, a glass of whisky

Krifka argues that if a predicate has a direct object/theme which designates something that has a structure with a temporal ending to it (like *two apples* in *eat two apples*, or a *cup of tea* in *drink a cup of tea* etc.), the expression verb-plus-object is telic. If the complement of the verb is atelic (like *apples* in *eat apples*, or *tea* in *drink tea* etc.) or if there is no object the expression is atelic. It may thus be concluded that in Krifka's terms, cumulative predicates represent situations as activities whereas quantized predicates denote accomplishments. Suppose, for example, that *John is building two houses*. Then each of the two building events can be described as *build a house*. But the building of the one house is not, and indeed cannot be thought of a proper part of the building of the second. This contrasts with situation such as *John is building houses*. If John is building houses, then there will be many proper parts of it, that is to say after 10 minutes, or 1 hour etc. which also can be described as *build houses* is correctly characterized as telic, and *build houses* as atelic by this definition.

Earlier, similar criteria underlying the difference in telicity were proposed by Vendler (1972). He makes distinction between **homogeneous** and **non-homogeneous** predicates (quantized and cumulative predicates in Krifka's terms) on the basis of entailment relations which he defines as follows:

"If it is true that someone is running or pushing a cart now, then even if he stops in the next moment it will be still true that he did run or did push a cart. On the other hand, even if it is true that someone is drawing a circle or is running a mile now, if he stops in the next moment it may not be true that he did draw a circle or did run a mile. In other words, if someone stops running a mile, he did not run a mile; if one stops drawing a circle, he did not draw a circle. But the man who stops running did run and who stops pushing the cart did push it" (Vendler, 1972, p.100).

The property underlying the difference in telicity is known as the homogeneity property. According to Vendler (1972), a predicate is called homogeneous (atelic) if parts of the predicate's denotation can be referred to by the same predicate. For instance, parts of running can also be described as running, whereas the predicate 'run a mile' can only be used for a description of an eventuality of running a mile, but not, for instance, the one of running 300 metres.

Within the framework of FG, the end-point approach to events is decided on the basis the semantic structure and aspectual character of the predicate at the nuclear predication layer. More specifically, telicity and atelicity character of a predicate is decided on the basis of given types of argument expressions inserted within the predicate frame and the adjunction of certain semantically marked types of Level 1 (Direction satellite) and Level 2 (Duration) satellite. According to Dik (1997), the nuclear predication as a whole designates a set of states of affairs (SoAs), which can be of different types. Dik (1997) outlines a typology of SoAs in terms of a number of parameters characterizing various types of predications. The figure below shows the different SoAs distinguished in FG and the major parameters determining them.



As it can be noted, activities and accomplishments belong to the category of events which are always dynamic and controlled. Their distinguishing feature is telicity. Activities are believed to be atelic events, whereas accomplishments are characterized by telic features. According to Dik (1997), a telic SoA is one which is fully achieved, reaches a natural terminal point. He gives the following examples of telic and atelic SoA:

(atelic)

(	L)	) a	John	was	painting	
---	----	-----	------	-----	----------	--

- b. John was painting a portrait (telic)
- c. John was painting portraits (atelic)
- d. John walked in the park (atelic) (telic)
- e. John walked to the station
- f. Demonstrators were passing the station (atelic) g. The demonstrators were passing the station (telic)

### (Dik, 1997, p.100)

It appears that similarly to Krifka (1992), Dik argues that telicity or atelicity of an event can be decided on the basis of the Goal argument (this is what Krifka calls a theme/direct object). It can be seen in examples (1a-c). Also, telic or atelic character of a predicate can be derived on the basis of the presence of a Direction satellite, as in (1d-e), or by the first argument of a one-place predicate, as in (1f-g). More specifically, the sentences John was painting and John was painting portraits are atelic in a sense that one can go on painting or paintings portraits indefinitely, therefore the whole predication does not have a culmination point. On the other hand, according to Dik (1997), the sentence John was *painting a portrait* is a telic Accomplishment predicate because it is assumed that the action of painting just one portrait results in a culmination point where the portrait is finished. Sentences (1d-e) are characterized as atelic and telic respectively as Dik claims that one can do walking in the park indefinitely without reaching a terminal point, whereas in sentence (1e) the station determines the telic character of a predicate. As regards sentence (1f), it is not clear what the number of demonstrators is, so the action does not signal telic SoA. Sentence (1g) presupposes a specified quantity of demonstrators, so if the action is finished, all the demonstrators will have passed the station.

### Testing for Telicity

There are numerous tests which show that telic and atelic predicates are indeed different and that this distinction is important for the purposes of assigning aspect to events. The most frequently used tests are: the adverbial modification test (Vendler, 1972; Krifka, 1992; Dik, 1997), the conjunction test (Verkuyl, 1993) and the progressive entailment test (Vendler, 1972; Krifka, 1992; Dik, 1997). They are presented below one by one.

1. Adverbial modification test

With respect to the adverbial modification test, Dik (1997) argues that atelic predications take a Duration satellite of the form *for an hour* whereas telic predications (if they are also-momentaneous) take satellites of the form *in an hour*; but the converse does not hold. It can be illustrated on the following pair of sentences:

01	
(2) a. John painted for an hour (*in an hour)	(atelic)
b. John painted the portrait in an hour (*for an hour)	(telic)
a. Mary drove the car for an hour (*in an hour)	(atelic)
b. Mary ran a mile in an hour (*for an hour)	(telic)

Another test for telicity lies in the (imp)possibility of embedding the predication under such expressions as "It took X three hours to...". This is demonstrated on the following examples:

(3) a. *It took John three hours to paint (portraits)	(atelic)
b. It took John three hours to paint a portrait	(telic)
a. *It took John three hours to run in the forest	(atelic)
b. It took John three hours to run the marathon	(telic)

A third test involves the semantic effect of adding a constituent such as *almost*, which may appear to be ambiguous at times. It can be demonstrated as follows:

(4) a. John almost ran in the forest	(atelic)
b. John almost ran the marathon	(telic)

Whereas sentence (4a) does not leave any doubt that atelic reading is the only interpretation here as John did not actually run in the forest, sentence number (4b) do allow for two interpretations. It relates to the initial point as well as to the terminal point of the event.

(ambiguous)

(non-ambiguous)

2. Conjunction test

(5) a. Mary drove her car on Monday and on Tuesday

b. Mary ran a mile on Monday and on Tuesday

According to Verkuyl (1993), in the case of two telic predicates as in (5b), the interpretation appears of two distinct eventualities that occur independently during two temporal intervals denoted by prepositional phrases. This is an available, though not the only possible interpretation of (5a), the sentence with an atelic predicate. Thus, Mary could in principle be driving for two days continuously, so that the whole sentence can report on just one eventuality. This reading is not available for (5b), which is not ambiguous: it has to be two different eventualities, two 'mile-running', as it were. It should be pointed out that there are two conditions concerning temporal modification here that have to be fulfilled. First, full temporal prepositional phrases should be conjoined, that is to say, the second 'on' cannot be omitted. Secondly, the temporal units denoted by these prepositional phrases should be subsequent. For example, the expression 'on Monday and on Tuesday' provides good grounds for testing, while 'on Monday and on Wednesday' does not.

3. Progressive test

According to Dik (1997), this is an entailment test and it shows that telic and atelic predicates license different logical inferences. A sentence with an atelic predicate in the progressive entails the truth of a sentence with a verb in the present perfect tense, as in (6a), while a sentence with a telic predicate does not license such an inference. In other words, when it is true that at some interval atelic event obtains, then it may be concluded at some later interval that this event has obtained. However, when the original event is telic, no such conclusion is warranted. For instance, even if it is true that at some time interval, *John was painting a portrait*, we cannot with certainty conclude that *John has painted a portrait* is true at some time interval. The same comment applies to sentences (7b) and (8b)

(6) a. John is painting  $\rightarrow$  John has painted

- b. John is painting a portrait  $/ \rightarrow *$  John has painted a portrait
- (7) a. John was walking in the park yesterday  $\rightarrow$  John has walked in the park
- b. John was walking to the station yesterday /  $\rightarrow$  \*John has walked to the station
- (8) a. Mary was driving the car  $\rightarrow$  Mary has driven the car
- b. Mary was running a mile  $-/ \rightarrow *$ May has run a mile

In brief, if the conclusion from the progressive to the perfect is logically warranted, as in (6a), (7a) and (8a), then the antecedent event is telic; if it is not warranted, as in (6b), (7b) and (8b), then the antecedent SoA is atelic.

So far, it has been shown that telic and atelic predicates are different in at least three respects: they co-occur with different classes of adverbials, they exhibit differences in interpretation with conjoined temporal expressions and give rise to different logical inferences (Dik, 1997). The tests that have been presented above provide enough evidence for assigning certain characteristic features to telic and atelic predicates:

Atelic	Telic
cumulative	quantized
homogeneous	non-homogeneous
(activities)	(accomplishments)
run	run a mile
push a cart	draw a circle
paint portraits	paint a portrait

When looking at Dik's (1997) criteria underlying the difference between telic and atelic predicates, it is difficult not to get the impression that he is not very consistent with his proposal. On the one hand, he claims that expression such as *John is painting* is atelic as it lacks the Goal argument which is supposed to measure the situation. On the other hand, his progressive entailment test shows that at a given **sub-interval** even the atelic event can obtain, whereas a telic expression does not guarantee the achievement of the action. What is more, the most commonly used adverbial modification test is restricted in its application as the adverbial *in an hour* cannot be always applied to telic events (e.g., \*John was painting a portrait in an hour, \*The demonstrators were passing the station in an hour). Therefore, one is tempted to suggest that the end-point to an event cannot be only inferred from the verb-object marked telicity, as it would imply that sentences such as *John is painting a portrait* or *John is running* are accomplished actions. There is a need to distinguish between actions proceeding towards a culminating point and these ones which achieve actual boundaries. Declerck (1989) and Depraetere (1995) claim that this distinction can best be described at sentential level.

## III. EFFECT OF NPS, PPS AND TENSE ON (UN)BOUNDEDNESS AND (A)TELICITY

As it has been stated, sentences like John *is painting a portrait* and *John is running* clearly demonstrate the need for two different types of distinction. Declerck (1989) offers a classification based on potential endpoints, which is labelled (a)telicity, and one based on actual temporal boundaries captured by the label (un)boundedness. To start with, Declerck (1989) discusses the difference between + inherent/intended endpoints of situations (e.g., *John was reading a book*) and – inherent/intended endpoints (e.g., *John was working in the garden*). She claims that the boundedness parameter measures the "actual realization" of the situation and manifests itself in a given clause pattern, hence the sentence *John was reading a book* is unbounded because although it codifies a telic predicate, it does not represent the situation as terminating. In the case of *working in the garden*, there is no inherent or intended endpoint similar to *'reading a book'* (unless John wants to work for example two hours in the garden). Although the situation is over the moment John stops working, the terminal point is not part of the semantics of *working in the garden*.

Earlier, Dahl (1981) also argued for the double distinction, however as Depraetere (1995) claims her proposal is very problematic. He said: "A situation, process, action, etc. or the verb, verb phrase, sentence, etc. expressing this situation, etc. has the T property if (...) it is directed toward attaining a goal or limit at which the action exhausts itself and passes into something else" (Dahl, 1982, p. 81). Furthermore, "a situation, process, action, etc. has the P property if it has the T property and the goal, limit, or terminal point in question or is claimed to be actually reached" (1981, p.82). He summarizes the possible combinations of the P property and the T property as follows:

	not-T	Т
not-P	I was writing	I was writing a letter
Р	(does not occur)	I wrote a letter

In keeping with this, if the P property corresponds to (un)boundedness and the T property to (a)telicity, this would imply that all bounded sentences are telic. As will be shown later, a particular situation may have actual temporal boundaries even if there is no inherent or intended endpoint to the situation (e.g. *Mary worked for hours, Judith played in the garden*).

According to Depraetere (1995, p. 3), a twofold distinction can be made:

(I) + inherent/intended endpoint

(a) + endpoint reached: + temporal boundary

(b) – endpoint reached: – temporal boundary

 $({\rm II})-inherent/intended\ endpoint$ 

(a)+ temporal boundary(b)- temporal boundary

(Depraetere, 1995, p.3)

In her view, (a)telicity has to do with whether or not a situation is described as having an inherent or intended endpoint, whereas (un)boundedness relates to whether or not a situation is described as having reached a temporal boundary. Declerck's approach to (a)telicity and (un)boundedness is followed by Depraetere (1995) who explains what it means to be telic and bounded:

"A clause is telic if the situation is described as having a natural or an intended endpoint which has to be reached for the situation as it is described in the sentence to be complete and beyond which it cannot continue. Otherwise it is atelic".

"A sentence is bounded if it represents a situation as having reached a temporal boundary, irrespective of whether the situation has an intended or inherent endpoint or not" (Depraetere, 1995, p.3).

Depraetere gives the following examples of telic and atelic sentences:

(9) a. Sheila collapsed.	(telic)
b. Sheila deliberately swam for 2 hours.	(telic)
c. Sheila is working in the garden.	(atelic)
d. Sheila lives in Vienna.	(atelic)
A good illustration of bounded and unbounde	d sentences are the following examples:

A good illustration of bounded and unbounded sentences are the fol (10) a. I met John at 5 o'clock. (bounded)

140

b. Judith played in the garden for an hour.	(bounded)
c. Julian lived in Paris from 1979 until May	1980. (bounded)
d. I have lived in Paris.	(bounded)
e. John has played football.	(bounded)
f. She lives on the corner of Russell Square.	(unbounded)
g. She is writing a nursery rhyme.	(unbounded)

In brief, in (10a), the nature of the situation is known to take up a limited amount of time. This example indicates that there is no need for explicit indication that the situation has ended in order for a sentence to be bounded. It is indicated by the punctual character of the clause, together with the use of a non-progressive form. In (10b) and (10c), the adverbials impose temporal boundaries. The bounded character of (10d) and (10e) is the result of the use of a perfect tense. In (10f) and (10g), the tense shows that there are no temporal boundaries to the situation.

Depraetere (1995) claims that NPs affect (un)boundedness indirectly, that is to say "if a NP has the effect of turning an atelic predicate into a telic one, and if the telic proposition is used in a non-progressive sentence" (Depraetere, 1995, p.5), the latter will be bounded as in (11c):

(11) a. Petrol was leaking out of the tank. (atelic unbounded)

b. The petrol was leaking out of the tank.

c. The petrol leaked out of the tank.

Similarly, Depraetere (1995, p.6) claims that "a change from atelic to telic brought about by the addition of a directional PP will coincide with a change from unbounded to bounded provided the sentence is non-progressive": (- directional PP) (unbounded atelic)

(telic unbounded)

(telic bounded)

- (12) a. John pushed the cart.
  - b. John pushed the cart into the barn.
- (+ directional PP) (bounded telic)

(+ directional PP) (atelic unbounded)

(Depraetere, 1995, p.3)

c. John was pushing the cart into the barn. (+ directional PP) (unbounded telic) However, the following example shows that the use of plural NP may override the bounding effect of the directional PP:

d. John pushed carts into the barn.

Depraetere (1995) points out very clearly that (un)boundedness and (a)telicity differ in two important aspects. This is important for our analysis of differences between activities and accomplishments. She claims what follows:

1. The (a)telic character of a sentence, unlike (un)boundedness, is not affected by the progressive. It is presented on the following pairs of sentences:

(13) a. John opened the parcel.	(telic bounded)	
b. John was opening the parcel.	(telic unbounded)	(Depraetere, 1995, p.4)
a. Ten firecrackers exploded.	(telic bounded)	
b. Ten firecrackers were exploding.	(telic unbounded)	(Depraetere, 1995, p.4)
However as she claims a change from	bounded to unbounded	situations brought by a factor other

However, as she claims a change from bounded to unbounded situations brought by a factor other than the progressive may coincide with a change from telic to atelic. Examples are given below:

(14) a. John left at eight o'clock. (telic bounded)

b. John leaves at eight o'clock. (atelic unbounded)

As it can be seen from (14b), the use of a present tense induce a repetitive reading, making the sentence atelic although separate cases when John leaves are in themselves telic.

2. (Un)boundedness is not equal to the aspectual opposition progressive vs. non-progressive. The progressive form indeed establishes an unbounded reading in most cases (as in (15b), but this is not the only way in which an unbounded reading can be arrived at as shown in (15c) and (16b)):

(15) a. I ate an apple.	(bounded)	
b. I was eating an apple.	(unbounded)	
c. John eats an apple every day.	(unbounded)	(Depraetere, 1995, p.5)
(16) a. John wrote a good book.	(bounded)	
b. John writes a good book.	(unbounded)	(Depraetere, 1995, p.5)

Vasudeva (1971) and Mommer (1986) present similar examples showing that the use of a present tense instead of a past tense may coincide with a change from a single event reading to a series reading:

(17) a. He arrived late.	(telic bounded)	
b. He arrives late.	(atelic unbounded)	(Vasudeva, 1971, p.128)
(18) a. Nick crossed the Graffiti Bridge.	(telic bounded)	
b. Nick crosses the Graffiti Bridge.	(atelic unbounded)	(Mommer, 1986, p. 88)

Interestingly, as it has been shown, the use of a perfect tense leads to a situation being represented as 'an accomplished act' as in I have lived in Paris or John has played football. Nevertheless, when the left boundary is explicitly mentioned as in *I have lived here since 1985*, the situation cannot be represented as ending. The same applies to sentences with a 'continuative' perfect:

(19) a. I have lived here since 1985.

b. I have been waiting for you since 8 o'clock.

Interestingly, not all progressive sentences are unbounded as indicated below:

(20) a. A: Why are your hands so dirty?

- B: I've been playing in the mud. (bounded)
- b. A: Her eyes are red. B: She's been crying.

(bounded)

In sentences like these, according to Depraetere (1995), the effect of the progressive is overruled by the bounded reading established by the present perfect.

When looking at these examples, it may be concluded that the speaker and the hearer can represent and interpret a given situation in several ways depending on the context. Take for instance Susan is painting (Depraetere, 1995, p.4), this situation may be referred to by means of the sentence Susan is painting a picture (telic) as well as Susan is painting (atelic). The same comment is applicable to boundedness, so it is a matter of choice on the part of the speaker how she/he will represent a particular situation. An example is shown in (21). (bounded)

(21) a. Judith played in the garden for an hour.

b. Julian lived in Paris from February 1989 until May 1989. (bounded)

c. Judith was playing in the garden in the course of the afternoon. (unbounded)

d. Julian lived in Paris at the time.

(Depraetere, 1995) (unbounded)

The sentence in (21a) and (21b) may refer to the same situation as the corresponding sentences in (21c) and (21d): in the latter case they are not represented as having ended, whereas in the former case they are.

#### IV. CONCLUSION

All things considered, there is a large amount of work assuming the existence and naturalness of end-points. The concept comes around by different names: telicity (Dahl, 1981; Declerck, 1989; Krifka, 1992; Depraetere, 1995; Dik, 1997), boundedness (Declerck, 1989, Depraetere, 1995). As it has been argued throughout the paper, telicity is a vague parameter, being determined to a great extent by intuition. If one takes Vendler's (1972) or Krifka's (1992) proposal seriously then expressions like John is running or John is painting a portrait differ in terms of the presence of build-in endpoints. According to Vendler and Krifka although the action presented in the sentence John is running does not proceed to any culminating point, it can be described as accomplished. Interestingly enough, the action of painting a portrait does not guarantee completion. As it has been explained this difference is captured by the homogeneity property which is only able to define a given action as accomplished or not at a given time interval. Also Dik (1997) does not seem to clarify the issue of reaching a culminating point. His proposal is very inconsistent and a battery of tests that he proposes to use to define telicity of a given predicate work well for some of the predicates and not with others. A good alternative to the verb-object marked end-point is offered by Declerck (1989) and Depraetere (1995). They propose a sentential analysis of culminating and non-culminating situations by drawing clear distinction between intended and nonintended end-points. They clearly show the role of NPs, PPs and tense on the analysis of end-points. In their terms such sentences as above – John is running and John is painting a portrait can never be classified as culminating. Their proposal is very interesting as it presents different ways (a)telicity can coincide with (un)boundedness. Finally, they point out that in conversations it may not be straightforwardly indicated whether a given situation has the end-point or not. The contextual information and mutual knowledge between the speaker and the hearer thus makes the analysis of end-points even more interesting.

#### REFERENCES

- [1] Dahl, Ö. (1981). On the Definition of the Telic-Atelic (Bounded-Unbounded) Distinction. In P.J. Tedeschi and A. Zaenen (eds.), Syntax and Semantics (Vol. 14): Tense and Aspect. New York: Academic Press, 79-90.
- [2] Declerck, R. (1989). Boundedness and the Structure of Situations. Leuvense Bijdragen 78, 275-308.
- [3] Depraetere, I. (1995). On the necessity of distinguishing between (un)boundedness and (a)telicity. Linguistics and Philosophy 18, 1-19.
- [4] Dik, S.C. (1997). States of Affairs and Semantic Functions. In the Theory of Functional Grammar. Part 1: the Structure of the Clause. Berlin: Walter de Gruyter, 105-124
- [5] Krifka, M. (1992). Thematic relations as links between nominal reference and temporal constitution. In I. Sag and A. Szabolsci (eds.), Lexical Matters. Stanford: CSLI Publications, 29-52.
- [6] Mommer, K.E. (1986). Theoretical Issues Concerning Inherent Aspect and the Perfect in English, Cebaari and Swahili. Ph.D. dissertation, Northwestern University, Evanston, Illinois.
- Vasudeva, H.N. (1971). Tense and Aspect in English. Ph.D. dissertation, University of Michigan. [7]
- Vendler, Z. (1972). Res Cogitans. Ithaca: Cornell University Press. [8]
- Verkuyl, H. (1993). A Theory of Aspectuality: The Interaction between Temporal and Atemporal Structure. Cambridge: [9] Cambridge University Press.

Lei Liu was born in Changchun, China in 1976. She received her M.A. degree in English Language and Literature from Jilin University, China in 2005.

She is currently a lecturer in the School of Foreign Languages, Changchun University of Science and Technology, Changchun, China. Her research interests include cognitive linguistics and literature.