

Dimensions of Aspect

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ABSTRACT:

The extensive literature on aspect reveals that aspect is a very controversial category in linguistics. If one tries to identify the problems associated with the traditional conception of aspect, he or she soon realizes that they relate to its *scope*, *signification*, *value*, and *function*. These dimensions cover the problems found in the formal and notional analyses of aspect. That is, the semantic characterizations of aspect remain vague and imprecise, and its locus and means of marking are yet to be agreed upon. This paper explores these problems in order to establish a new point of orientation for the treatment of aspect. Specifically, it presents a new formulation of aspect that explains the interaction of aspect and tense and provides a sense of understanding of 1) how the so-called aspect languages mark time reference grammatically, and 2) the temporal and discourse functions of aspect.

1. INTRODUCTION:

Temporality, all forms of temporal marking of events, actions, states, etc., commonly involves time perspective (aspect) in addition to time reference (tense). The extensive literature on temporality reveals that aspect is a very controversial category. If one tries to identify the problems associated with the traditional conception of aspect, he or she soon realizes that they relate to its formal and notional domains, namely its scope, signification, and value(s). That is, the locus and means of marking aspect are not specified and its semantic characterization remains vague and imprecise.

The present paper explores these problems in aspect studies in order to establish a new point of orientation for the analysis and application of grammatical aspect. Specifically, it argues for broadening the formal domain of aspect beyond the verb and the semantic domain beyond the internal perspective of the event. Furthermore, deictic time reference is taken to be an intricate feature of verbal aspect as a result of the notion of 'exclusiveness' built in the general aspectual bounded-unbounded

distinction. This assumption, which employs the temporal function of aspect in discourse, accounts for the fusion of tense and aspect in some languages, including those characterized as tenseless.

2. Domains of Aspect

2.1 Formal Domain of Aspect

The formal domain of aspect simply refers to the morphosyntax of aspect and its scope. That is, it explicitly deals with the question of how and where in the sentence aspect is marked: Is it the verb, the verb phrase, the predicate, the clause, the sentence, etc.? 'Scope of aspect' refers to how much of an event is within the range of an aspectual formation (cf. Bickel 1997). Traditionally, aspect has been considered as a property of the verb. However, data from different languages (Binnick 1991; Bybee 1985; Bybee et al. 1994; Dahl 1985; Majewicz 1985) clearly indicate that the aspectual domain goes beyond the verb. (See, for example, Verkuyl (1999), for a discussion of scope ambiguity and verb phrase.) Specifically, aspect may be marked by forms other than the verb. For example, in Finnish, aspect (perfectivity or imperfectivity) is signaled by the case marking on the object (Comrie 1976). For example, the difference between English 'he read the book' and 'he was reading the book' must be expressed by a difference in the case of the direct object. In (1a), the direct object is in the accusative (ACC) while in (1b) in the partitive (PRT)¹

- 1.a *han luki kirjan*
he read book-ACC
'He read the book'.
- 1b. *han luki kirjaa*
he read book:PRT
'He was reading the book'.

The partitive case is used instead of the accusative case for two types of direct objects: the partitive object of a closed (perfective) event, and any object of an open (imperfective) event, particularly an event in progress. This distinction in aspect is not otherwise expressed by verbal morphology (Chung and Timberlake 1985).

Estonian, like Finish, is a language where perfectivity is involved in the grammar of case marking (Ackerman and Moore 1999):

- 2a. *Ma ehitasin endale suvila*
I-NOM built-1SG:PFV myself-SG-all cottage:ACC
'I built the cottage for myself.'
- 2b. *Ma ehitasin endale suvilat*
I-NOM built-1SG:IFV myself-SG-all cottage-PRT
'I was building the cottage for myself (for two weeks).'
- (Ackerman and Moore 1999)

In Hungarian, definiteness is crucial in aspectual choice (Dahl 1985 Kiefer 1982). Consider the following examples:

- 3a. *Anna levelet ír*
Anna letter write
'Anna is writing'.
- 3b. *Anna egy levelet ír*
Anna a letter write
'Anna is writing a letter'.
- 3b. *Anna meg-írja a levelet*
Anna PFV-write the letter
'Anna is writing the letter'.
- (Kiefer 1982)

Sentences (3a-c) show that there is an essential difference between sentences with the indefinite objects and sentences with definite objects, which trigger the verbal-prefix *meg*, whose sole function is perfectivizing (Kiefer 1982).

In Yala, the imperfective aspect is marked by a change of tone on the subject of the sentence. It is marked by a mid tone on the 1st and 2nd persons singular, a rising tone on the 1st person plural, and a falling tone on the 2nd and 3rd persons plural and the 3rd person singular as in (4a).

- 4a. *Ó ba oja*
He/she beg thing
'He begged'.

The perfective aspect, on the other hand, is marked by the particle *la*:

- 4b. *O la ba oja*
He/she ASP+PST beg thing
'He used to beg'.

(Oko 1986)

In Chinese, the particle *le* marks perfect aspect (Li et al. 1982). For example, a speaker asked whether he knows about a meeting may respond in (5a) or in (5b):

5a. *wo zhidao*
I know
'Yes, I know'

5b. *wo zhidao le*
I know
'I know now' (I.e., I have just learned about it).
(Li et al. 1982)

Li et al. (1982) note that the traditional approach where aspect is a verbal category "would seem to disqualify *le* as an aspect marker [of the Perfect]." Moreover, *le* has a wider domain than the verbal component; it has a clausal scope (Smith 1997).

Similarly, in Mokilese aspect is expressed by postverbal directional particles, typically *-da* 'up', *-di* 'down', or *-la* 'away, off' (Chung and Timberlake 1985).

6a. *Ngoah poahj noai pehnno*
I reach:IFV my pen
'I am reaching for (= trying to reach) my pen'

6b. *Ngoah poahj-da noai pehnno*
I reach:PFV my pen
'I reached / got hold of my pen'

In Moru and Ma'di (Central Sudanic languages, which include also Logo, Lubara and Lendu), word order change signals aspectual distinction. These languages have two basic aspects distinguished primarily by word order (Andersen 1984). SVO, the canonical word order, characterizes definite or completed (i.e., perfective) situation. In contrast, SOV order expresses imperfective aspect, which indicates progressive, continuative or non-completed situations.

7a. *ma e'bu ede*
work do
'I am doing the work'

- 7b. *ma ede e'bu*
I do wrok
I do/did the work'

It is evident that as the foregoing examples show, aspectual distinctions are not always signaled by the verb or verbal forms. In fact, in many languages temporal and aspectual markers separate verbal predicate from other possible predicate types. That is, in a number of languages tenses and aspects are characteristic not only of verbs but also of nominal, adjectival and other lexical categories. The observation that in many languages aspect is not marked by, or on, the verbal form but elsewhere has led (Majewicz 1985) to consider aspect as a predicative category rather than a category of the verb; aspect has the predicate under its scope see also (Ramchand 1997 and Barron 1999). That is, aspectual scope is not confined to the verb, nor is aspect only a verbal category.

Alternatively, Bache (1995), Comrie (1976), Dahl (1985, 1999), and Verkuyl (1972, 1993), among others, view aspect as predominantly a sentential category. Comrie (1976) argues that "although aspect, tense and mood are usually indicated in the verbal morphology, they do not so much characterize the verb itself as the whole of the sentence, including subjects and objects". Bache (1995) maintains that "a situation is expressed by a finite predicator plus the sentence functions associated with it (subject, objects, complements and adverbials)"². Verkuyl's (1972, 1993) compositional theory of aspect is a sentence-based approach, where the meanings of perfectivity and imperfectivity are isolated at the level of the sentence. However, aspectologists overlook the implications of Verkuyl's theory with respect to 'aspect' languages including Slavic languages. The view of aspect as a sentence category has some theoretical implications:

(1) There can be no par excellence or absolute standard aspectual language, especially if the difference between the two aspects in the Slavic languages, which are traditionally considered as the absolute standard of aspect (Bache 1985, 1995), is closely connected with the difference in the structure of the whole sentence (Verkuyl 1993). Furthermore, recent analyses (Klein 1995 and Pérez Bouza 1996) have questioned the adequacy of the formal and notional characterizations traditionally attributed to the Russian aspect(s). Although the Russian verb is commonly believed to make a clear distinction

between perfectivity and imperfectivity, through derivative processes of prefixation and derivation, Pérez Bouza (1996) demonstrates the inadequacy of this notional duality. He argues that the so-called perfective-imperfective opposition in the Russian verb lacks the explanatory power commonly attributed to it.

(2) If aspect is a sentence category, then a language should not be termed an aspect language based on its verb (forms) alone.

An alternative account to the sentence level analysis of aspect is the discourse perspective (Hopper 1982a; Vet and Vetter 1994). Hopper (1979, 1982a) contends that verbal aspect cannot be successfully defined based on the sentence as its unit of analysis, but that a broader context has to be considered. That is, it is not the verb or the sentence but the discourse-text, which is the appropriate theoretical unit for understanding aspect. This has led to a new conception of the nature and/or function of aspect (see section 3.2).

To recapitulate, the view that the verb is the nucleus of the aspectual formation is too narrow to elucidate the true nature of this universal category. Meanwhile, categorizing a language as an aspectual language based on its verbal forms may not be justified. Having demonstrated the need to broaden the traditionally held formal domain of aspect, we now turn to an examination of the traditionally held signification of aspect. This examination will demonstrate that the orthodox view of aspectual definition(s) also needs reinterpretation.

2.2 Semantic Domain of Aspect

The semantic domain of aspect refers to the meanings, values, and functions of aspectual forms. Identifying or assigning substance to aspect, as the extensive literature on aspect indicates, is far more challenging to do than delimiting its scope. Simply put, the semantic domain of aspect, as Schramm (1998) notes, is complex and illusive.

2.2.1 Aspectual Signification

The analysis of aspect has traditionally been based upon the assumption that aspect is a linguistic category concerned with the internal temporal structure (Chung and Timberlake 1985) of the situation (Comrie 1976 Chung and Timberlake 1985).

This characterization of aspect is, however, too narrowly construed because aspectual categories are affected or even sometimes determined by aktionsart (i.e., the inherent semantics of the lexical verb; mode d'action), reflecting a unique interplay between aspect and aktionsart (Bache 1982, 1995). For example, the progressive aspect is incompatible with stative verbs (verbs of state) (Dahl 1985; Smith 1997). In English, for example, 'He is liking the play', or 'I am needing help' are not appropriate in standard usage. It is also incompatible with punctual verbs, since they lack duration (Smith 1997). Therefore, 'Somebody is opening the door' is perceived as an ongoing process, but 'Somebody is knocking on the door' is perceived as an iterative process rather than an ongoing one. Similarly, the two grammatical aspects would have different (pragmatic) interpretations with different types of verb. The imperfective situation 'He is swimming', if interrupted, will entail that 'swimming' has indeed occurred, so it can be presented perfectly 'He swam'. However, 'He is making a chair', if interrupted, does not entail a new chair exists, so it cannot be presented perfectly 'He made a chair'.³

Furthermore, aspect interacts with grammatical categories and systems such as tense (Comrie 1976; Chung and Timberlake 1985; Dahl 1985; Osawa 1998), mood and modality (Comrie 1976; Chung and Timberlake 1985; Dahl 1985; de Haan 1999; Hatav 1997; Mitchell and El-Hassan 1995), case (Chung and Timberlake 1985; Cornilescu 1998; Kiparsky 1998; Lee 1999), negation (Akimova 1992; Lee 1996; Merrill 1985; Rappaport 1985), voice (Comrie 1976; Pountain, 1993; Poupynin 1999; Stojanova 1990), and word order (Alexiadou 1996; Al-Tarouti 1991; Myhill 1984; Porter 1993).⁴

2.2.1.1 Aspect and Case

The morphosyntactic interaction between aspect and case is widely noted (Chung and Timberlake 1985). Ergative case marking (or agreement) tends to occur in the perfective or perfect aspect, while nominative case marking in the imperfective or non-perfect aspect (Bybee et al. 1994; Dixon 1994). A different type of interaction between aspect and case marking occurs in Finnish, as discussed above (section 2.1.).

2.2.1.2 Aspect and Negation

A common observation concerning the interaction between aspect and negation is that the presence of negation skews the distribution of the imperfective and perfective forms from that observed in declarative sentences. That is, negated situations tend to be expressed by imperfective verbs. In Arabic, for example, a text count of negative sentences indicates, according to Al-Tarouti (1991), that negation attracts imperfective verbs. That is, past negative sentences, for example, typically contain the negative particle *lam* plus an Imperfective verb far more than *maa* plus a Perfective verb; 'lam + Ipv' 48% (127/263) vs. 'maa + Pfv' 0.02% (4/263), respectively. The two types of negation is illustrated in (8):

- 8a. *lam na-ktub al-daras-a*
 NEG:PST we-write:IFV the-lesson-ACC
 'We did not write the lesson'.
- 8b. *maa katab-na al-daras-a*
 NEG write:PFV-we the-lesson-ACC
 'We did not write the lesson'.

2.2.1.3 Aspect and Word Order

In section 2.1, aspect was shown to be marked by change in word order in Moru and Ma'di. Another manifestation of the interconnection between aspect and word order is found in Arabic. According to Al-Tarouti (1991), Arabic, which is claimed to have free word order, was found to be aspectually determined: VS order tends to be with perfective (PFV) verb while SV order tends to be with imperfective (IFV) verbs. The difference was statistically significant⁵. For example, compare 9a-b:

- 9a. *kataba al-awalad-u duruus-a-hum*
 write:PFV the-boys-NOM lessons-ACC-they [wrote the boys their lesson]
 'The boys wrote their lessons'
- 9b. *al-awalad-u yaktubu duruus-a-hum*
 the-boys-NOM write:IFV lessons-ACC-they [the boys write their lessons]
 'The boys write/are writing their lessons'

2.2.1.4 Aspect and Voice

One of the restrictions on verb passivization in English, for example, is that the verb must be dynamic, it refers to an action/activity, not a state. The following two sentences (10a and 11a) have transitive verbs, but because they are not dynamic, they cannot be passivized as (10b) and (11b) indicate.

- 10a. *They have a nice house.*
10b. * *A nice house is had (by them).*
11a. *He lacks confidence.*
11b. * *Confidence is lacked (by him).*

In a number of languages, e.g., Russian, Irish, and Indo-Iranian languages, a particular relation between (perfect) aspect and (passive) voice has been attested (Comrie 1976). In these languages, overt expression of the perfect meaning is possible only in the passive voice, and not in the active. For example, in Russian, the aspectual distinction between perfective and perfect, as the sentences 12b-c illustrate, is maintained only in the passive.

- 12a. *on vypil Kon'jak*
'He drank the brandy'.
12b. *Kon'jak byl vypit*
'The brandy was drunk'.
12c. *Kon'jak vypit*
'The brandy has been drunk'.

(Comrie 1976).

Comrie (1976, 1981) provides a semantic-pragmatic explanation to the perfect-passive interaction: both constructions are Patient-oriented; the focus is on the affected object rather than the agent, and the perfect relates a past action to a present state, i.e., it expresses a present state as being the result of some past action. Consequently, "the perfect passive is precisely that form which predicates a change of state to the object of an action" (Comrie 1976:86).

The correlation between (perfect) aspect and (passive) voice is so solid that Resultative forms (i.e., forms with perfect meaning) are normally interpreted as passive even in the absence of passive morphology, where from a formal viewpoint the Resultative participle is active (Comrie 1981).

In Nivkh (Gilyak, a northern Asian language, spoken at the mouth of the Amur river and on Sakhalin island), for example, the use of -xeta, as in 13b, indicates a state resulting from a previous situation with change of voice.

13a. *Umgu t'us rha -d'*
 woman meat roast
 'The woman roasted the meat'.

13b. *T'us ra xetad'*
 woman meat roast
 'The meat has been roasted'.

(Comrie 1981).

2.2.1.4 Aspect and Tense

Based on the data and discussions in a number of works on tense and aspect (e.g., Anderson and Comrie 1991; Bache, et al. 1995; Binnick 1991; Bybee 1985; Bybee and Dahl 1989; Bybee et al. 1994; Comrie 1976, 1985; Chung and Timberlake 1985; Dahl 1985, 2000; Lakshmi and Mukherjee 1993; Smith 1997), aspect-tense interaction takes different forms: 1) tense and aspect blend in one category, 2) perfective verbs tend to be used to denote complete situations in the past, 3) imperfective verbs tend to be used to denote non-past situations, 4) imperfective aspect makes more tense distinctions than perfective, 5) neutral aspect makes more tense distinctions than perfect or progressive, and 6) past tense makes more aspectual distinctions than present or future.

Classical Arabic provides a cogent example of tense and aspect blending in the verb. In Arabic, the Perfective verb is interpreted with perfective and past meaning (14a below), while the Imperfective verb is interpreted with imperfective and present meaning (14b):

14a. *Jalas-uu 9laa l-baabi*
 sit:PFV-they on the-door
 'They sat down at the door'.

14b. *?allaahu ya9lamu bi- maa ta9maluuna*
 God he-know about what you-do:IFV
 'God knows what you do/are doing'.

(Comrie: 1976)

As Comrie (1976) points out, the basic distinction in the Arabic verbs is neither tense (with the aspectual difference being due to chance), nor is it aspect (with difference in time reference being a result of preferred interpretation of the aspects, mentioned above). The "difference between the Arabic Perfective and Imperfective verbs", Comrie rightly concludes, "cannot be purely one of aspect" (For details, see Al-Tarouti 1991)

2.2.1.5 Aspect and Mood

Non-actual modality and the denotic mode in particular appear to induce perfective aspect more than does actual modality. For example, Tagalog distinguishes perfective vs. imperfective aspect and realis vs. irrealis mood. The irrealis imperfective is used for ordinary future events (15a), while the irrealis perfective is used for imperatives - that is, for denotic modality (15b):

15a. *wawalis-an mo ang sahiḡ*
sweep:IRR IFV-LOC you SUBJ floor
'You will sweep the floor.'

15b. *walis-an mo ang sahiḡ!*
sweep:IRR PFV-LOC you SUBJ floor
'Sweep the floor!'

(Chung and Timberlake 1985)

These interactions illustrate "the ubiquity of aspect" (Friedrich 1974), which has inspired Lyons (1977) to conclude that aspect illustrates best the validity of the structuralist slogan: "Tout se tient", i.e., 'Everything hangs together' (cf. Aikhenwald and Dixon 1998)⁶.

The interlocking nature of aspect obviously raises the more general problem of detecting it. The interaction of aspect and other categories and systems sometimes makes it very difficult, if not impossible, to clearly isolate each category. For example, Lyons (1977) discusses how tense, aspect, and mood (TAM) intermingle as if they were one category. Thus, what makes one so sure that aspect and not tense or mood is the defining category of the verb or form in a given language? Alternatively, given the fusion, or rather the cooperation, of TAM, why must aspect, tense, or mood be the absolute 'defining category'?⁷

Furthermore, while one may not be able to pinpoint the directionality of these and other correlations or attribute them to the substance and/or the scope of aspect (but see note 3), we still can conclude that there is much more to aspect than a concern with the internal temporal view of the event, as traditional aspectologists maintain. That aspect determines usage of other grammatical categories such as tense and case marking underscores the argument that the role of aspect should not be limited to the situation-internal time.

A case in point of the inadequacy of the internal-external distinction for separating aspect from tense is the treatment of the perfect as an aspect. The perfect, according to Comrie (1976), "tells us nothing directly about the situation itself, but rather relates some state to a preceding situation". He later explains that "it expresses a relation between two time-points, on the one hand the time of the state resulting from a prior situation, and on the other the time of that prior situation". That is, Comrie considers the perfect as an aspect "although," as he himself rightly points out, "it is doubtful whether the definition of aspect, [as "different ways of presenting the internal temporal constitution of a situation", "can be interpreted to include the perfect as an aspect". He attributes this problem with the perfect to the traditional practice of 'if-no-tense-then-aspect'. Comrie rationalizes the inconsistency in his definitions of aspect that the perfect "is an aspect in a rather different sense from other categories".

It is theoretically and practically worth considering that there are indeed two 'kinds' of aspect. Simply put, the case of the perfect points to the dual temporal dimension of aspect; internal and external viewing of the situation. (For recent and extended theoretical discussions of the perfect, see Binnick (1991), Klein (1992), Michaelis (1994), and van Baar (1994).

In addition to the precariousness of the 'internal-external' dichotomous distinction between aspect and tense, aspect can be conceptualized with little or no reference to situation-internal time (distinction). There are several observations that seem to bear out this claim, but only three will be mentioned here.

Firstly, as for characterizing the temporal perspectives of the perfective-imperfective aspectual forms, the concern of aspect with the internal temporal constituency of the situation is only applicable to the imperfective

aspect, not the perfective. According to Comrie (1976), "the Perfective looks at the situation from outside, without necessarily distinguishing any of the internal structure of the situation, whereas the Imperfective looks at the situation from inside, and as such is crucially concerned with the internal structure of the situation". This very difference between the two aspects (the perfective and the imperfective) may explain the numerous attempts to characterize semantically what underlies the perfective aspect (see section 2.3 below).

Secondly, aspect can be conceived of with little or no consideration of the temporal structure of the situation or the verb. For example, states, being timeless, i.e., they lack internal temporal structure since they have no time phases, do not participate in the perfectivity-imperfectivity contrast. Unlike events, states tend not to be described by perfective forms (Comrie 1976); the perfective forms of stative verbs denote the event of entry into the appropriate state. On the other hand, there is a natural affinity between stativity and imperfectivity (Comrie 1976). This affinity may explain why past stative situations are restricted to imperfective aspects (namely continuous and habitual aspects). A perfective stative verb, however, can express a past stative situation since perfectivity is not incompatible with overt expression of the duration of a situation (Comrie 1976).

Thirdly, Comrie (1976) emphasizes the fact that the choice of perfectivity or imperfectivity, or more accurately, the use of their grammatical forms, is not the result of some objective difference between situations, but rather of the speaker's perception of the given situation. He contends that the speaker's (subjective) view of the situation described, if included in the semantic representation, leads to differences in truth-value (Comrie 1976).

Smith (1983, 1987) has developed a 'speaker-based theory of aspect' to account for the subjectiveness of aspectual representation of aspect'. She postulates that while situation aspect (state, activity, accomplishment, achievement, etc.) is fixed, speakers have a choice of viewpoint aspect (perfective vs. imperfective), although aspectual meanings focus on the properties of the idealized situation. That is, speakers are free to choose an atypical viewpoint to represent a typical situation. For example, a speaker may choose the progressive aspect to express a state although states are

associated with statives and typically imperfective viewpoint. She provides the following examples to illustrate this point:

- 16a. She liked the play.
- 16b. She is liking the play.
- 17a. The bird was flying.
- 17b. The bird was in flight.

(Smith 1983:479)

The sentences (16b) and (17b) are not ungrammatical, but they represent the situation in question from non-standard perspectives. Similarly, the progressive in English is used for habitual situations for "stylistically marked non-standard flavor" (Smith 1987):

- 18a. John is reading the newspaper regularly.
- 18b. Mary is playing tennis every day.

That speakers are free to choose either viewpoint (perfective or imperfective) is because an 'idealized situation' does not require that a situation has certain properties. If aspectual presentation of the situation is subjective, then aspect in the final analysis may belong to the realm of modality. This conclusion is corroborated by the argument that imperfectivity straddles between aspect and modality (Comrie 1976; Townsend 1985) and that the perfect is a modal category (Izvorski 1997; Hofling 1998, see note 8).

Fourthly, a number of non-temporal characterizations of aspect as a general category and for particular languages have been proposed at different times (e.g., Anderson 1973; Diver 1969; Hertzog 1982; Hopper 1979, 1982a; Huang 1987; King 1983; Reid 1980; Sher 2000; Talmy 1985). Because of space limitation, these characterizations cannot be discussed in detail, however. Anderson, Diver, Hopper, King, Reid, Sher, and Talmy have abandoned the current (semantic) domain of aspect. For example, as was mentioned earlier (section 2.1), taking aspect as a discourse category (Hopper 1979, 1982a; Vet and Vetter 1994) has resulted in a new approach to aspect. Some linguists have begun to treat the aspectual distinctions from the perspective of narrative-discourse structure as the predictor of aspectual use. Hopper (1979, 1982a) maintains that the function of aspect, namely the perfective and imperfective verbs, is to signal foreground and background information and other narrative functions, mainly movement and halting of

events, respectively.⁹ Reid (1980) argues that aspect can be better understood from the perspective of high and low focus on the particular situations that comprise narrative texts. Givon (1982) argues that the semantic characterizations of aspectual markers are associated with discourse-pragmatic functions. Binnick (1991) claims that, in Russian, aspectual choice is "highly sensitive to focus structure: imperfective is used with old information, but if the verb is in focus the perfective is used". Vet and Vettors (1994) argue that the meaning of tense and aspect forms strongly depends on contextual factors and probably on the type of text as well, so that tense and aspect cannot be properly studied if their contribution to text cohesion is not taken into account. Wang (1996), like Hopper (1979, 1982a), maintains that aspect is merely a linguistic device to convey sequences in discourse.

While some new approaches to aspect have abandoned the current (semantic) domain of aspect, the internal-time view, Huang (1987) wants to broaden it. After examining data from a number of related and unrelated languages, such as Chamorro, Mokilese, Alabama, Fore, Ute, Amharic, Mandarin Chinese, Songhai, Tongan, Yukaghir, English and Spanish, Huang argues that in order to understand accurately the nature of the aspectual systems in these languages, and perhaps in many others, we should broaden the traditional perception of aspect. She maintains that the traditional aspectual oppositions, e.g., perfective-imperfective, completive-incompletive, progressive-nonprogressive, etc., restrict aspect to temporal interpretation and, thus, fail to characterize the aspectual systems in these languages, for which the notions of interruption, realization, intensity, diminution, essence-accidence, remoteness-immediacy, and perhaps others, need to be included in order to better understand the nature of aspect. She clarifies, however, that this does not mean to exclude the traditional view of aspect (the perfective-imperfective opposition), from the account of aspectual systems in different languages where it is appropriate. She sees the perfective-imperfective opposition as one possible implementation of an overarching semantics of Diffuse-Focussed opposition (i.e., bounded-unbounded opposition, cf. Givon 1993).

In sum, the (internal) time-view of aspect needs broadening to include aspectually related meanings but also the possibility of time reference.

Although the nature and types of the interaction between aspect and tense were explicated above, the linking mechanism is yet to be determined.

2.2.2 Aspectual Values

Comrie (1976) links aspect to a number of 'values'; i.e., aspectual concepts such as duration, punctuality, continuation, progressiveness, phase, habituality, completion, and completeness. On the one hand, the imperfective, being explicitly concerned with the so-called internal make-up of situations, represents situations that continue or repeated for sometime (continuative and habitual), or situations that are occurring at the time of utterance. On the other hand, perfective forms represent situations that are completed.

These and similar definitions have been discussed by aspectologists, e.g., Forsyth 1970; Comrie 1976; Majewicz 1985; Singh 1998). Having discounted several meanings of perfective aspect, both Comrie (1976) and Forsyth (1970) consider perfectivity to present the totality of the situation; i.e., "a single whole" (Comrie 1976), or "a total event summed up with reference to a single specified juncture" (Forsyth 1970). Since then, the notion of totality, which includes 'completion' but emphasizes 'completeness', has become the standard feature defining the perfective aspect. The perfective form marks totality by viewing the situation "from without" by making no "explicit reference to [its] internal temporal constituency" (Comrie 1976). On the other hand, the imperfective form cannot present the event totally because it views the situation "from within", making "explicit reference to [its] internal temporal structure" (Comrie 1976). As a way of illustration, if a situation can be schematized as: $B_{p1 \rightarrow p2 \rightarrow p3 \rightarrow p4 \rightarrow p5 \rightarrow p_n} E$, any reference to some portion of the transition [p(hases)] between the two points B (beginning) and E (end) is imperfective, whereas any reference to B, E or both B and E together is perfective. In Comrie's words, "perfectivity indicates the view of the situation as a single whole, without distinction of the various separate phases that make up that situation, while the imperfective pays essential attention to [these phases]" (Comrie 1976).

As was mentioned above, the totality view of aspect in which the perfective describes the situation in its (indivisible, or unanalyzable) entirety prevails among aspectologists (Slavicists and non-Slavicists alike, see Klein

1995). However, this view of aspect was criticized by Russian linguists such as Brugmann (Friedrich 1974) and Koschmieder and Bondarko (Majewicz 1985). Brugmann (cited in Friedrich 1974), for example, dismisses it as being "too vague and heuristic".

Dahl (1985), Lindstedt (1985), and Majewicz (1985) also argue against the totality meaning of aspect and all favor instead the notion of 'boundedness', i.e., 'attainment of a limit', as the key feature of perfectivity. Yet, Klein (1995) maintains that both characterizations (totality and boundedness), while expressing important intuitions, fail on a number of grounds. Klein (1994, 1995) provides a time-relational characterization of the Russian verb(s) instead of these aspectual values. Dickey (1997), however, shows that in the west Slavic languages (Czech, Slovak, and Slovene), the meaning of the perfective is the totality, whereas in the east Slavic languages (Russian, Ukrainian, and Bulgarian) it is temporal definiteness. The imperfective in each group signals temporal indefiniteness.

Notwithstanding, based on the above discussion of the aspectual meanings and the findings of the crosslinguistic investigations of several aspectual systems (Anderson and Comrie 1991; Bache et al. 1995; Binnick 1991; Bybee 1985; Bybee and Dahl 1989; Bybee et al. 1994; Dahl 1985, 2000; Lakshmi and Mukherjee 1993; Smith 1997), one can argue that all of the above features assigned to the perfective aspect can be regarded as essential components of the perfective meaning (though, of course, not all of them are present or equally present in individual uses of the perfective forms). This is similar to the cluster approach to aspect (see Li et al. 1982; Dahl 1985). "According to the 'cluster' concept of grammatical categories", Li et al. (1982) write, "there need not be any single set of semantic parameters which is shared by the grammatical manifestations of a given category crosslinguistically". Likewise, Dahl (1985) asserts that "a crosslinguistic category is associated with a cluster of semantic and morphosyntactic features, although no subset of this cluster can be singled out as providing necessary and sufficient conditions defining the category". In keeping with this assertion, Dahl (1985) proposes a prototypical formalization of perfectivity, in which.

"A perfective verb will typically denote a single event, seen as unanalyzed whole, with a well-defined result or end-state, located in the past. More often than not, the event will be punctual, or at least, will be seen as a single transition from one state to its opposition, the duration of which is disregarded."

The 'prototypical approach' is based on typological data (Dahl 1985, 1999; see also Bybee 1985; Bybee and Dahl 1989; Bybee et al. 1994) and is semantically broad enough to include the temporal domains inasmuch as it combines the basic dimensions of an event, namely, the internal and external viewing of it¹⁰. The internal viewing of the event is signaled by how it is perceived (features 1 and 2: single unanalyzed whole with a well-defined result or end-state, and feature 4: punctual), whereas the external viewing is signaled by when, or where it is located (feature 3: located in the past). By the feature 'located in the past', the prototypical approach provides a significant contribution in the quest for an explanation for, or at least a sense of understanding of, the 'temporal trait in aspect', so to speak, whose discussion will be presented next (in section 3).

3. Aspect and Temporal Reference: The Missing Link

3.1 Aspect and Temporal Reference

Aspect is usually treated as the category opposite to tense (e.g., Friedrich 1974; Comrie 1976; Dahl 1985). That is, aspect tends to be defined negatively in terms of tense (Bache 1985, 1995). Comrie (1976), as was mentioned above, attributes the controversy over whether the perfect is an aspect category or a tense category to the assumption that aspect is what is not tense or mood. Aspect in this framework has no independent existence, no definition of its own; it takes its denotation from its contrast with tense, on the one hand, and from mood or aktionsart on the other. Treating aspect in this way "has obscured many linguists' conception of the nature of aspect, not only as a language-specific grammatical category in the various aspect languages but also as a general linguistic category" (Bache 1985).

Disregarding the question of the validity of this treatment of aspect and/or its negative role in misunderstanding aspect, the working assumption in this common practice is that aspect, unlike tense, is not deictic; it presents the situation not in relation to the time of utterance (Comrie 1976; Lyons 1977). This assumption is, however, not shared by many linguists, aspectologists in particular, e.g., Bache (1985, 1995), Chung and Timberlake (1985), Fradkin (1985), Klein (1994, 1995), Lamarche (1996), and Rafferty (1982).

Linguists have directly or indirectly acknowledged and tried to explain the nuances of time reference (or "tenseness", so to speak) in aspect (Lindstedt 1985 Timberlake 1985). What follows is a brief delineation of the different explanations. Before proceeding, it should be pointed out, however, that the details of this discussion, though interesting and enlightening, are beyond the scope of this paper. What is particularly pertinent to us here is that aspect, namely the perfective-imperfective aspectual opposition, is not devoid of time reference. This, of course, has a significant bearing on how to approach aspect in general and in the so-called aspect languages in particular.

Rappaport (1985), Townsend (1985) and Chatterjee (1988) suggest that aspect may have deictic or tense-like functions, while Comrie (1976), Maslov (1985) and Dahl (1985) equate aspect with relative tense. (While 'Absolute Tense' takes the moment of speaking (the present point) as its reference for past and future, 'Relative Tense' takes some point in the past or future as its reference (Comrie 1985). More importantly, like Absolute Tense, Relative Tense is deictic (Comrie 1985; Fradkin 1985). Johnson (1981), Merrill (1985) and Timberlake (1985), who relate aspect to Reichenbach's tense model (see Comrie 1985 for a discussion and description of the model), argue that aspectual evaluation takes place at R (the reference point). That is, after R being established, the event is evaluated aspectually to be presented as perfective or imperfective. Others argue the opposite. For example, Dezsó (1982), who holds that "perfective aspect requires the subordination of tense [...] since it already involves tense", argues that "the time of the [situation] is correlated with the time of the speech act and is viewed by the speaker from a given aspect."

Comrie (1976, 1981), Maslov (1985), Friedrich (1974) and others suggest a composite categorization for both tense and aspect, namely "tense-aspect", whereas Friedrich (1974), who finds that the perfective-imperfective opposition in many languages is used for tense distinctions, uses the term "aspectoids" for tense forms that have aspectual overtones or aspect forms that have tense functions. In contrast to the hybrid-formulae for aspect and tense (i.e., the tense-aspect term) and the one-category for both (Friedrich's aspectoid), there are some linguists who argue for 'two different aspects': inner-aspect vs. outer-aspect (Leinonen 1982), where the first member of the set behaves as a traditional aspect and the second functions

deictically. To an extreme degree yet, aspect is considered deictic, just as tense is (Fradkin 1985; Rafferty 1982; van Schooneveld 1983).

Perhaps as a compromise between the two extremes of aspect theory, namely that, on the one hand, aspect is only concerned with the internal characteristics of the situation, i.e., it is not deictic, and, on the other hand, aspect is seen as a deictic category (Fradkin 1985; Rafferty 1982; van Schooneveld 1983), some aspectologists view aspect as a category that makes a simultaneous reference to both internal and external situation times (see Dezsó 1982; DeCaen 1996; Klein 1995; Lindstedt 1985).

The question of 'how does aspect mark reference to time?' awaits an answer. It is argued in the next section (3.2) that aspect marks reference to time through the notion of temporal 'boundedness' and, specifically, through the notion of 'exclusiveness', its fundamental entailment.

3.2. Temporal Boundedness

This section is an attempt to answer the question of what does the perfective seem to depict by presenting the situation as a 'bounded whole'? As a preview of the discussion below, the central point will be that the notion of boundedness, which contains the idea of a single closed whole entity (i.e., enclosed totality), implies 'exclusiveness', i.e., non-co-occurrence, of perfective events, and that appears to explain some findings about aspectual forms in both referential and narrative discourse.

Boundedness, as is taken in the present paper, defines the situation within clearly circumscribed boundaries, disregarding the internal temporal structure. Some aspectologists have argued that the system of temporal reference is linked to the denotative properties of aspect through the overall notion of boundedness (Lindstedt 1985; Heinamaki 1995). By presenting the event as a bounded whole, which, as a result, can be looked at only from the "outside" (Comrie 1976), the perfective aspect makes the event 'temporally definite' (Dickey 1997) and thus "completely observable from the point of view of its observers" (Fradkin 1985). In terms of deixis, this leads to a deictic orientation (Bache 1985; Fradkin 1985); i.e., boundedness induces indexicality apparently because it "defines the speaker's spatio-temporal perspective for viewing the situation" (Rafferty 1982). Therefore, while a bounded event as (20a) receives its time-axis (point-of-reference)

implicitly in discourse, the unbounded event (20b) often requires explicit point-of-reference (Givon 1984).

20a. *'She read the book'.*

20b. *'She was reading the book'.*

The most common time reference associated with the 'perfective' in the literature of aspect, as was mentioned earlier, is the past (see Comrie 1976, Dahl 1985, 1999), because, as Givon explains, "once an event has occurred, its terminal boundary is more likely to be a matter of record, in retrospect" As Givon (1984) points out, "aspect of various kinds involves our notion of the boundedness of time-spans, i.e., various configurations of beginning, middle and end points. But in the semantic space of aspect, nearly always some element of tense is also involved in terms of establishing a point-of-reference along sequential time".

In sum, boundedness, therefore, explains the contrast between perfective ('completive') and imperfective ('incompletive') as it involves the terminal boundary of events as well as its relationship to the time axis (cf. Heinamaki 1995; Filip 1996)¹¹.

3.2.2. Exclusiveness and Perfective Aspect

That the notion of boundedness explains the aspectual and temporal distinctions between perfective and imperfective also obtains further theoretical support from the use of aspect in (narrative) discourse. It was mentioned earlier (section 2.1 and 2.2.1) that the discourse-perspective of aspect entails not only a new predication of its scope but also of its meaning and function. That is, the function of aspect, as a discourse category, which takes the whole text under its scope, is the movement of the events in the narrative (Hopper 1979, 1982a; Wang 1996).

In this approach to aspect, bounded events tend to be the sequential backbone of narratives, while unbounded states tend to be occasional background interruptions in the sequential flow (Hopper 1982a). That is, that boundedness pertains to the chronological progress of events within a narrative. Unboundedness halts the horizontal progress of events or states and permits their convergence at one temporal segment. Givon (1984) explains that a clause in sequence depicting an event receives its time-axis from the preceding clause. This is less often with clauses depicting

unbounded states, which often disrupt the thematic continuity and demand a re-established point-of-reference.

Inherent in the concept of sequentiality (succession) of aspect is the idea of exclusiveness, i.e., non-co-occurrence. Succession of events requires that no two perfective events occur simultaneously, i.e., each event occupies a unique place on the line of time that it shares with no other event. Put simply, perfective events strictly exclude each other because perfectivity forms a 'boundary' within which the event exists. In other words, perfectivity constitutes a prohibition on the simultaneous existence of two or more perfective events within the same time segment¹², the perfective indicates a one-to-one correspondence between a particular time segment and one perfective verbal event.

According to Hopper (1982), that bounding of events, which is a significant parameter for their enunciation, relates to the notion of discreteness can be explained by the fact that

"an event must be bounded at its inception and conclusion in order for its limits in respect to adjacent events to be maintained without overlap and hence without ambiguity. By contrast, states, on-going processes, and repeated events, are not limited in this way, and do not need to be perceived discretely since overlapping does not obscure the chronological order of events, it being characteristic of states and on-going actions not to be so order".

The notion of 'exclusiveness' (in the sense of 'non-co-occurrence' and/or 'discreteness'), therefore, should be included as a crucial feature in the characterization of aspect. This, of course, would lead to a fundamental modification of the traditional view of aspect as a category that characterizes the situation only in terms of completion and the like without reference to other events or the speech event. The modification of this view is indispensable since it is evident that perfectivity excludes not only other events, but also the speech event itself. That the speech event is covered in the aspectual prohibition, i.e., non-co-occurrence of perfective events, implies that not only is aspect deictic (because it appears somehow sensitive to the 'here and now' of the speaker and hearer (Klein 1995)) but also that languages seem to view the speech event as a perfective event (Levenberg 1980). Thus, van Schooneveld (1978) concludes that the perfective is deictic

in the sense that it is impossible to define the meaning of the perfective without reference to the speech event. Similarly, Fradkin (1985) contends that "it is physically -- and perceptually -- impossible for aspect to discount the speech situation". This may explain the common observation that the perfective verb in most languages basically refers to past time or future time complete situations (Bybee et al. 1994; Comrie 1976; Dahl 1999). In other words, in terms of temporal deixis in general and tense distinction in particular, perfectivity simply means non-present (see Chung and Timberlake 1985 Dahl 1985).

A perfective event, therefore, may be perceived as bounded on two axes; one depicting the event as a "single object with clearly circumscribed limits" (Comrie 1976), i.e., having definite boundaries, (beginning and end), and, the other, though abstractly, emphasizing the separation of and/or the singling out of perfective events from any other comparable verbal events including the act of the speech (see Fradkin 1985).

4. Summary and Conclusion

This paper has reviewed some of the fundamental problems in current treatments of aspect, which indicate that aspect is a linguistic concept used without any clear definition, or precise description, and certainly without an unambiguous explanation of either the difference between it and tense or the subtle affinity between it and time reference. The association of (internal) temporal contour with aspect has been overstated to the extent that its built-in temporal orientation, among other features and values, has been overlooked. Lack of precise characterization of aspect, therefore, precludes not only the differentiation of aspect and tense, but also the interconnection between the two categories. What is needed is a formulation of aspect (or tense) that is cognizant of the interactions of aspect and tense, but still recognizes them as two separate grammatical categories. More importantly, the new formulation of aspect should provide a sense of understanding, preferably an explanation, of how the so-called aspect languages mark time reference grammatically. The 'boundedness approach' to aspect, as described in this paper, seems to have the potential of meeting those requirements. That is, taking boundedness, along with the feature of exclusiveness incorporated into it, explains some enigmatic issues in the current approaches to aspect:

- 1) It explains why the perfective verb refers to the past time, but not to the present time, and why the imperfective is not committed to time reference at all.
- 2) It explains how the so-called tenseless languages express tense; verb aspectual marking, namely perfective-imperfective, also involves time reference, albeit secondary.
- 3) It accounts for the discourse function of aspect; i.e., why narrative clauses contain Perfective verbs while non-narrative clauses contain Imperfective verbs.
- 4) It appears to account for the imperfectivity of the complement verb in verb phrases; it explains why the complement verb in verb-verb constructions can only be Imperfective, as pointed out in note 12. This potential, however, needs further investigation.

NOTES :

1. The abbreviations used in this paper are as follows: ACC 'accusative', ASP 'aspect', IFV 'Imperfective', IRR 'Irrealis', LOC 'Locative', NEG 'negation', NOM 'nominative', PAS 'passive', PFV 'Perfective', PST 'past tense', PL 'plural', SG 'singular', SUB 'Subjective', 1 'first person', and 3 'third person'.
2. Situation, hereafter, is "a cover term for all sorts of states, events, actions, processes, and activities" (Bache 1995:125).
3. The interrelation between aspect and aktionsart is best captured in 'the two-component theory of aspect' (Smith 1995, 1997), in which situation is represented with a composite temporal schema and type; i.e., lexical aspect and grammatical aspect.
4. Aspect also interacts with other grammatical categories and systems such as definiteness (Dahl 1985; Leinonen 1982; Zhang 1997), assertionality (Givon 1982, 1984; Klein et al. in press; Myhill 1984), quantification (Merrill 1985; Bonomi 1995; Verkuyl 1999), countability (Brinton 1998), nominalization (de Miguel 1996), transitivity (DeLancey 1982; Hopper and Thompson 1980; Myhill 1984), and valency (Engelberg 1994), argument structure (Ramchand 1997; Tenny 1992, 1994).
5. That means some variations that do not follow the norm exist but cannot be considered counterexamples to the observed tendencies.
6. Tenny (1992, 1994) presents 'Aspect Interface Hypothesis', in which aspect plays a central role in the interface between lexical semantics and syntax. The aspectual properties that figure in the linking between syntax and semantics are expressed

through 'aspectual roles', assigned by a verb to its arguments. Tenny's theory, which is independent of any particular model of syntax, suggests that a number of lexical semantic phenomena can be expressed as operations over aspectual roles, and syntactic phenomena can be classified according to whether or not they are sensitive to the presence of aspectual roles.

7. See for example, Thurgood and Thurgood (1996), and Hasegawa (1999) for the debates over the particle *Ja* in Kristang, and the -TA and -RU forms in Japanese, respectively.
8. More interestingly, the perfect is viewed as a modal category rather than tense or aspect (Izvorski 1997). Hofling (1998) finds the perfect to relate more to irrealis modality.
9. In fact, traditional aspectologists have pointed to this function of aspect. While Forsyth (1970:65) observes that "the expression of a sequence of actions is one of the most characteristic functions of the perfective in an extended context", Comrie (1976:117) alludes to sequentiality as a basic function of perfective aspect.
10. According to Dahl (1999), there is a universal clustering of 'perfectivity', 'past time reference' and 'dynamicity'.
11. Filip (1996) discusses the notion of boundedness in temporal and spatial domains.
12. This may explain the observation that the complement verb in verb-verb constructions in a good number of languages can only be Imperfective (verb). That is, in verb phrases, the auxiliary verb or the catenative (helping verb) can be perfective or imperfective, but the main verb can only be Imperfective or aspectually neutral (infinitive). For example, in Arabic, *yabda?/bada?a yal9ab* 'He starts/started playing/to play', and *jaa?a (wa huwa) yabki/baakiyan* 'He came crying'. Furthermore, the complement of aspectual verbs can be a noun as in: *yabda?/bada?a (fi) al-la9ib* 'He starts/started playing/to play'. (See Al-Tarouti (1991) for a discussion of the semantic correspondence between the Imperfective verb and nominal categories in Arabic.)

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