As Time Goes by : Farsi and English Time References

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1. Introduction

This study compares and contrasts tense and inherent aspect in English and Persian from semantic and syntactic points of view. The aspectual verb systems in both English and Persian, are semantically interpreted alike. However, in Persian a group of stative verbs are grammaticalized by the imperfective obligatory morpheme mi - , while in English all stative verbs are perfective. Furthermore, while in Persian all accomplishment verbs can be shifted into activity verbs by deleting their direct object markers (i.e. by means of noun - incorporation), in English accomplishment verbs cannot be shifted into activity verbs(1). *Finally, while English has six tense forms: present, present perfect, past, past perfect, future, and future perfect, Persian has five tense forms; it lacks future perfect tense with present perfect tense used instead. Inherent aspect and tense are also syntactically instantiated in both English and Persian. The model that is followed is based on Arad's (1996) model of syntax which is aspectually determined. Based on event - predicate based approach, telic events are projected by the aspectual projection of measurer where accusative Case is also checked, atelic events are projected by the aspectual projection of originator, where an agentive interpretation is determined, and non - dynamic situations are projected by*

1- It needs to be pointed out that in both English and Persian accomplishments (e.g. John ate a sandwich) can shift into activites (e.g. John ate sandwiches) by pluralizing the direct object.

neither the aspectual projection of measurer nor of originator; they are base - generated in the VP, because they are aspectually contentless. However, independently of these factors, tense is uniformly projected in the IP.

1.1 Background

1.1.1 Inherent aspect

What is inherent aspect? The idea is that every predicate has an internal temporal property (Comrie 1976; Dowty 1979; McClure 1995; Vendler 1976; Verkuyl 1993). For example, in the propositions " John ran" and "John arrived", the temporal property of the verbs "ran" and "arrived" are not the same. The former denotes a process, while the latter denotes an instantaneous change of state (i.e punctual). Inherent aspect consists of telic and atelic (or non - telic) aspects. Telic events (or telic aspects or telic verbs) indicate an action with a final goal. They are further subdivided into two groups: achievement (e.g. recognize his mother) and accomplishment (e.g. make a cake) aspects. For accomplishment aspect both time 1 as onset time and time 2 as final conclusion are part of universal entailment of the aspect, while for achievement aspect, only time 2 is part of the essential universal entailment of the aspect. Non - telic (or atelic) aspects or verbs are also subdivided into two gorups: activity and stative aspects. Activity aspect has just the onset time (or time 1) without final conclusion (or time 2) (e.g. run). Stative aspect has neither time 1 nor time 2 (e.g. know).

There are several syntactic and semantic tests to distinguish aspectual classes. The one that I mention is a progressive entailment test (i.e. a syntactic test); (Dowty 1979, McClure 1995; and Vendler 1976 among others):

(1) If an activity verb: e.g. "walk" then:

John is walking -----entails --- → John has already walked

(2) If a stative verb: e.g. "belong" then:

** The chair is belonging to me.*

(3) If an achievement verb: e.g. "recognize" then:

John is recognizing his mother ----- entails --- → John has not yet recognized his mother

(4) If an accomplishment verb: e.g. "build" then:

John is building a house ---------- entails --- → John has built (part of a house) & John has not built yet a house.

The idea is all verbs (stative, activity, achievement, and accomplishment) are constrained by three universal aspectual values: [punctual], [telic], and [dynamic] (Adersen 1991). Stative verbs are [-dynamic], activity verbs are [+dynamic] and [-telic], achievement verbs are [+punctual] and [+telic], and accomplishment verbs are [-punctual] and [+telic]. In addition to the universal semantic values of verb types, they are syntactically instantiated by aspectual projections. Telic verbs (achievement and accomplishment) are syntactically instantiated by the aspectual projection of measurer, activity verbs are instantiated by the aspectual projection of originator, and stative verbs are instantiated by neither the aspectual projection of measurer nor of originator because they are aspect - less (for detailed discussion of the semantic interpretation and syntactic instantiation of aspectual verbs see 2.1.

1.1.2 Tense and inherent aspect

Both tense and inherent aspect are terms that refer to the notion of temporality. Tense locates a situation in relation to some other time such as the time of speech or utterance; it is a category that signifies temporal deixis. On the other hand, aspect is not concerned with relating a situation with some other time, i.e., it is non - deictic. Inherent aspect is a linguistic property, while tense is deictic. For example, the difference between "he is

walking" and "he was walking" is that of tense since the contrast of "is" and 'was' signifies the difference between the two in relation to the speech time. The difference between "he was eating" and "he was eating a sandwich", on the other hand, is that of aspect since the contrast of "was eating" and "was eating a sandwich" indicates the way the action of eating is viewed by the speaker; the former views the situation as a process without an end point (i.e. activity), while the latter views the situation with an end point (i.e., for the accomplishment aspect "eat a sandwich", the direct object "a sandwich" provides an end point or measures out" (Tenny 1992) the action described by the verb "eat"). In other words, the former has the universal aspectual values [+ dynamic] and [-telic], the latter has the universal aspectual values [-punctual] [+telic].

2.1 Inherent aspect in English and Persian

2.1.1 Semantic view of inherent aspect

Aspect usually refers to the organization with respect to time independent of any time frame, of an event or a situation represented by some linguistic expression such as a verb or verb phrase (Comrie 1976, Smith 1991). Vendler (1967) proposed a four - way classification of inherent aspect: stative, activity, achievement, and accomplishment. Examples from his four categories are shown below:

Table 1: Types of aspects

states	activities	accomplishments	achievement
know	run	paint a picture	recognize
believe	walk	draw a circle	die
desire	swim	make a chair	find
love	push a cart	recover from illness	reach

The root of this classification dates back to Aristotle (Dowty 1979), and was elaborated on by philosophers such as Ryle (1949) and Kenny (1963). Later, Dowty (1979) and Mourelatos (1981) developed the classification schema further.

2.1.1.1 Statives in English and Persian

*Kenny noted that certain verbs do not occur in the progressive; thus we may say "he is looking at Mary", but "*he is seeing Mary" is not acceptable. Vendler's (1967) formal definition of a state held it would be true at 'any instant between t1 (time 1 as onset of state) and t2 (time 2 as a new state)' (p. 34). This definition requires that every point within a state be identical to every other point and that any part of a state be identical to the whole thing. Therefore, we may characterize states as having no structure that differentiates any part of them from any other part. Therefore, states have duration, but are without a well - defined endpoint. We expect them to be homogenous throughout a time span and this may be tested by compatibility with the adverbial time "for":*

(5) She ***Loved***[۲] *him for years*

Furthermore, states have no endpoint or final conclusion (i. e. time 2). This can be tested by observing stative strangeness with temporal phrases that focus on the end of an interval, such as "take [an hour] to" or adverbial phrases such as "in [an hour]". The following sentences are ungrammatical in English as well as in Persian:

*(6) a. *It took an hour to belong to him.*

*b. * She loved him in an hour.*

In Persian, most verbs are experssed as compound verbs. All simple and compound verbs that end in "budan""be" (e.g. xoshahl budan "to be happy" bimar budan "be ill") and "dashtan" "have", e.g. eteghad dashtan "to

2- In this study, verbs in all examples are bolded and italicized.

*believe", dust dashtan "to like") are stative verbs. Stative verbs without "budan" "be" and "dashtan" "have" are expressed by the imperfective prefix mi-as in (7a). The prefix mi-does not just mark stative verbs; other aspectual non - stative verbs can be expressed by the imperfective morpheme mi-. However, in Persian only stative verbs with the prefix mi-are incompatible with the progressive auxiliary "dashtan" "have (e.g. *daram midanam *"I'm knowing"), whereas non - stative verbs with the imperfective mi-are compatible with the progressive auxiliary as in (8a). Furthermore, the prefix mi-with non - stative verbs is an optional morpheme. In other words, non - stative verbs with this morpheme are in progressive form and without this morpheme are perfective (cf. 8a-b), while statives with the state prefix mi-are imperfective (but not progressive form) and without this prefix are impossible (cf. 7a-b).*

(7) a. (man) a'rabi mi - dan - am
I Arabic impf know - lsg
"I know Arabic"
*b. *(man) arabi dan - am*
I Arabic know - lsg
"I know Arabic"
(8) a. (man) dasht - am mi david - am
I had - lsg impf ran - lsg
"I was running"
b. (man) david - am (non - stative)
I ran - lsg
'I ran'

Moreover, the prefix stative verb mi- represents a Persian inherent aspectual marker, while the morpheme non - stative verb mi- represents either a grammatical aspectual marker (cf. section 2.4 for the difference between inherent and grammatical aspect) or a tense marker as in the sentences 9 and 10 below (cf. section 2.3 for the distinction between

inherent aspect and tense).

(9) a. (man) hala arabi mi dan - am

I now arabic impef know -lsg

"I know Arabic now"

b. (man) sale gozashteh arabi mi danst - am

I year last arabic impf knew - lsg

"I knew Arabic last year"

(10) a. (man) hala football bazi mi kon - am

I now football play impf make - lsg

"I am playing football now"

b. (man) sale gozashteh football bazi kar - d - am

I year last football play made - perf - lsg

"I played football last year"

Sentences 9a - b with stative verbs use the prefix mi- with both present and past tenses while sentences 10a-b with non - stative verbs use the morpheme mi- with present tense but without the prefix with past tense. To sum up, the prefix mi- with non - stative verbs is either a tense or a grammatical aspect marker, whereas the prefix mi- with statives is an inherent aspectual marker.

2.1.1.2 Activities in English and Persian

Activities are homogenous like states, but different in that they have a structure composed of successive stages. A process or activity has no goal or natural final point. As there is difference in kind between a proper part which defines the activity and the entire interval during which the activity is said to be happening (the event structure is homogenous), an entailment pattern holds for the imperfective viewpoint in both English and Persian:

(11) John is running ----- entails --- → John has already run.

Since activity verbs or predicates have time 1 (onset time0 without time 2 (end point) like statives (see example 5), they are compatible with the

process adverbial "for", while they are not compatible with the "endpoint" adverbial "in":

(12) a (man) baraye yek saat shena kard - am.

I for an hour swim did - lsg

"I swam for an hour."

*b. *(man) dar yek saat shena kard - am.*

I in an hour swim did - lsg

"I swam in an hour."

2.1.1.3 Achievements and accomplishments in Enlgish

Kenny (1963) identified only three aspectual classes: achievements, activities and states. Vendler (1967 :102) added an additional fourth category, accomplishments. Vendler's justification for introducing this category was to draw a distinction between activities which were unbounded, and activities which were brought to a conclusion or endpoint (accomplishment):

(13) a. John is singing a song.

b. John is singing.

Thus sentence 13a has an endpoint which has to be reached if the action is to be what it is claimed to be while 13b has no endpoint. In other words, for sentence 13a, it is correct to say "John has not sung the song", i.e. finished singing it but for sentence 13b, one can say "John has sung". Vendler argued that the "endpoint" of the activity has to be part of the definition of an accomplishment.

An interesting discovery was that duration expressed by the "for - adverbial" appears to be incompatible with the concept of a definite or endpoint of an event that is realized by its own bound (Verkuyl 1993). Thus the definite temporal unit of accomplishments and achievements renders them incompatible with "for - adverbial" phrases, while they are compatible with "in - adverbial" phrases:

*(14) a *He wrote the letter for an hour.*

*b. *He died for a year.*

(15) a. He wrote the letter in an hour.

b. He died in an hour

Another reason as why Vendler (1967) introduced the fourth aspectual inherent aspect, accomplishment, was to distinguish accomplishments from achievements. He described this distinction in the manner below:

> *When I say it took me an hour to write a letter (Which is an accomplishment), I imply that the writing of that letter went on during that hour. This is not the case with achievements (Such as reach the summit).*
>
> *(Vendler 1967: 104)*

Vendler's (1967) definition between the two situation types brings to mind the entailment patterns first noted by Kenny (1963, cited by Dowty, 1976: 59):

(16) a . If O is an accomplishment verb, the x Oed entails x was Oing during y time.

b. If O is an achievement verb, then x Oed in y time does not entail x was Oing during y time.

(17) John wrote a letter in two minutes.

(18) Mary noticed the painting in two minutes.

"John wrote the letter" over the duration of the interval. But Mary was not "noticing' over the same period. If we consider two time points t1 and t2, in which t1 indicates the onset of an activity and t2 shows the telicity of an activity or the new state, accomplishments require a duration that start with t1 and end with t2, but with achievements t1 is not part of a process that ends whith t2 as a new state.

The question that arises is how one can distinguish between accomplishment and achievement aspects in English. Both accomplishment and achievement are compatible with atelic adverbial

"for" as in sentences 15a and 15b. It is difficult to distinguish between achievement and accomplishment predicates in English. However, it was mentioned that achievement verbs just require time 2 (or final conclusion), while accomplishment verbs require both time 1 and time 2, thus:

(19) X will achievement in Y time entails X will achievement after Y time.

(20) X will accomplishment in Y time does not entail X will accomplishment after Y time

To distinguish between the type of aspect in sentences 17 and 18, we can change them into the future tense to see whether they accept the entailment test (19) or (20):

(21) John will write a letter in two minutes.

(22) Mary will notice the painting in two minutes.

Sentence 21 does not entail that "John will write a letter after two minutes", while sentence 22 does entail that "Mary will notice the painting after two minutes". The predicate "write a letter" is an accomplishment predicate, while the predicate "notice the painting" is an achievement predicate, because the former entails that "writing a letter" will be continuing the whole two minutes, which requires both time 1 and time 2, while the latter entails that "noticing the painting" will happen after two minutes, which requires time 2. In Persian, the distinction between achievement and accomplishment predicates is much more straightforward than in English. I will discuss the distinction between achievement and accomplishment predicates in Persian in secton 2.1.1.4.

To sum up, the temporal properties of the four - way classification of the inherent semantics of verbs or predicates following Andersen (1991) are punctuality, telicity, and dynamicity. In other words, all verbs can be classified into one of the four aspectual categories (i. e. achievement, accomplishment, activity, and stative) based on three universal aspectual

values: (1) [Punctual], (2) [telic], and (3) [dynamic].

Punctual occurrence, i.e. achievements, that which take place instantaneously is reducible to a single point in time (i.e. time 2). Telic event, i. e. accomplishment, which has some duration has a single clear end point (i.e. times 1 end 2). Activity, which has duration, is without a clear end point (i.e. time1). Stative, which has no dynamics, continues without applying additional effort /energy (i.e. neither time 1 nor time 2). Therefore, accomplishment and achievement are both telic, but only achievement is punctual. Stative and activity are both atelic, but only activity is dynamic. Table 2, adopted from Andersen (1991), shows how these features map onto the four categories.

Table 2. Semantic features for the four categories of inherent lexical aspect (Andersen 1991)

	Stative	Activity	Achievement	Accomplishment
Punctual	-	-	+	-
Telic	-	-	+	+
Dynamic	-	+	+	+

2.1.1.4 Telic and atelic events in Persian

Atelic events are homogenous, without a natural endpoint, whereas telic events have a natural final conclusion. The former includes activities and statives while the latter includes achievements and accomplishments. Accomplishment aspect involves an activity aspect with an "incremental theme" (Dowty 1991). The incremental theme includes a direct object or goal, which measures out an action described by an activity verb, as exemplified in the following sentences:

(23) a. John ate at the restaurant yesterday.

b. John ate a sandwich at the restaurant yesterday.

(24) a. John ran yesterday

b. John ran to store yesterday.

The predicates in sentences 23a and 24a are activity aspects, while the predicates in sentences 23b and 24b are accomplishment aspects. The direct object "a sandwich" measures out the action described by the activity verb "eat" as in sentence 23a and changes the activity aspect into an accomplishment aspect as in sentence 23b. The prepositional phrase ("to the store") or goal also measures out the action described by the activity verb "ran" as in sentence 24a and changes the activity aspect into an accomplishment aspect in sentence 24b.

In Persian, the form of direct object determines whether a predicate is a telic event or an atelic event (Ghomeshi and Massam 1994). In Persian, direct object markers can appear in one of four ways. The predicates with the direct object marker "-ra" indicate that the NP is definite and referential[۳].

(25) a. (man) livan - ra sheka" st - am

I glass - def broke - lsg

"I broke the glass"

b. (man) ketab-ra neve" sht-am

I book-def wrote-lsg

"I worte the book"

In sentences 26 below, the object NPs appear with what has been called "the indefinite enclitic '-I". The indefinite marker indicates that the NP is indefinite but referential.

(26) a. (man) livan - i sheka' st-am

I glass-indef broke-lsg

"I broke a glass"

b. (man) ketab-i neve'sht-am

3- All objects that are inherently definite, such as proper names (e.g. 'John - ra'), personal and demonstrative pronouns appear with this marker; however, this marker does not appear on subjects or objects of prepositions.

I book-indef wrote-lsg

"I wrote a book"

An NP with both morphemes '-i' and '-ra' indicates that it is construed as indefinite but specific(۴) *and referential.*

(27) a. (man) livan-i -ra sheka'st-am

I glass-indef -def broke-lsg

'I broke a (specific) glass'

b. (man) ketab-i -ra neve'sht-am

I book-indef def wrote-lsg

"I wrote a (specific) book"

The fourth type of NP found in Persian transitive predicates does not have any of the above NP markers (or '-ra' and '-i'). This type of bare NP is non-referential and forms a unit with the verb. This fact is clear from stress placement. In the first three types of NPs, stress is placed on the last syllable of the verb stem ([Ketab-i-ra neve'sht-am]). But when a bare noun appears before a verb, this syllable does not receive any stress; it shifts to the bare noun instead ([Ke'tab nevesht-am]).

(28) a. (man ke'tab nevesht-am

I book wrote-lsg

"I was book writing"

The telic accomplishment in 25b-27b is shifted into atelic activity in the sentence 28. The fact is that there is a strong distinction between the fourth type of NP and the first three types that is aspectually identified. The distinction is semantically and syntactically realized. From the semantic

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4- We need to clarify the difference among the specific, indefinite, and definite NPs. Karimi (1990) states that specific, definite, or indefinite noun phrases have one semantic feature in common: they all denote a specific individual. The difference between the definite NPs and specific indefinite NPs is that the former are supposed to be known to the hearer, while the latter are not. The fact is that every language has either a definite or a specific marker, but not both (e.g., Persian, Turkish, Albanian, etc., have a specific marker, whereas English, German, Ferench, etc., have a definte article) indicates that English lacks a specific indefinite marker as in 27.

point of view, the fourth type of NP does not bound or measure out the action described by the accomplishment verb, whereas the first three types of NP measure out the action described by the verb.

Adverbial modifiers are used as diagnostic tests (proposed by Vendler 1967 and Dowty 1979) to distinguish among the above NPs. Durative adverbials or atelic adverbials (e.g. for an hour) are compatible with predicates which do not have an endpoint (i.e. activities and statives) whereas telic adverbials (e.g. in an hour) are compatible with predicates which do have an endpoint (or accomplishment and achievement). In Persian, atelic adverbials with accomplishments are acceptable only with the fourth type of NP and telic adverbial with telic events including both accomplishment and achievement aspects make sense only with the first three types of NPs.

(29) a. (man) dar yek mah ketab-ra neve'sht-am
I in a month book-def wrote-lsg
"I wrote the book in a month"
*b. *(man) baraye yek mah ketab-ra neve'sht-am*
I for a month book-def wrote-lsg
'I wrote the book for a month'
*(30) a. *(man) dar yek mah keta'b nevesht-am*
I in a month book wrote - lsg
"I was book-writing in a month"
b. (man) baraye yek mah keta'b nevesht-am
I for a month book wrote - lsg
"I was book writing for a month"

The direct object NP of the accomplishment predicate in sentences 29 appears with the definite marker "-ra". Therefore, it can measure out the verb and it is compatible with telic adverbial as in (29a), whereas it is not compatible with an atelic adverbial such as sentence (29b). In the sentences in 30, however, the NP appears without any noun marker (i.e.

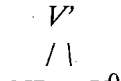
the fourth type of NP), therefore it is compatible with an atelic adverbial (sentence 30b) and it is incompatible with a telic adverbial (sentence 30a).

However, when we look at transitive achievements without the direct object markers "-ra" , "-I" and "I-ra", we find they do not shift into atelic activity unlike accomplishments. Achievements both with (e.g. 31c) and without direct object markers (e.g. 31d) are incompatible with atelic adverbials but still compatible with telic adverbials (e.g. 31a and 31b):

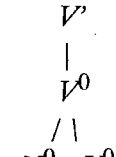
(31) a. (man) dar yek daghighah livan-ra sheka'st-am
I in a minute glass-def broke-lsg
"I broke the glass in a minute."
b. (man) dar yek daghighah li'van shekast-am
I in a minute glass broke-lsg.
"I was glass breaking in a minute."
*c. *(man) baraye yek daghighah livan-ra sheka'st-am*
I for a minute glass-def broke-lsg
"I broke the glass for a minute."
*d. *(man) baraye yek daghighah li'van shekast-am*
I for a minute glass broke-lsg
"I was glass breaking for a minute."

The distincion between the fourth type and the first three types of Persian NPs is also syntactically realized. In the fourth type of NP (accomplishments without NP markers), the NP is not aspectually a measurer and forms a unit with accomplishment veber (see section 2.2.2). In other words, the transitive accomplishment demotes or decreases to an intranstive verb. The noun which incorporates with the accomplishment verb to form unit is crucially an $N^0 + V^0$, following Sproat (1985) that referential is a matter of phrases rather than heads; i.e. we can propose that N^0 is not referential. In other words, N^0 is a sister to V^0 under V'. Therefore, such NPs form transitive telic verbs consisting of both accomplishment and achievement verbs (Ghomeshi and Massam 1994):

(32) *Telic aspect*



Atelic Aspect



(Ghomeshi and Massam 1994: 190)

Through the absence of direct object markers, accomplishment in Persian can be switched to activity, whereas achievements cannot. While there are a few compounds in English for which N +V forms a unit (e.g. food shopping), in Persian, accomplishments can be shifted into atelic events.

Although it was shown that accomplishments are difficult to distinguish in English (see section 2.1.1.3), nevertheless, the present study classifies lexical aspects into four categories of state, activity, achievement, and accomplishment. There are several reasons behind this 4-way classification. Firstly, accomplishments are generally grouped as a subpart of achievements; that is, they are telic. Thus, we have not ruled out the theory of aspect in which both accomplishment and achievement are [+telic]. Secondly, as was mentioned, in Persian, accomplishment verbs without direct object markers are compatible with atelic adverbials while transitive achievement verbs are not compatible with atelic adverbials. Thus, while English does not show this distinction, accomplishment verbs are distinguished from transitive achievement verbs in Persian. Therefore, we can examine the role of L1 aspect transfer. Thirdly, by separating achievements from accomplishments, we can see whether their role varies in the L2 acquisition of tense and aspect. Finally as far as I can see, most previous studies have classified lexical aspects into four categories. The results of the present study can be thus compared and contrasted with previous SLA studies. So far, I have discussed the semantic interpretation

of inherent aspect and its realizations in English and Persian. In the next section, I will discuss how he the semantic aspectual values including [punctual], [telic], and [dynamic], which form four aspectual categories (i.e. stative, actitity, achievement, and accomplishment), are syntactically instantiated within X-bar theory.

2.1.2 A syntactic view of the semantics of inherent aspect

2.1.2.1 The interface between the lexicon and syntax

The main question about the syntax - lexical semantic interface is whether there exists an association between lexical properties of predicates and the syntactic structure in which they can appear. Why should such a correlation exist at all? One good reason is that a strong correlation between meaning and structure might explain the rapidity of language acquistion: language learners need not learn syntactic structures of verbs on an item - by - item basis, but rather, make generalizations on the basis of a regular correlation. The syntax - lexicon interface can be described according to several different approaches.

2.1.2.1.1 Lexical - entry driven approaches vs. Predicate - based approaches

Lexical - entry driven approaches assume that the syntax of verbs is projected from their lexical entry, and is determined by this. Therefore, all information such as thematic and aspectual information is assigned by projecting the syntax of the verb (e.g.Bakers's 1988 UTAH and Chomsky's 1986 Canonical Structure).However,a predicate-based approach assumes that part of the interpretation of the clause depends on the syntax of the whole clause rather than lexical entries (Borer 1994; van Hout 1996).

2.1.2.1.2 Thematic - based approaches vs. Event structure - based approaches

In thematically based approaches, NP arguments are checked by being assigned a thematic role such as Agent, Causer, Experimenter, Theme, etc. by the verb. Approaches within Government and Binding (GB) belong to this type. In event structure - based approaches, the lexical information available at the interface is the event structure of the verb (Tenny 1992). Tenny (1992) introduced the aspectual Interface Hypothesis (AIH) as follows:

(33) Aspectual Interface Hypothesis

The mapping between thematic structure and syntactic argument structure is governed by aspectual properties. A universal aspectual structure associated with internal (direct), external and oblique argument in syntactic structure constrains the kind of event participants that can occupy these positions. Only the aspectual part of thematic structure is visible to the syntax. (Tenny 1922:2).

Based on the AIH, aspectual properties of verbs determine the mapping of arguments onto the syntax. Arguments that measure out the event that the verbs describe, i.e. measures, appear in the direct object position. a measurer is an argument that undergoes some change described by the verb. In the proposition "John built a house", a house is a measurer and undergoes some change of state: when it is half way built, the event has proceeded half way through. When it is completely built, the event is terminated. As was mentioned earlier, these types of events are called telic events. Events that have no measurers are not bounded in time (atelic events). In the proposition "John ran" there is no argument that undergoes a change that measures out the event.

To sum up, four approaches of the syntax - lexicon interface have been introduced. Here we need to choose an approach capable of handling the present data. Since the study of the acquisition of tense and aspect deals

with aspectual predicates and event types of aspectual categories such as telic or atelic events, I justify in what follows my choice of a predicate - based account.

Arad (1996), McClure (1995) and van Hout (1996) argue in favor of both Borer's predicate and event - based approaches (cf. approaches 2.2.1.2 and 2.2.1.4). Arad (1996) introduces her model in this way:

[I] claim that syntactic structure of arguments is not determined exclusively by the lexicon. Instead of a deterministic, uni-directional mapping from the lexicon to the syntax, I suggest a bi-directional view of the interface, in which both the syntax and the lexicon constrain the association of possible interpretations with possible structure positions. (P: 217-218).

This thesis aims to investigate POA hypothesis, that both L1 and L2 learners use verbal morphemes to encode aspectual events with tense distinctions being neglected at early stages, and verbal morphemes marking correct target tense forms at later stages. Therefore, the model should be based on an 'event and predicate - base approach' to include both aspectual events and aspectual verb phrases (or predicates). Furthermore, because the present study investigates the acquision of tense and aspect across the low, mid, and high level learners, a syntactic model is needed which distinguishes between Aspectual Phrase (here aspectual projection) and Tense Phrase (here IP), which is the topic of the next section.

2.2.1 Projection of argumentsin English

In what follows, I follow a model of the interface, which is based on the model proposed by Borer (1994). Borer was the first to suggest that arguments have no thematic labels, but rather, are interpreted semantically in specifiers of aspectual projections. There exist two aspectual projections: (1) Aspectual Projection of Measurer (AspEM) and (2) Aspectual Projection of Originator (AspOR). AspEM is assignedtotelic events (+EM)

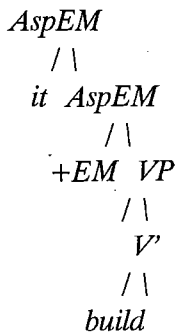
including achievement and accomplishment, while AsoOR is assigned to atelic events (+OR), i.e. activity. However, free aspectual values, i.e. (-EM) and (-OR) are assigned to non - event aspect, i.e. stative. This account of aspect is in agreement with the Minimalist Program in which a set of elements are selected from the lexicon which is the starting point of the structure building process (Chomsky 1995; Cook and Newson 1996). Furthermore, as Arad (1996) points out, arguments are base - generated at the specifiers of AspEM and AspOR ratehr than moving out of the VP into them. The assumption is that arguments are base-generated in the specifiers of aspectual projections, where they are assigned aspectual interpretation. When a node is specified as [+EM], the argument that is base - generated in its Spec is interpreted as the measurer of the event described by the verb, and the predicate is given a telic interpretaion. 'Theme' is a label associated with the argument in Spec of AspEM (the measurer of the event). Telicity is achieved only when an argument, which is base-generated in spec, AspEM[۵] *is specified. That is, when the argument, which is base-generated in Spec of AspEM, combines with a telic verb, the argument is interpreted as measurer of the event described by the verb, and the predicate is given a telic interpretation. Since this model is bi-directional mapping from the lexicon, both the syntactic structure of arguments and the aspectual information of the verb constrain the aspectual interpretaion of a predicate*[۶]*. In order to achieve telic*

5- In the following trees, I have borrowed aspectual measuarer (i.e. + EM) and aspectual originator (+OR) terms from Tenny (1992) and Arad (1996).

6- Arad (1996), Borer (1994), and McClure (1995) have the same position that arguments have no thematic role in themselves; rather the roles are "aspectually determined" when the arguments occur in specifiers of aspectual projections. However, Arad claims that arguments do not move out of VP to the specifiers of aspectual projections. In other words, arguments are base-generated in the Spec of aspectual projection, whereas Borer and McClure claim that arguments move out of VP to the specifiers of aspectual projections. In the present study, I have followed Arad's model.

interpretation, there should be one argument that is base-generated and specified in Spec of AspEM. Secondly, aspectual information constrains the syntactic structure in which the verb appears (if we know that a verb such as "die" is a telic verb, we can rule out that its argument has to be base-generated in Spec of AspOR). For example, in the proposition "he bulit it", the telic predicate "build it" is shown below:

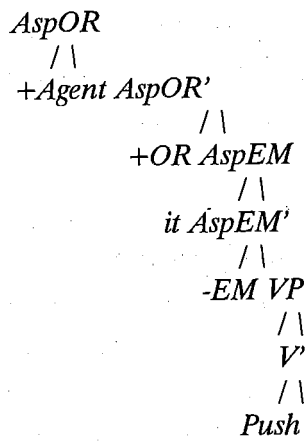
(34) Aspectual Projection of Telic event



The assumption is that the verb NP complement is base - generated in Spec of AspEM where the accusative Case "it" is assigned.

The second node is AspOR (for originator). The argument that is base-generated in Spec of AspOR is interpreted as the originator of the event, and the event therefore has a point of beginning in time (i.e. +OR). An "Agent" is just a convenient label for the argument that is in Spec of AspOR (an originator of an event). An atelic event is achieved only when an argument is base - generated in Spec of AspOR. Then, in the proposition "She pushed it", the atelic predicate "push it" is shown below:

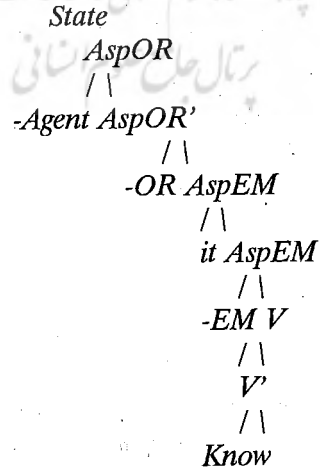
(35) Aspectual Projection of atelic event



In tree 35, the argument "it" that is base - generated at AspEM where it is assigned the accusative case "it" is not specified. Therefore, the predicate is interpreted as non - telic (or atelic).

States have no aspectual content; that is they are not specified as the aspectual projections of AspOR or AspEM. In fact, they have no "Agent" and no "Theme". The subject of a stative predicate is not volitional or agentive and the object of a stative predicate is not measurer. For example, in the proposition "we know it" the stative predicate "know it", is shown below:

(36)



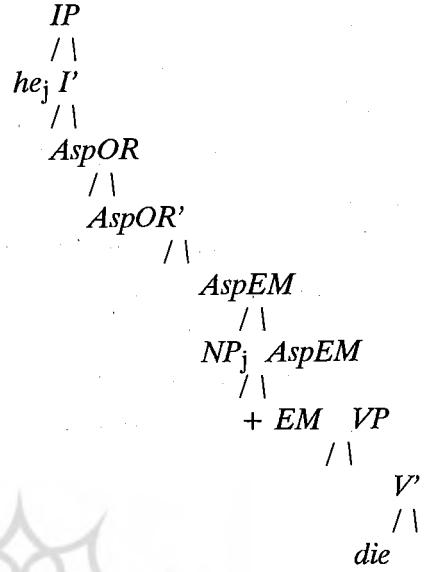
The assumption is that the subject NP is base-generated in Spec of AspOR but it is not specified. Therefore, it is not interpreted as agentive and it moves further to the Spec of IP to check its nominative Case (see tree diagram 41 below).

What type of lexical information is made visible to the syntax? The lexical information visible to the syntax contains the aspectual information and the number of arguments that a predicate can take. The aspectual information constrains the syntactic sturctures in which the verb appears. For example, if the verb is "die", a telic verb, the argument has to be specified in AspEM. On the other hand, the syntatic structure of argument constrans the aspectual interpretaions.

But how can the aspectual projections described above project arguments? For example, how can this model deal with unaccusatives and unergatives? Unaccusative verbs such as die, break, and fall down are telic events, while unergatives such as walk, run, and smoke are atelic events(۷). *Unaccusative verbs describe an event with an endpoint (i.e. with + EM). In other words, with unaccusative verbs when the aspectual projection 'AspEM' is specified, a telic interpretaion is assigned. Moreover, when there is one NP argument, no accusative Case is assigned and therefore the argument has to move further to Spec of IP to be assinged nominative Case. For example, the proposition "he died" as an unaccusative proposition is shown below:*

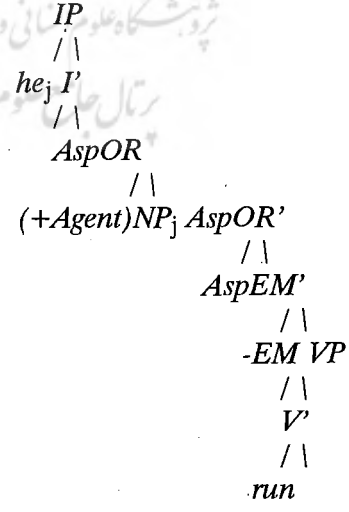
(37) Unaccusatives : Nominative Case assignment

7- Levin & Rappaport - Hovav (1995) proposed Unaccusative Hypothesis claims that an intransitive verb or predicate wohse subject NP is not an agent or an actor derives from an underlying (direct) object.



Unergatives describe an action with an agent but without an endpoint (i.e. without AspEM). Therefore, when the aspectual projection AspOR is specified, an atelic interpretation is achieved (+OR). For example, the propostion "he ran" as unergative is shown below:

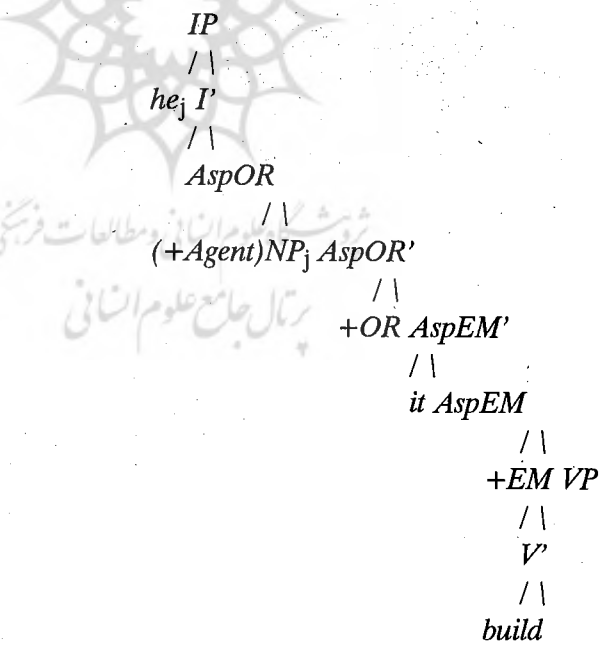
(38) *Unergatives*



Therefore, the difference between unaccusatives and unergatives is syntactically and semantically captured. From a syntactic point of view, the single NP argument of unaccusatives is generated at the same position where objects (i.e. in Spec of AspEM) are generted, while the single NP argument of unergatives is specified at the same position where agents (i.e. in Spec of AspOR) are assigned. The semantic difference is that unaccusatives are telic and non-agentive while unergatives are atelic and agentive.

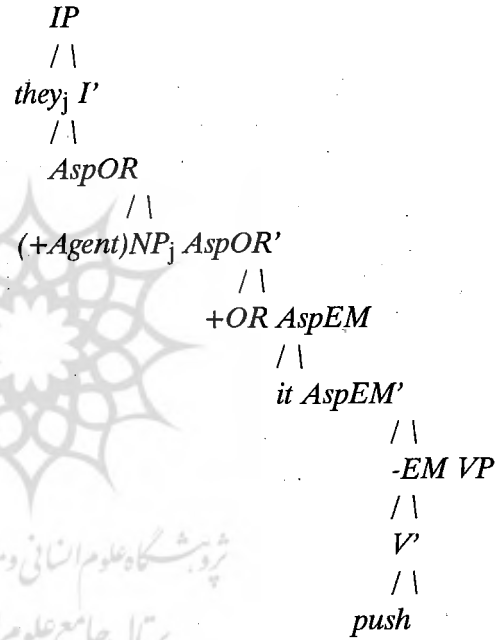
Transitive telic verbs such as "build" and "post" as accomplishment verbs and "win" and "steal" as achievement verbs base - generate their arguments in spec, AspEM as measurer, where accusative Case is checked and in spec, AspOR as agent. I assume that the NP raises to I to check the nominative Case. For example, the tree for the proposition "He built it" is as follows:

(39)



In atelic events of the transitive verbs such as "push" and "drive", the NP argument which is base - generated in aspect, AspEM (Where accusative Case is checked) is not specified and is not measured out while the NP argument which is base - generated and specified in spec, AspOR is interpreted as agent. Then the NP raises to the Spec of IP to check nominative case. For example, the tree for the proposition "they pushed it" is as follows:

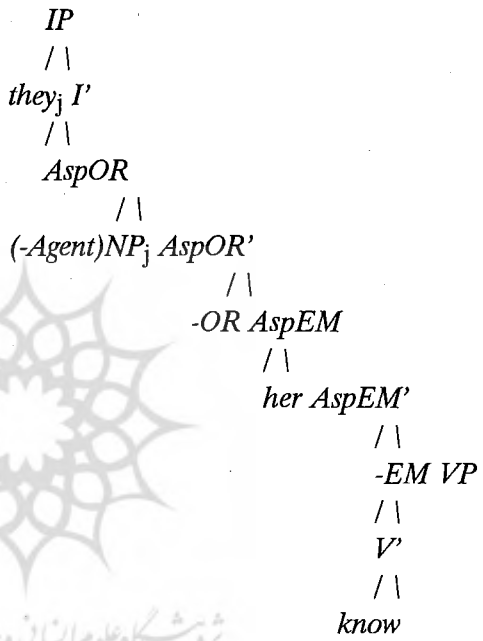
(40)



NPs arguments with transitive stative verbs such as "like" and "know" are not aspectually specified. That is, the arguments are base-generated at aspectual projections of AspEM and AspOR but the heads are not positively specified (i.e. they are - EM and - OR, respectively). The argument that is base - generated in Spec of AspEM, where accusative Case is checked does not measure out the stative verbs, thus, the node is not interpreted as telic. Moreover the subject NP argument that is base-generated in Spec of AspOR is not affected by the stative verb, thus,

the agrument is not interpreted as agant and the node not as atelic event. The assumption is that the NP argument that is base-generated in Spec of AspOR moves further to Spec of IP to check its nominative Case. The tree for the proposition "they know her" is as follows:

(41)



To sum up, if an argument is not base-generated in Spec of AspEM, there is no way to achieve telic interpretation and if an argument is not base-generated in Spec of AspOR, there is no way to achieve atelic interpretation. Furthermore, if an argument is based-generated in Spec of AspEM or in Spec of AspOR but its head is not specified (i.e, -EM or -OR), there is no way to achieve a non - event atelic interpretation (i.e. stative aspect). Although the lexical - entry thematic based approach specifies the different thematic roles that these predicates assign, the event - predicate based approach specifies the number of argument and aspectual information of lexical entries (Arad 1996):

(42)

Build: [NP, NP, telic, agentive]

Die: [NP, telic, non - agentive]

Know: [NP, NP, atelic, non - agentive]

Push: [NP, NP, telic, agentive]

Run: [NP, atelic, agentive]

2.2.2 Projection of arguments in Persian

Persian is an SOV pro-drop language. Lazard (1992) refers to the subject agreement suffixes as inflectional endings. They are referred to as agreement suffixes here. The paradigm is presented below, with the colloquial versions given in parentheses.

Table 3 Subject - verb agreement

	singular	plural
1	-am	-im
2	-i	-id (-in)
3	f/-ad (-e)	-and (-an)

The person and number features of the subject are marked by verbal agreement.

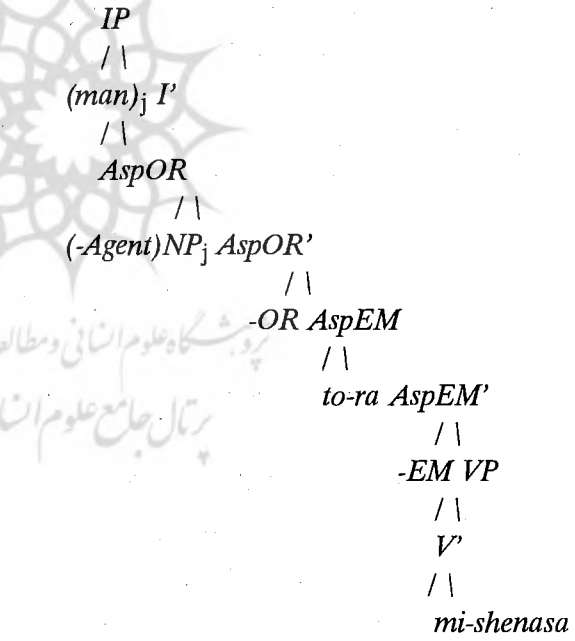
The third person singular forms differ depending on the tense of the verb. In the past tense the third person singular is null. While in the present tense it is realized as "-ad".

Let us now look at how the subject gets nominative case in Persian. I suggest that the agreement affixes be checked by the argument that gets nominative Case at aspectual projections. Therefore, first the argument is base-generated in specifier of AspOR, where it is assigned an aspectual interpretation and then subject agreement must be checked and forces the verb to move further to Spec of I even if the subject is pro, to satisfy the

requirement of the affix. This is in agreement with Chomsky's (1993) principle of "Greed", where an element only moves to satisfy its own morphological properties and not because some other element needs its properties satified. An example of transitive sentence is given below. The subject of the sentence is shown in the parentheses to indicate that it is not usually present.

(43) (man) to-ra mi-shenasa-am
I you + ra impfknow-lsg
"I know you."
We thus have the following tree:

(44)



The verb "saw" in tree diagram (43) is a stative verb and the NP subject argument first of all is base-generated in aspect of AspOR but it is not specified, i.e. there is no [+OR], i.e. no agent and then it moves to IP to check nominative Case. The NP object argument is base-generated at Spec

of AspEM but it is not measured out, i.e. [-EM] and gets the accusative Case marker "ra".

So far, we have discussed the semantic and syntactic realization of tense and aspect in English and Persian. In the next section, I will discuss the use of aspectual projection as an interface between the lexicon and syntax to account for the cross-linguistic variation in Case marking.

2.3 Cross - linguistic variation in Case marking

It was mentioned that the object NP argument is not specified in Spec of AspEM in both stative and activity predicates, namely, they are atelic (or - telic) while the object NP argument is specified Spec of AspEM in both accomplishment and achievement predicates, namely, they are telic (or + telic). Arad (1996) claims that in telic predicates, the object NP argument is universally marked with accusative case, whereas in atelic (or - telic) ones, the object NP argument may be marked either by accusative, dative, ablative or genitive case, or by a preposition. Consider the following data on case marking:

(45):

English	Latin	Persian	Classical Greek	Hebrew
Help+acc	axuilior+dat	komak kardan+dat	boetheo+dat	azar+le(to)
Use+acc	utor+dat	estefadeh kardan +az(from)	xraomai+dat	hiStameS+be(at)
Trust+acc	fido+dat	e?temad kardan + dat	pistuo+dat	batax+be(at)
Fight+acc	pugno+dat	jangidna+ba(with)	palmemeo+dat	nilxam+be(at)
Rule+acc	dominor+dat	hokomat kardan +bar(upon)	arxo+gen	maSal+al(upon)
Obey+acc	pareo+dat	farmanravae kardan + az (from)	peithesthai+dat	ziyet+le(to)

Adapted from Arad (1996: 224)

The above predicates are atelic (i.e, stative or activity) and they are differently marked across languages. They are case - marked arbitrarily. In other words, they are language - dependent. However, the object NP

argument is universally marked with accusative case in telic predicates:

(46)

English	Latin	Persian	Classical Greek	Hebrew
Build+acc	construo+ass	sakhtan+acc	oikodomeo+acc	bana+acc
Write+acc	scribo+acc	neveshtan+acc	grapho+acc	katav+acc
Murder+acc	occido+acc	begtrsanda+acc	apokteino+acc	racax+acc
Eat+acc	edo+acc	khordan+acc	esthio+acc	axal+acc
Wash+acc	lovo+acc	shostan+acc	luo+acc	raxac+acc

Here we see that the aspectual projection model presented in this chapter could account for the cross-linguistic variation of Case marking. In the next section, I will discuss the distinction between tense and inherent aspect on the one hand and inherent aspect and grammatical aspect on the other hand. Since the present study investigates the role of inherent aspect on the acquisition of tense and aspect, one needs to study the effect of tense and grammatical aspect (e.g. perfective and imperfect markers) on inherent aspect.

2.4 Tense vs. Inherent Aspect

Aspect is generally distinguished from tense in that tense makes reference to a moment in time determined by the context in which the expression is used -- the "present", for example, or the time at which the linguistic expression is uttered; aspect does not refer to such contextual information which locates the event in time, but to the internal time of the event (Comrie 1976, 1985). Events as they are expressed linguistically have temporal structure independent of reference -- this is what inherent lexical aspect refers to. Tense on the other hand, is indexical, i. e. it is through the context in which it is used. The following examples further illustrate the independence of tense and inherent aspect:

(48) a. John paints[8] a picture. (Present tense, Accomplishment)
b. John has painted a picture. (Present perfect, Accomplishment)
c. John painted a picture. (past tense, Accomplishment)
d. John had painted a picture. (past perfect, Accomplishment)
e. John will paint a picture. (future tense, Accomplishment)
f. John will have painted a picture. (future perfect, Accomplishment)
(48) a. John sleeps (present tense, Activity)
b. John has slept. (Peresent perfect, Activity)
c. John slept. (past tense, Activity)
d. John had slept. (past perfect, Activity)
e. John will sleep. (future tense, Activity)
f. John will have slept. (future perfect, Activity)

In sentences 47, the tenses are all different; that is, there are six types of tenses but there is only one type of lexical aspect (i.e. "paint a picture") which is an accomplishment aspect, whereas the sentences in 48 with the same tenses have an activity aspect. The form of tense and the type of inherent aspect are independent of each other.

English and Persian also have binary past/non - past tense systems. In English, the tense marker "-ed" marks past tense and non-past tenses such as present and future tenses are used without the tense marker "-ed". In Persian, verb roots with a past tense marker such as "-t", "-d" or "-id" indicate past tense and without the past marker show non-past tenses such as present or future tense. In Enlgish, the suffix "-ed" (with past participle of regular verbs) or past participle of irregular verbs (such as "-en") and the auxiliary "have" mark present, past, and future perfect tenses. In Persian,

8- The use of present tense with non - stative verbs could render two interpretations: (1) habitual sense and (2) 'reportage' or 'sport commentator' sense. The former has stative interpretation, while the latter has a non - stative interpretation. The assumption is that the above verbs with present tense have a non - stative interpretation.

however,the past markers with the verb clitic -h and the auxiliary verb budan "be" mark present and past perfect tenses.

2.5 Absolute and Relative Tenses

There are three points of time in Reichenbach's (1947) analysis of tense, i.e. Speech time (or time at which the sentence is uttered), Event time (or time the event actually takes place) and Reference time (or an interval time relating speech time and event time in some tenses):

(49) John went (from Durham) to Newcastle in 30 minutes yesterday.

The S-time is the time of uttering the sentence, the E-time is the 30 minutes of the actual drive from Durham to Newcastle, and the R-time is 'yesterday'. The event time, i.e. 30 minutes, is included in reference time, i.e. "yesterday".

There are two kinds of "universal" (as I term it) relations between the reference points of time: inclusion and precedence, the absolute tenses (i.e. present, past, and future tenses) where R-time included E-time and the relative tenses (i.e. present, past, and future perfect tense), where E-time precedes R-time (Hatav 1993; Hinrichs 1986; Reichenbach 1947). These universal time relations also hold for English and Persian tense systems:

(50) a. John ate (yesterday) / was eating (when I came in.) R, E_____S

b. John eats /is eating (now) R, E, S

c. John will eat/will be eating tomorrow. S_____ R,E

In perfect constructions, however, the E-time precedes the R-time:

(51) a. John has eaten /been eating his food. E _____R,S

b. John had eaten/been eating his food. E_____R _____S

c. John will have eaten/been eating his food. S_____E_____R

However, there is no future perfect tense in Persian. Present perfect

tense is usually used to refer to future perfect in English[۹].

2.6 Inherent Aspect vs Grammatical Aspect

Grammatical aspect is the way the speaker looks at the event or situation as a whole (i.e. complete or perfective) or looks at part of the situation (i.e. incomplete or imperfective) (Smith 1991). Different forms of grammatical aspects cannot change inherent lexical aspect:

(52) a. John paints a picture. (grammatical aspect = perfective, inherent aspect = accomplishment)

b. John is painting a picture. (grammatical aspect = imperfective, inherent aspect accomplishment)

c. John has painted a picture. (grammatical aspect = prefective, inherent aspect = accomplishment)

d. John has been painting a picture. (grammatical aspect = imperfective, inherent aspect = accomplishment)

e. John had painted a picture. (grammatical aspect = perefective, inherent aspect = accomplisment)

f. John had been painting a picture. John has been painting a picture. (grammatical aspect = imperfective, inherent aspect = accomplishment)

g . John will paint a picture, (grammatical aspect = perfective, inherent aspect = accomplishment)

h. John will be painting a picture, John has been painting a picture.(grammatical aspect = imperfective, inherent aspect = accomplishment)

i. John will have paint a picture. (grammatical aspect = perfective, inherent aspect = accomplishment)

j. John will have been painting a picture. John has been painting a

9- The use of present perfect in Persian to refer to the English future perfect tense is still in line with universal entailment of relative tense where E-time preceedes R-time.

picture. (grammatical aspect = imperfective, inherent aspect = accomplishment)

To summarize, we discussed the semantic and syntactic view of tense and aspect in English and persian. From the semantic point of viwe, it was noted that all verbs can be classified into four aspectual categories by using three universal aspectual values: [punctual] , [telic], and [dynamic]. Achievements are [+punctual] and [+telic], accomplishments are [-punctual] and [+telic], activities are [-telic] and [+dynamic], and statives are [-dynamic]. However, the realization of aspectual categories in English and Persian may differ. While Persian obligatorily must employ the imperfective stative marker mi- to distinguish the contrast of stative, [-dynamic], (e.g. 7a) and non - stative, [+dynamic], (e.g. 8b), English uses perfective aspect to refer to stative (e.g. 5), [-dynamic]. Furthermore, in Persian the form of direct object determines whether a predicate is an accomlishment or activity (Ghomeshi and Massam 1994). the predicates with the direct object markers "-ra" , "-I" , or "I - ra" indicate that the Np direct object is definite, indefinite, or indefinite but spectific and referential, respectively, whereas on NP without these NP direct object markers shows that the NP is non-referential and forms a unit with the verb. In Persian, NP direct object markers with activity verbs form accomplishment aspects, while NPs without direct object markers form activity aspects (see section 2.1.1.4). In addition to aspect systems in English and persian, while English tense system obligatorily marks present, present perfect, past, past perfect, future, and future perfect tenses, Persian lacks future perfer to future perfect tense, Persian uses present perfect tense,

Regarding syntax, it was discussed that the interface between the lexicon and syntax involves aspectual projections, which are based on an event - predicate approach. It was proposed that the lexicon provides two kinds of information: the number of arguments and aspectual information. For

instance, the only argument of intransitive telic verbs such as achievement verbs, [+punctual] and [+ telic], is base - generated in Spec of Asp EM, where accusative Case is checked and the argument is interpreted as a measurer, while the only argument of intransitive atelic verbs such as activity verbs, [-telic], is instantiated in the Spec of AspOR, where the argument is interpreted as an agent.

References

Andersen, R. W. 1991. "Developmental sequences: The emergence of aspect marking in second language acquisition." ***Crosscurrents in Second Language. Aquisition and Linguistic Theories,*** *ed. by T. Huebner & C. A. Ferguson, 305-324. Amsterdan: John Benjamins.*

Arad, M. 1996. "A minimalist view of the syntax - lexical semantics interface." CCL ***Working Papers in Linguistics*** *8: 215-242.*

Baker, M. 1988. Incorporation: ***A Theory of Grammatical Function Changing.*** *Chicago: University of Chicago Press.*

Borer, H. 1994. "The projection of arguments." ***Functional Projections,*** *ed. by E. Chomsky, N. 1986.* ***Knowledge of Language: Its Nature, Origin, and Use.*** *New York: Praeger.*

Comrie, B. 1976. ***Aspect.*** *Cambridge: Cambridge University Press.*

Comrie, B. 1985. ***Tense.*** *Cambridge: Cambridge University Press.*

Dowty, D. 1979. ***Word Meaning and Montague Grammar.*** *Dordrecht, Netherlands: dissertation, University of Oregon.*

Ghomeshi, J., & D. Massan. 1994. "Lexical /Syntactic relations Without projection." ***Linguistic Analysis*** *24: 175-217.*

Hatav, G. 1993. "The aspect system in English: An attempt at a unified analysis." ***Linguistics*** *31: 209-237.*

Hinrichs, E. 1986. "Temporal anaphora in discourses of English." ***Linguistics and*** *Philosophy 9(1).*

Karimi, S. 1990. "Obliqueness, specifity,and discourse functions: Ra in Persian. ***Linguistic*** *Analysis. 20: 139-169.*

Kenny, A. 1963. Action, Emotion and Will. New York: Springer.

Lazard, G. 1992. ***A Grammar of Contemporary Persian.*** *Costa Mesa: Mazda Publishers.*

Levin, B., & M. Rappaport Hovav. 1995. ***Unaccusativity At the Syntax - Lexical Semantics Interface.*** *Cambridge: MIT Press.*

Mc Clure, W. 1995. ***Syntactic Projections of the Semantics of Aspect.*** *Tokyo:*

Hituzi Syobo.

*Mourelatos, A. P. 1981. "Event, process, and states." **Tense and Aspect,** ed. by P. J. Tedeschi & A. Zaenen, 191-212. New York: Academic Press.*

*Reichenbach, H. 1974. **Elements of symbolic logic** . New York: Free Press. Reidel.*

*Ryle, G. 1949. **The Concept of Mind.** London: Barner & Noble.*

*Smith, C. 1991. **The parameter of Aspect.** Dordrecht : Kluwer.*

Sproat, R. 1985. On Deriving the Lexicon. Doctoral dissertation. Cambridge, Mass: MIT Press.

Tenny, C. 1992. "The aspectual interface hypothesis." ed. by Sag and Szabolcsi, 1-27.

*Vendler, Z. 1967. "Verbs and times." In Z. Vendler, **Linguistics in Philosophy.** Ithaca,*

*Verkuyl, H. J. 1993. A **Theory of Aspectuality.** Cambridge: Cambridge Universityan Hout, A. 1996. "Event semantics of verb frame alternations." TILDIL Disserataion Series, 1996-1.*