0. Introduction
This paper presents a preliminary analysis of argument structure and its interconnection with aspectual characteristics of the verbs in Basque. While there is a lot of linguistic literature on argument structure in Basque (see, among others, [Levin 1983], [Ortiz de Urbina 1989], [Bobaljik 1993], [Laka 1993], [Hualde, Ortiz de Urbina et al. 2003: 363-426], [Oyharçabal 2003]), there are very few investigations that consider aspectual classes and I am not aware of any work that regards aspectual composition in Basque. This paper, in its turns, introduces some new first-hand data on Basque aspectual classes, complements it with the findings of previous studies of argument structure and, finally, applies to this the theory of aspectual composition. As a result, some new claims about nature of telicity in Basque are made.

In section 1, I describe the origin of data which served an empirical basis for the study. Section 2 introduces essentials of Basque finite clause syntax. Section 3 presents classification of Basque verbs according to their argument structure; most claims here are not new and were already pronounced in the literature cited above. Section 4 contains primary description of aspectual classes in Basque with special attention to their interaction with argument structure. Section 5 points out to the problem in the analysis and suggests applying the theory of aspectual composition to the Basque data. Section 6 concludes the findings of the study.

1. Methodology
Most sentences cited in the paper were collected during my fieldwork in Basque Country (Spain) in October-December 2005. I have collected information about argument structure (number of participants and their encoding) and aspectual characteristics ((a)telicity) for each verb of a sample of 30 basic verbal meanings. Basque consultants were proposed to estimate if Basque sentences with these verbs were grammatical and, if so, they were also asked to translate them into English; sometimes they were requested to translate English sentences into Basque using a given Basque verb. The main bulk of data was collected with 20-year old Eider Etxeberria Mendizabal, who studied in Vitoria-Gasteiz, but originally came from Usurbil village (Gipuzkoa province of Basque Country).

2. Basic information on argument structure of Basque verbs
Basque is an ergative language. Thus, Patients of bivalent verbs are encoded by the same case (Nominative) as participants of monovalent verbs and Agents of bivalent verbs are encoded by a special case (Ergative). See the following examples:

---

1 A version of this paper was presented at the CESCL-1 (First Central European Student Conference in Linguistics) at the Research Institute for Linguistics of the Hungarian Academy of Sciences (May 2006). I would like to thank Ekaterina Lyutikova, Olesya Khanina and Sergey Tatevosov for discussions and comments. I am also deeply indebted to my Basque consultants for the cooperation, especially to Eider Etxeberria Mendizabal, Mikel Babiano, Olatz Oiarzabal, Adriano and Leire.
1) Sagarr-a ustel-du da.
   apple-NOM.SG go.bad-PFV be.3sA.PRS
   The apple went bad.

2) Ikasle-a etorr-i da.
   student-NOM.SG come-PFV be.3sA.PRS
   The student came.

3) Ikasle-ak sagarr-a jan d-∅-u-∅.
   child-ERG.SG apple-NOM.SG eat.PFV 3A-A-have-3sE
   The student ate an apple.

Examples (1)-(3) demonstrate also the auxiliary choice for monovalent verbs (the auxiliary *izan ‘to be’) and bivalent verbs (the auxiliary *edun ‘to have’). The situation is somewhat more complicated as it will be seen later.

Case encoding of the argument NPs strictly correlates with the auxiliary choice, i.e. if the auxiliary is *edun ‘to have’, the verb must have an ergative NP as its argument, and there can be no ergative NP, if the auxiliary is *izan ‘to be’. Both auxiliary verbs also agree with dative argument, if there is any in the sentence, see (4-5).

4) Zopa-ri gatz-a falta ∅-zai-o. [Hualde, Ortiz de Urbina et al. 2003]
   soup-DAT.SG salt-NOM.SG lack 3sA-be-3sD
   The soup lacks salt.

5) Ni-k zu-ri hori-ek eman di-zki-zu-t.
   I-ERG you-DAT that-NOM.PL give.PFV have.PRS.3A-pA-2pD-1sE
   I gave them to you.

Dative argument will not be discussed in this paper.

3. Classifying Basque verbs by their argument structure
Basque verbs can be classified into two groups: labile and illabile verbs. For illabile verbs, their transitivity is constant: they are either always intransitive (and choose intransitive auxiliary *izan ‘to be’) or always transitive (and choose transitive auxiliary *edun ‘to have’). Labile verbs, however, can be used both intransitively and transitively. When they are used intransitively, they take intransitive auxiliary; when they are used transitively, they take transitive auxiliary.

The semantic relation between two uses of a labile verb is generally inchoative-causative (see [Haspelmath 1993]), as in (6)-(7).

---


3 The infinitive form of this verb does not exist any more in modern Basque, though it is reconstructed at the earlier stages of the language.
6) Ni-re amona hil da.
   I-GEN grandmother.NOM die.PFV be.3sA.PRS

My grandmother died.

7) Koldo-k ni-re amona hil d-∅-u-∅.
   Koldo-ERG I-GEN grandmother.NOM.SG die.PFV 3A-sA-have-3sE

Koldo killed my grandmother.

However, the inchoative-causative relation is not the only possible one. The intransitive use can also refer to a reflexive situation in respect to the transitive use. For example, the verb jantzi ‘to dress’ can be used either transitively (‘to dress, to clothe somebody in’, as in (8)) or intransitively (‘to dress oneself’, as in (9)):

8) Amona-k Koldo jantz-i d-∅-u-∅.
   grandmother-ERG Koldo.NOM dress-PFV 3A-sA-have-3sE

The grandmother dressed Koldo.

9) Koldo jantz-i da.
   Koldo.NOM dress-PFV be.3sA.PRS

Koldo dressed himself.

Quite expectedly, illabile verbs are more diverse. First of all, they can be either semantically monovalent or bivalent. Semantically monovalent verbs are of two morphosyntactic types: verbs that require intransitive auxiliary (i.e. they are both semantically and syntactically monovalent) and verbs that require transitive auxiliary (i.e. they are semantically monovalent but syntactically bivalent).

The first group, monovalent illabile verbs with intransitive auxiliary see example (2), does not represent a semantically natural class and will not be discussed in the paper.

The second group, monovalent illabile verbs with transitive auxiliary, have the verbal meanings that are usually called ‘unergatives’ (see a list of verbal meanings that generally belong to unergatives in [Pelmutter 1983]): e.g. dantzatu ‘to dance’, xuxurlatu ‘to whisper’, boxeatu ‘to box’.

10) Koldo-k dantza-tu d-∅-u-∅.
    Koldo-ERG dance-PFV 3A-sA-have-3sE

Koldo danced.

Generative linguistics has proposed arguments for the transitive nature of unergatives (see, among others, [Hale, Keyser 1993]). This analysis has also explained why unergatives require cross-linguistically a ‘have’-auxiliary. The transitive analysis of unergatives is supported also by the fact that these verbal meanings are translated into some languages by a construction with the verb ‘to do’ and an abstract noun denoting activity. It is exactly the case of Basque where most unergatives are translated with the verb egin ‘to do, to make’ and an abstract noun 4:

4 The noun in these constructions appears in a bare form, i.e. without any case marker.
Further on, I will understand by unergatives both verbs and verbal construction with *egin* ‘to do’, because all unergatives have similar syntactic and semantic features.

Bivalent Basque verbs are more homogeneous than the monovalent verbs: all of them are verbs of manner in terms of [Levin, Rappaport Hovav 1998]. As it is expected by such verbs, they do not allow for an anticausative derivation\(^{5}\), which realized in Basque by change of the transitive auxiliary to the intransitive one (12-13).

12) Koldo-k  ogi-a   jan  d-∅-u-∅.
   Koldo-ERG  bread-NOM.SG  eat.PFV  3A-sA-have-3sE

*Koldo ate bread.*

13) #Ogi-a   jan  da.
    bread-NOM.SG  eat.PFV  be.3sA.PRS

* *Bread ate*.\(^{6}\)

Verbal classes discussed above are represented in Table (1).

Table 1. Basque classes of verbs according to their argument structure (without Dative argument)

<table>
<thead>
<tr>
<th>Labile verbs</th>
<th>Illable verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inchoative-cause relation</td>
<td>Reflexive relation</td>
</tr>
<tr>
<td>urtu ‘to melt’ (vi, vt)</td>
<td>jantzzi ‘to dress’ (vi, vt)</td>
</tr>
</tbody>
</table>

4. Telicity in Basque: interaction with argument structure

Telicity is a semantic feature of a verb or verbal phrase that indicates the presence/absence of an internal telos of the action. There is a formal criterion proposed in [Vendler 1957, 1967] to differentiate between telic and atelic verbs: telic verbs are compatible with adverbials ‘in X time’ (14) and not ‘for X time’, while atelic verbs are compatible with adverbials ‘for X time’ and not ‘in X time’ (15).

---

\(^{5}\) This term should be understood in this paper as in, for example, [Haspelmath 1993].

\(^{6}\) This Basque sentence is grammatical (though it sounds much better with a quantifier ‘all/whole’: *ogi guztia* ‘the whole bread’). However, it has the passive meaning ‘The bread is eaten’, but not the anticausative meaning.
Having applied the Vendler’s test on telicity to Basque data, I have found out that the aspectual class of a verb correlates with its argument structure. The class of inchoative-causative verbs is always telic. For example, the verb *esnatu* ‘to wake up, to wake smbd’ is telic both in its intransitive use (16-17) and in the transitive one (18-19).

14) Koldo-ERG ate-NOM.SG bost minutu-ta-n ireki
Koldo opened the door in five minutes.

15) Koldo-ERG katu-NOM.SG bi ordu-bila-tu
Koldo looked for the cat for two hours.

16) Koldo.NOM bost minutu-ta-n esna-tu zen.
Koldo woke up in five minutes.

17) *Koldo.NOM bost minutu-z esna-tu zen.
Koldo woke up for five minutes.

18) Ni-ERG Koldo.NOM bost minutu-ta-n esna-tu n-∅u-en.
I woke Koldo in five minutes.

19) *Ni-ERG Koldo.NOM bost minutu-z esna-tu n-∅u-en.
I woke Koldo for five minutes.

There is also another class of telic verbs (a list of illabile intransitive verbs, see example (2)), but they are not examined in this paper.

As for atelic verbs, all unergatives are atelic (20-21) and all illabile transitive verbs with overt direct object are atelic (22-23).

20) Irakasle-ERG bi ordu-bila-tu
The teacher spoke for two hours.
   teacher-ERG.SG two hour-PL-LOC word do.PFV 3sE-3sA-have-PST
   *The teacher spoke in two hours.

22) (Ni-k) sudurr-a bost minutu-z harraska-tu n-∅-u-en. 
   I-ERG nose-NOM.SG five minute-INSTR scratch-PFV 1sE-3sA-have-PST
   I scratched my nose for five minutes.

23) (Ni-k) sudurr-a bost minutu-ta-n harraska-tu n-∅-u-en. 
   I-ERG nose-NOM.SG five minute-PL-LOC scratch-PFV 1sE-3sA-have-PST
   *I scratched my nose in five minutes.

The established correlation between aspectual and argument characteristics of a verb is
summarized in Table 2.

Table 2. Correlation between aspectual and argument characteristics of verbs in Basque

<table>
<thead>
<tr>
<th>Telic verbs</th>
<th>Atelic verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All labile inchoative-causative verbs</td>
<td>All unergative verbs</td>
</tr>
<tr>
<td>Some illabile intransitive verbs</td>
<td>All illabile transitive verbs</td>
</tr>
</tbody>
</table>

5. Problem: telicity shift
A problem for the proposed generalizations arises, if one appeals to causative uses of some
inchoative-causative verbs or to some transitive illabile verbs. For example, the labile verb urtu
'to melt' have only telic interpretation in intransitive use (24-25) and two interpretations in
transitive use (26-27)

24) Izotz-a bost minutu-ta-n ur-tu zen. 
   ice-NOM.SG five minute-LOC melt-PFV 3sA.PST
   The ice (piece of ice) melted in five minutes.

   ice-NOM.SG five minute-INSTR melt-PFV 3sA.PST
   Ice melted for five minutes.

26) Ni-k izotz-a bost minutu-ta-n ur-tu n-∅-u-en. 
   I-ERG ice-NOM.SG five minute-LOC melt-PFV 1sE-3sA-have-PST
   I melted the ice (piece of ice) in five minutes.

27) Ni-k izotz-a bost minutu-z ur-tu n-∅-u-en. 
   I-ERG ice-NOM.SG five minute-INSTR melt-PFV 1sE-3sA-have-PST
   I melted ice for five minutes.

7 I do not have enough data to comment on aspectual characteristics of labile verbs with reflexive semantic relation
between intransitive and transitive uses.
Likewise some illabile transitive verbs have two interpretations. Along with predictable atelic interpretation as in (28), they also have a telic one as in (29).

28) Koldo-k ogi-a bost minetu-z jan
Koldo-ERG bread-NOM.SG five minute-INST eat.PFV

3sE-3sA-have-PST
Koldo ate bread for five minutes.

29) Koldo-k ogi-a bost minetu-ta-n jan
Koldo-ERG bread-NOM.SG five minute-PL-LOC eat.PFV

3sE-3sA-have-PST
Koldo ate the bread in five minutes.

The source of anomaly in these cases lies in the incrementality parameter. Both verbal meanings ‘to melt’ in (24-27) and ‘to eat’ in (28-29) demonstrate incrementality. For example, the more event of eating develops, the larger part of the involved object (bread in (26-27)) undergoes the change (disappears in the Koldo’s mouth). The action comes to its logical end when the whole object is involved in the action. Note that there are three kind of incremental relations:

- a relation between a verb of creation/consumption and its internal argument (incremental theme), e.g. English eat bread, build a house;
- a relation between a verb of motion and its path (e.g. climb the ladder, run a mile);
- a relation between a verb of change-of-state and a changing quality of the argument (e.g. grow into an adult, grow bald).

Under the principle of aspectual composition (see, among others, [Krifka 1989, 1992], [Filipp 1999], [Verkuyl 1993, 1999]), the mereological status of the incremental argument correlates with (a)telic interpretation of the verb: quantized incremental arguments correspond to telic events and not quantized (cumulative) incremental arguments to atelic events.

I am suggesting that aspectual composition in Basque is triggered by the presence of Agent in argument structure of the verb, i.e. the aspectual composition is possible only if there is an Agent. Only by this assumption one can explain why inchoative forms of incremental labile verbs have only telic interpretation (24-25), while their causative counterpart has both (26-27), even though the common argument in (24-25) is the same and belongs to the kind of arguments which can participate in the aspectual composition as in (26-27).

---

8 Incrementality is such a relationship between a verb and its participant that a part of the denoted event corresponds to a part of the participant. (See, among others, Dowty 1991)
9 Objects can be of two mereological statuses: quantized objects and cumulative objects. A quantized object can be divided into two physical parts so that at least one of these parts cannot be called by the name of the original object. For example, a chair, being a quantized object, can be crashed so that there will be a stool and a back of the chair (and neither of them can be called now a chair). Likewise, a group of two quantized objects cannot be called by the name of one of these objects: if one adds a chair to another chair the result furniture will be called chairs but not a chair. Cumulative objects have opposite characteristics. For example, water is a cumulative object, because after adding some more water in a glass of water one can still call the result object in the glass by water. Similarly, if one have water in the glass and pour out some water into another glass, the objects that will be contained in the glasses can be called by water. (See, among others, [Krifka 1989, 1992] for the details of the mereological theory.)
The next question would be: if the telicity of incremental verbs depends on the status of their incremental argument, does it mean that they are unspecified by this characteristic? I argue that this is not the case: when no aspectual composition is possible, as in the case (24-25) due to the absence of Agent, the verb demonstrates its intrinsic telicity. Therefore, to determine the “real” telicity of incremental verbs, one needs to eliminate at least one of the conditions for the aspectual composition.

First, Agent, as a trigger of aspectual composition, can be eliminated for the inchoative-causative verbs. Inchoative verb urtu ‘to melt’ in (24) is telic and the only possible interpretation of the object izotz is ‘the ice’, i.e. a delimited quantity of ice. Hence inchoative-causative verbs are originally telic and get atelic interpretation only in the context where an aspectual composition is possible.

Second, conditions for aspectual composition can be eliminated by blocking incremental relation as such. It is the case of transitive illabile incremental verbs. For example, the verb ikusi ‘to watch, to see’ can be used with either incremental argument pelikula ‘film’ (30-31) or with unincremental telebista ‘TV’ (32-33).

In sentences (30-31) the verb ikusi ‘to watch, to see’ have an incremental argument and an Agent, it means that both conditions for aspectual composition are met. Thus, according to the principle of aspectual composition, quantized path (the whole film) corresponds to telic interpretation of the verb (30) and cumulative path (just part of the film) corresponds to atelic interpretation.

10 For a similar analysis, see [Filip 1999], where predicates are proposed to be [+quantized] (telic), [-quantized] (atelic) or [αquantized].

11 I consider that this verbal meaning should be interpreted as a figurative motion and its incremental argument as incremental path. Indeed, watching a film can be compared with walking a distance: a film, like a distance, does not disappear after being overpassed. Thus, the more the event of watching a film continues, the longer part of film is watched. The logical end of the event comes with the end of the film.
The verb *ikusi* ‘to watch, to see’ in (32-33) has no incremental relation with the argument *telebista* ‘TV’ (because it is not true that the more one watches TV, the more TV is watched) and, thus, aspectual composition is not possible. I argue that aspectual characteristics of the verb *ikusi* ‘to watch, to see’ in (32), i.e. atelicity, are original for this verb.

As I have shown, the verb *ikusi* ‘to watch, to see’ can take either incremental argument or unincremental. However, there are also illabile transitive verbs that seem to take only incremental arguments (*jan* ‘to eat’). Determining the original aspectual characteristics of these verbs is, thus, problematic, because it is impossible to eliminate neither Agent, nor incremental relation between the verb and its argument. Further research is needed for an adequate analysis of these verbs.

6. Conclusion

I have shown that there is an interrelation between argument structure of the Basque verb and its aspectual characteristics. Table 3 summarizes the verbal classes discussed in this paper (i.e. labile verbs with reflexive semantic relation and semantically and syntactically monovalent illabile verbs are absent because they were out of my scope in the present discussion).

<table>
<thead>
<tr>
<th>Argument structure</th>
<th>Original telicity</th>
<th>Telic</th>
<th>Atelic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labile verbs (inchoative-causative)</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Illabile verbs</td>
<td>Semantically monovalent but syntactically bivalent</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Bivalent</td>
<td>NO</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

The table shows that unergatives (illabile semantically monovalent but syntactically bivalent verbs) behave in a similar way to illabile transitive verbs. This nicely follows the observations of the transitive nature of unergatives made earlier on other languages (see references in Section 3).

The regularities demonstrated in the table can be explained by the opposition between manner verbs and result verbs suggested in [Levin, Rappaport Hovav 1998]. Following this theory, inchoative-causative verbs in any language are supposed to have a result component in their lexical meaning; moreover this result component is hold by the internal argument which is preserved in both transitive and intransitive uses of these verbs. In its turn, a result component always triggers telicity, as, by definition, the result component is the internal telos of the event. Illabile verbs with transitive auxiliary (i.e. Basque unergatives and ‘pure’ transitive verbs) are supposed by the same theory to specify the manner of the activity in their lexical meaning and, thus, they are expected in any language to be atelic and to obligatorily involve an Agent in their semantics. While the theoretical opposition between manner and result verbs is rather well grounded in modern semantics, the real cross-linguistic data proving its universality is still scanty (e.g. [Lyutikova, Tatevosov et al. in press]). Therefore, the Basque data, being rather interesting per se, also suggests a nice argument for this theory.

---

A possible solution could be the following: Basque illabile transitive verbs are verbs of manner in terms of [Levin and Rappaport Hovav], and thus they can be theoretically used without direct object like English *eat in Jane was eating when I came in*. Such contexts would be, then, the original telicity test contexts, because the incremental relation between a verb and its argument would be eliminated. Unfortunately, unlike corresponding English verbs, Basque illabile transitive verbs never omit their internal argument.
References


