Lund University, Dept. of Linguistics
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On complements of unaccusatives and the argument structure of motion verbs

Arthur Holmer[1]

1 Introduction

As has been noted by among others Levin 1983 and Burzio 1986, intransitive verbs can be divided into two different types, unergatives and unaccusatives. The distinction between these is partly syntactic and partly semantic. Semantically, unergative verbs are verbs with subjects which are prototypically agents (such as *work*, *laugh*, *speak,* etc.) whereas unaccusative verbs are verbs with subjects which are prototypically patients (such as *die*, *suffer*, *fall,* etc.). Syntactically, the distinction in various languages is often upheld by the choice of auxiliary (e.g. *haben* vs *sein* in German) or by other factors such as *ne*-cliticization in Italian. In ergative languages of the active type[2] such as Basque, the distinction is upheld by the case-marking of the subject – unergative verbs have ergative subjects, whereas unaccusative verbs have absolutive subjects.

In grammatical models, the distinction between the argument structures of the two types of verb is usually expressed such that the single argument of an unergative verb is in some relevant sense a (deep) subject, whereas the single argument of an unaccusative verb is in an equally relevant sense a (deep) object. In a structure tree, this can be illustrated as in figure 1.

The above model assumes that the argument structure of the verb directly projects the structure of the VP it heads. Other assumptions lead to

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[2]A more controversial but also more accurate description would simply be 'active languages'.

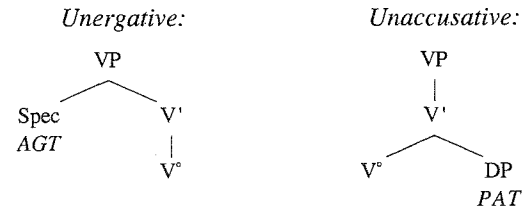

Figure 1. Assumed structures of unergatives and unaccusatives.

slight differences in the appearance of the structure. However, this need not concern us here.[3]

What is relevant to note is that the present assumptions suggest that an unaccusative verb takes one complement, namely the internal argument which is realized at s-structure as a subject. While this is a straightforward assumption with prototypically stative unaccusative verbs (such as *die*), there are other types of verbs which pattern syntactically as unaccusatives according to the criteria mentioned above, but which still must be assumed to have one further complement position. The most obvious examples of this type of verb are motion verbs.

In German, verbs of motion such as *gehen*, *kommen*, etc. select the auxiliary *sein* rather than *haben* (1a,b). Therefore, we expect them to pattern as unaccusatives. At the same time, the directional complement *nach Hause* in (1a,b) is clearly selected by the verb:[4] it cannot be added at will to other verbs (1c).

(1) a. Ich bin/*habe nach Hause gekommen.
'I have (lit. 'am') come home.'

b. Peter ist/*hat schon nach Hause gegangen.
'Peter has (lit. 'is') gone home.'

c. Maria hat (*nach Hause) gearbeitet.
'Mary has worked (*home).'

Similarly, in Basque, unaccusative verbs of motion take absolutive subjects, but at the same time select directional complements.

[3]One possible variant is treating an unergative as an underlying transitive with obligatory and opaque object incorporation. After incorporation, the structure is still as in figure 1. Another possibility is viewing SpecVP as always being projected, serving as an (s)-subject position for unaccusatives. The model assumed here views SpecVP as being the position projected for the Agent/d-subject.

[4]It is optional, as are complements of some transitive verbs such as *eat*, *drink*, etc.

(2) a. Peru(*-k) etxe-ra etorri da.
PN-(*ERG) house-to come 3sA-AUX
'Peru has come home.'

b. Amaia(*-k) eskolara joan da.
PN-(*ERG) school-to go 3sA-AUX
'Amaia has gone to school.'

c. Ama (*eskolara) gelditu da.
mother school-to remain 3sA-AUX
'Mother remained (*to school).'

Thus, the conclusion is unavoidable (and quite uncontroversial) that verbs of motion actually assign two theta roles: Theme and Goal. The former is realized as the subject of the clause, whereas the latter is realized as the directional complement of the verb.

This is unproblematic as long as we consider the Theme of verbs of motion as being a d-subject. If, however, we recall that this Theme actually behaves like a d-object in languages where the distinction is syntactically relevant (such as German and Basque), we see that such verbs take two complements (and no Agent). Assuming a single VP with binary branching and one V' level, the structure is simply not sufficient.

The purpose of the present paper is to argue that motion verbs project a double VP structure which allows us to account for both the unaccusativity of the verb and its double theta assignation. This is illustrated in section 2. Further, in section 3, it is shown that the same analysis can be extended to account for the behaviour of the unaccusative control verb *saiatu* 'to try' in Basque. Finally, in section 4, some typological consequences are examined.

2. A double VP

To illustrate the need for a double VP structure for verbs of motion we should first illustrate further evidence that the Theme of such verbs is not a d-subject of the verb. Hitherto we have simply shown that such verbs pattern with unaccusatives as far as the Case assignation is concerned in an active language such as Basque, and as far as auxiliary selection is concerned in German. However, given that there is no Agent in the argument structure of such verbs, they still have two arguments and thus appear at first sight to fit into a single VP tree. Therefore, we must show that there is more evidence in favour of a double-VP analysis than simply the unaccusative features of motion verbs (Case-marking facts in Basque, auxiliary selection in German, etc.).

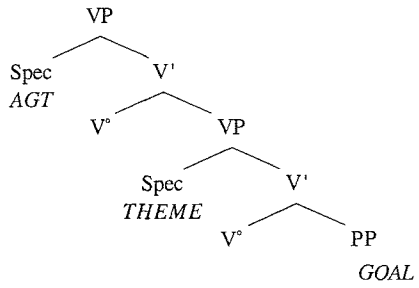

Figure 2. Assumed structure for *put*.

Given that we have suggested that a motion verb assigns two θ-roles, Theme and Goal, but lacks an Agent, it would be useful to examine what happens if an Agent is also present, i.e. to compare the argument structure of a verb with the three arguments Agent, Theme and Goal. Such a verb is the English verb *put* (3).

(3) Bill put the book on the table.
AGT THEME GOAL

Given that *put* has three arguments, a single VP structure is not sufficient if we assume binary branching and a single V' projection. Instead, we are forced to assume a double VP structure, where the lower VP serves as the complement of the higher V° (cf. figure 2.).

Thus, we have established the need for a double VP with verbs which are essentially causatives of verbs of motion. The relationship between the two verbs of a causative (transitive)/unaccusative pair is best analysed as being the result of whether or not an Agent is projected (4a,b).

(4) a. Paul broke the window.

b. The window broke.

The structure assumed for (4a) is simply that of a transitive VP, i.e. with the Agent in SpecVP and the Theme as complement of the verb. (4b), on the other hand, is an unaccusative with one d-object and no d-subject (cf. figure 3).

If we then assume that *put* in example (3) is the causative of a verb of motion, it follows that the structure of the unaccusative motion verb should be derived according to the relation which we have seen in figure 3 concerning causative/unaccusative pairs in general: a causative (transitive)

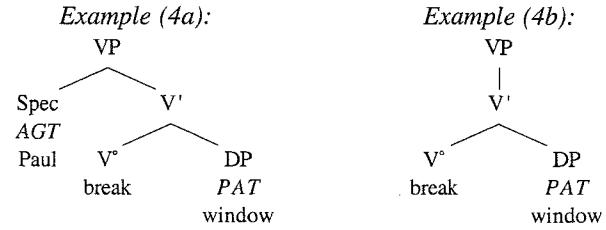

Figure 3. Transitives and unaccusatives.

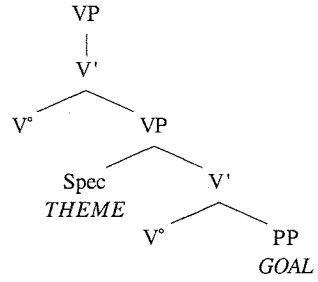

Figure 4. Verbs of motion.

verb theta-marks an Agent, and its unaccusative partner does not. Thus we expect a verb of motion to have the structure in figure 4.

Given the fact that a verb of motion has two arguments, the structure in figure 4 might seem to be unnecessarily complex, when compared to a simple transitive VP. However, as we have seen from the above, it can be directly derived from verbs like *put, send,* etc. with no further stipulation, in exactly the same manner as any unaccusative can be derived from its cognate transitive.[5]

This model of the VP projected by verbs of motion thus allows us maximum structural symmetry with unaccusatives, while taking into account that the verb assigns two theta-roles, one to the Theme and one to the Goal. As we shall see, it also directly accounts for the unaccusative syntactic behaviour of verbs of motion.

The simplest analysis of the Case-marking properties of Basque involves the idea that Absolutive is the Object Case, and that it is assigned to all d-

[5]In this context, it is irrelevant which verb is derived and which is basic. What we can see is simply that verbs of motion bear the same relation to *put* as *break* (v.i.) bears to *break* (v.t.).

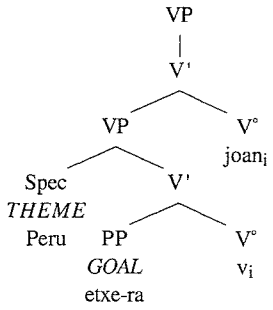

Figure 5. Assumed structure for *joan* 'to go'.

objects (objects of transitives and subjects of unaccusatives) but no d-subjects (i.e. Agents). This is essentially the view initially proposed by Levin 1983. This analysis clearly goes against Burzio's (1986) Generalization, where it is claimed that a verb can only Case-mark its object if it θ-marks an Agent. However, since Burzio's Generalization is based on and supported by evidence in accusative languages, not in ergative or active languages, it is unnecessary to force our analysis of an active language to obey Burzio's Generalization. As a descriptive generalization, it is not valid for Basque, a fact which was commented upon by Laka 1993.

If, then, ABS is a Case assigned by a verb, motion verbs require a structure where the Theme can be Case-marked by the verb, i.e. where it is a complement of the verb. In a double-VP structure, the Theme in Spec of the lower VP is governed by the higher V° and can thus be Case-marked by it (figure 5).

This analysis accounts straightforwardly for the Case-marking facts concerning the Theme of a motion verb, but fails to capture the fact that the Goal may not be Case-marked as an object. Given the assumption that Absolutive is the Case assigned by a V° head to its complement, we should expect a configuration such as (5) to be possible.

(5) *Peru etxea joan zen.
PN-(ABS) house-(ABS) go 3sA-PRET-AUX
Intended reading: '*Peru went the house.'[6]

[6]This may seem to be excluded for other reasons, such as requiring a Goal to be expressed by a PP. This would not, however, carry over to languages where motion verbs do not behave as unaccusatives, such as the situation is in the Austronesian language Seediq (cf. section 4) or certain variants of Mandarin Chinese. Therefore the ungrammaticality of (5) should be derived from the structure rather than from the subcategorization of each individual verb.

At first sight, the solution seems to lie in the status of the V° heads in this structure. While the structure seems to require the presence of two V° heads, this does not necessarily imply the presence of two verbs. If two verbs are present, as in the progressive *ari* construction, two instances of Absolutive may be assigned (6).

(6) Peru ardoa eda-ten ari da.
PN-(ABS) wine-(ABS) drink-IPF PROG 3sA-AUX
'Peru is drinking wine.'

However, this solution does not stand up to deeper scrutiny, since there are also double-VP structures with single verbs which assign two object Cases, namely ditransitive verbs (7).[7]

(7) Peruk Amaiari liburua eman zion.
PN-ERG PN-DAT book-(ABS) give 3sA-3sE-3sD-PRET-AUX
'Peru gave Amaia a book.'

At the same time, it does not seem possible to relate the Case-marking pattern of ditransitives with the fact that a ditransitive is a three-place verb as opposed to the two-place valency of a motion verb. This is because there are also three-place verbs in Basque which, like motion verbs, only assign one object Case. Such a verb is *bidali* 'to send' (8), which differs minimally from a motion verb in that it theta-marks an Agent as well as Theme and Goal.

(8) Amak semea eskolara bidali zuen.
mother-ERG son-(ABS) school-to send 3sA-3sE-PRET-AUX
'The mother sent her son to school.'

The structure proposed is illustrated in figure 6.

Given that the Case-marking of Theme and Goal does not vary between *bidali* 'to send' and *joan* 'to go', whether or not a verb theta-marks an Agent seems to be irrelevant to its Case-marking properties. Rather, it seems to be the nature of the theta-role assigned to an argument which affects the Case carried by the argument. Furthermore, the generalization holds in Basque that a given verb may only assign one instance of ABS. Thus, *eskolara* 'to school' in (8) is realized in Allative case (which is argu-

[7]In Basque, ditransitive verbs take one ABS argument and one DAT argument. This is the normal state of affairs in languages which have a distinction between DAT and ACC. There are, however, exceptions, such as German *lehren*, which takes two ACC arguments. Therefore we cannot simply exclude the theoretical possibility of double ACC Case marking.

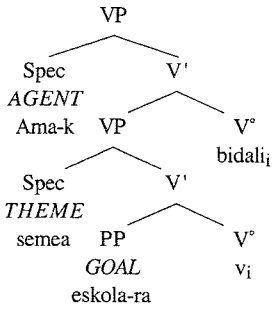

Figure 6. Assumed structure for *bidali* 'to send'.

ably not a structural object Case, since it does not trigger verb agreement) for two reasons: (a) because the verb *bidali* 'to school' has already assigned one instance of ABS and (b) because Allative is the case-form in which a Goal is realized in Basque.

3. *Saiatu* – an unaccusative control verb

So far we have suggested that verbs of motion have a double-VP structure which accounts for the fact that they can be unaccusative with a two-place argument structure. In actual fact, verbs of motion are only one category of verb which comes under the heading of unaccusative two-place predicates. Another, in Basque, is the control verb *saiatu* 'to try' (9).

(9) Peru etxea saltzen saiatu zen.
PN-(ABS) house-(ABS) sell-IPF try 3sA-PRET-AUX
'Peru tried to sell his house.'

Since the syntactic behaviour of *saiatu* is similar to that of a motion verb, it seems quite natural to suggest the same analysis, namely a double-VP structure (figure 7).

The model presented here is able to account for the thematic transitivity exhibited by *saiatu* as well as the unaccusative Case-marking associated with it. It is an important question, however, to what extent it is the simplest possible model. Evidently, the Case-marking facts of *saiatu* could equally well be covered by a description of *saiatu* as an unaccusative auxiliary similar to *ari* 'PROGRESSIVE' (figure 8).

Such a solution is capable of assigning ABS to the Agent exactly as required (assuming that V°-raising to Asp° expands the domain of VP to allow Case-marking across AspP). However, it would not tally well with the

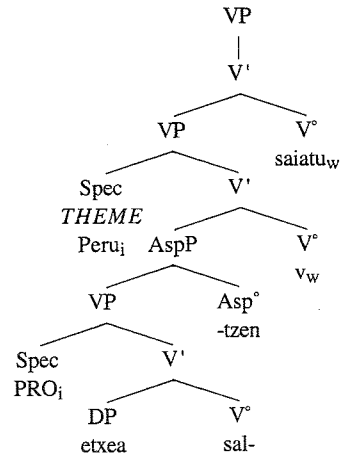

Figure 7. Assumed structure for subject control.

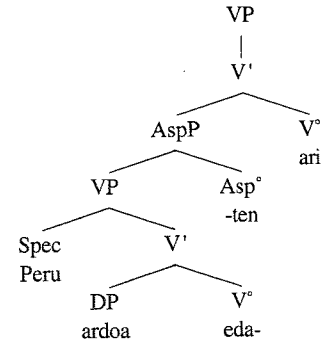

Figure 8. The auxiliary *ari* 'progressive'; cf. example (6).

idea of the Agent being an argument of *saiatu*. If we were to adopt the model in figure 8 for *saiatu*, the Agent would only be an argument of the verb referring to the action tried. As a result, *saiatu* would not be a control verb at all.

So far we have assumed that *saiatu* is a control verb simply because its paraphrase in a language like English is a control verb. Furthermore, it is intuitive to suggest that the argument which is realized as the subject of *saiatu* is in fact an argument of *saiatu* rather than an argument of the embedded verb – in some relevant sense, the subject of *saiatu* does actually 'try' to perform an action. However, such criteria are highly impressionistic

and therefore not entirely reliable as a basis for structural analysis. Instead, we need to find concrete examples which clearly show that *saiatu* differs from a typical auxiliary in assigning a theta-role to a (subject) argument.

One such example is a comparison with the verb *hasi* 'to begin'. This verb is unaccusative in its case-marking properties (behaving like *saiatu* in this respect). The subject of 'begin' can intuitively be viewed as the person 'who begins something', similarly to the subject of 'try'. However, there is a clear difference in acceptability between the verbs *hasi* and *saiatu* when dealing with weather verbs (10).

(10) a. Euria egiten hasi zen.
rain do-IPF begin 3sA-PRET-AUX
'It started to rain.'

b. *Euria egiten saiatu zen.
rain do-IPF try 3sA-PRET-AUX
Intended reading: '*It tried to rain.'

This acceptability is, of course, largely due to the semantics of the verbs. However, this semantic difference does not have to do with the inanimacy of an implied subject 'the weather'. Rather, I suggest that it has to do with the fact that *saiatu* requires an argument to which it may assign a theta-role. This can further be seen from the fact that *saiatu* may take as its complement a clause with a saturated argument structure (where none of the arguments are coreferent with the subject of *saiatu*). This shows that *saiatu* can theta-mark an argument in its own right (11a). The corresponding situation is impossible with *hasi* (11b).

(11) a. Amaia Jon-ek ama ikus z-eza-n
PN PN-ERG mother see 3sA-3sE-SUBJ-PRET-AUX-COMP
saiatu zen.
try 3sA-PRET-AUX
'Amaia tried (to achieve) that Jon see mother.'

b. *Amaia Jonek ama ikus z-eza-n
PN PN-ERG mother see 3sA-3sE-SUBJ-PRET-AUX-COMP
hasi zen.
begin 3sA-PRET-AUX
Intended reading: '*Amaia began that Jon should see mother.'

On the combined strength of the contrasts illustrated in (10) and (11), I suggest that *hasi* should be viewed as an auxiliary which does not assign a theta-role to any subject, while *saiatu* should be viewed as a full verb which

assigns a theta-role to a subject and another to a VP complement[8]. However, given that *saiatu* has an unaccusative Case-marking pattern, both of these are complements, so I conclude that the structure in figure 7 is unavoidable, as long as we wish to express the argument structure of the verb by means of the structure it projects.

4. Typology of double-VP structures

So far we have seen how the structure proposed for verbs of motion can be applied successfully to control verbs which have an unaccusative Case-marking pattern. In this section we shall examine how this can be used to account for the behaviour of auxiliaries in Seediq, an Austronesian language spoken in Taiwan.

Seediq syntax, like the syntax of most languages in Taiwan and the Philippines, is dominated by a feature termed *focus*, which can be described as a type of voice whereby different foci (Seediq has the usual Austronesian array of four) indicate that different arguments are serving as clause subject. One interesting property of Seediq focus is that it is not a property of the verb, but rather of the clause as a whole. Thus, if an auxiliary is used, it is the auxiliary, not the main verb, which carries focus morphology (the main verb is realized per default in AF – Actor Focus).

In Holmer 1996, this system is analysed as a type of agreement morphology which indicates the structural distance travelled by the subject from d-structure to s-structure. Thus, its appearance on the auxiliary is nothing surprising in itself. Instead, what will concern us here is the structure proposed for the domain of the auxiliary.

In this context I ignore the auxiliaries of tense/aspect such as *wada* 'PRETERITE' or *gaga* 'PRES PROG DISTANT', concentrating instead on those which are capable of carrying focus morphology. These come in two categories: (i) Aktionsart auxiliaries based on three verbs of motion *maha* 'to go; get started', *musa* 'to go' and *meyah* 'to come'; and (ii) auxiliaries of manner, which correspond functionally to adverbs, but which behave syntactically as verbs. The latter is an open class, comprising verbs such as *m-bleaq* 'to do well' (12a), *h-m-edu* 'to finish doing something' (12b,c), *t-m-nemu* 'to do to a powder' (12d,e).

[8]Another interesting question in this context is whether or not *hasi*, as an auxiliary, assigns any theta-roles at all. Is it an auxiliary which does not assign any theta-roles or a raising verb which theta-marks the VP which is its complement? I have not addressed this question here – the relevant point is that it does not theta-mark any other argument.

(12) a. Bleq-un -daha s-m-ino qsiya ka iraq na.
well-PF 3p.g. wash-AF water NOM intestines 3s.g.
'They wash its intestines properly.'

b. Wada -mu hde-un m-ekan damac nii.
PRET 1s.g. finish-PF eat-AF food this
'I finished all the food.'

c. Ma h-m-edu m-ekan damac laqi nii!
and finish-AF eat-AF food child this
'But this child ate up all the food!'

d. Nme-un -mu t-m-ekan.
powder-PF 1s.g. pound-AF
'I'll beat it to a powder.'

e. T-m-nemu -ku t-m-ekan.
powder-AF-PRET 1s.n. pound-AF
'I pound it to a powder.'

These two classes of verbs are interesting in the way they pattern with respect to θ-role assignation and unaccusativity. Like auxililaries of manner, the Aktionsart auxiliaries, while being based on motion verbs which might be assumed to have an unaccusative Case-marking pattern (as they do in Basque or German), actually display a transitive Case-marking pattern. Thus, if the embedded verb is transitive, the choice of Patient as subject (which tends to coincide with definiteness of the Patient) leads to the Agent being realized in what syntactically can be referred to as ERG Case, with the Aktionsart auxiliary being realized in a 'passive' (non-Actor) focus (13a,b).

(13) a. Meyah mekan bunga ka qolic.
come-AF eat-AF sweet.potato NOM rat
'The rats will come and eat sweet potatoes.'[9]

b. Yahun mekan qolic ka bunga.
come-PF eat-AF rat NOM sweet.potato
'Rats may come and eat the sweet potatoes.'

The voice/focus of the auxiliary is not problematic here. Assuming that the highest verb raises to I° or a level in Spec-Head agreement with the subject, the focus morphology would be realized correctly. What is problematic, however, is the Case-marking of the Agent. This is not

[9]The plural gloss is one interpretation (for all arguments in these examples). An equally possible interpretation would be with singular number. What is relevant here is the definiteness of the arguments.

unaccusative auxiliary analysis: *transitive auxiliary analysis:*

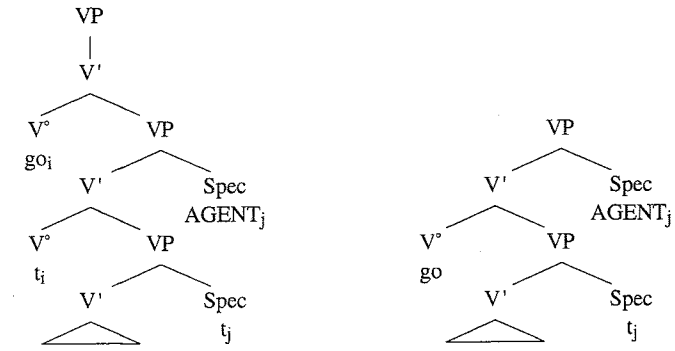

Figure 9. Reanalysis of motion verbs.

directly visible with examples (13a,b), since Case is only realized morphologically on pronouns, but it is all the more evident in (12a,b,d,e).

Given what might cross-linguistically be seen as an unaccusative auxiliary, the ERG Case-marking of the subject is unexpected. However, it is far more unexpected if the structure of unaccusatives is universally assumed to be as in figure 1. If the distinction between unergatives and unaccusatives is as is illustrated in figure 1, the Agent would actually be stranded within the embedded VP and would not be able to raise to any position where ERG might be assigned. Moreover, assuming a structure opposition such as that in figure 1 implies that the distinction unaccusativity and unergativity is an all-or-nothing distinction, whereas we see that auxiliaries based on motion verbs have an intermediate pattern.

Therefore it is interesting to note that the unaccusative behaviour of motion verbs in Basque and German (seen in terms of Case and auxiliary selection) can be shown, for independent reasons, to derive from a structure different from that illustrated in figure 1. Rather, we have shown that the most suitable analysis involves a structure as in figure 5. This structure incorporates one unaccusative subsection and one transitive subsection. It is therefore quite conceivable that the structure involved may be simplified in certain languages from a double-VP structure to a single-VP structure, with no thematic argument positions being lost, while the Case-marking pattern switches from unaccusative to unergative/transitive (cf. figure 9).

It is this structure simplification which I suggest characterizes the behaviour of certain languages, of which Seediq is one. This is in fact

corroborated by other facts in Seediq as well. Seediq motion verbs are not unaccusative in other respects either, and differ from the corresponding verbs in Basque or German by taking Goal complements which are structurally undistinguishable from direct objects (14).[10]

(14) a. Maha -ku Taihoku.
get going 1s.n. Taipei
'I'm going to Taipei.'

b. Musa sapah ka seedaq di.
go house NOM person PRF
'The people are (finally) going home.'

Thus, the assumption that motion verbs have an intermediate structure between transitives and unaccusatives is shown to tally well with the fact that motion verbs behave like transitive verbs in certain languages. This variation would be more surprising if we needed to take a pure single-VP unaccusative as in figure 1 as starting point.

5. Summary and conclusion

The present paper has shown reasons why a single-VP structure is undesirable to account for the contrast between the Case-patterns and the θ-role assignation patterns of motion verbs in languages such as Basque and German. Basing the analysis on uncontroversial parallels between unaccusatives and their causative/transitive counterparts, a double-VP structure is suggested, which straightforwardly solves the problem of the θ-transitivity and Case-unaccusativity of motion verbs – the Theme is assigned Case as the (Exceptional Case Marking) d-object of the higher VP at the same time as it receives the higher of the two θ-roles assigned.

This analysis is then shown to be applicable to unaccusative control verbs such as Basque *saiatu* 'to try'. Finally, it is argued that such an analysis is more compatible with facts from languages where motion verbs are arguably not unaccusative at any level, whether concerning the thematic structure or Case assignation. Given this analysis, the behaviour of motion verbs in Basque, German and Seediq can be analysed within one type of structure.

[10]Another language where this holds is Mandarin Chinese.

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