The Parameters of Aspect for Oḍia

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THE PARAMETERS OF ASPECT FOR ODI1 2

ABSTRACT
It is a standard assumption that situation-type aspects (aktionsarts) are lexically marked on the predicate. However, in Odi, they can be grammatically expressed with a closed set of auxiliaries. As for the grammatically marked (viewpoint) aspects, Odi has a progressive marker but no overt perfective or imperfective. The so called ‘perfective marker’, which is also the ‘conjunctive participle’ marker, is given a unified analysis as a verb linearizer. The present analysis shows that the perfectivity in Odi is marked by the sequence of an eventive verb and a copular auxiliary; that is, when an event is followed by a state. It is observed that the progressive morpheme, across languages, remains uninterpretable without world-time features; in contrast, the imperfective morpheme drops them. In fact, the paper proposes the ‘imperfective’ and the ‘simple present’ as parametrically alternative constructions which do not check world-time features. Although the progressive is invariably tensed its aspecual value varies for different languages. While its value is [+Dynamic] for Odi, for English its value is [−Telic]. Whether the progressive has the aspecual value [+Dynamic] or [−Telic] is a parametric choice for the language.

KEYWORDS
Aspect, dynamic, imperfective, irrealis, linearize, parameter, perfective, progressive, realis, situation type, telic, viewpoint.

1. Odi (in earlier spelling ‘Oriya’) is the official language of the State Odisha (in earlier spelling ‘Orissa’) in eastern India.
2. I thank la Maison des Sciences de l’Homme (MSH, Paris) for having granted me a short-term fellowship in 2004 to begin the initial phase of research on the facts presented in this paper. For helpful suggestions at various stages of the development of this article I thank Jacqueline Guéron, Bridget Copley, K. A. Jayaseelan and R. Amritavalli.
Abbreviations
The following abbreviations are used in this text:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Ablat:</td>
<td>Ablative case</td>
</tr>
<tr>
<td>acc:</td>
<td>Accusative case</td>
</tr>
<tr>
<td>acmp:</td>
<td>Accomplishment</td>
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<tr>
<td>act:</td>
<td>Activity</td>
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<td>agr:</td>
<td>Agreement</td>
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<td>class:</td>
<td>Classifier</td>
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<td>complet:</td>
<td>Complettive auxiliary</td>
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<td>cop:</td>
<td>Copula</td>
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<td>def:</td>
<td>Definite Marker</td>
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<td>dis:</td>
<td>Distal</td>
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<td>gnr:</td>
<td>Gender</td>
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<td>impf:</td>
<td>Imperfective aspect</td>
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<td>Locative case</td>
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<td>Modal</td>
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<td>past:</td>
<td>Past tense</td>
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<td>Perfective aspect</td>
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<td>Present tense</td>
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<td>proc:</td>
<td>Process</td>
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<td>prog:</td>
<td>Progressive aspect</td>
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<td>state:</td>
<td>Stative verb or auxiliary</td>
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<td>vl:</td>
<td>Verb linearizer</td>
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1. Preliminaries

Studies on aspect recognise that the aspectual information of a clause is indicated in two distinct domains. The predicate is lexically marked for aspectual properties (Aktionsarts); and the clause grammatically indicates aspectual features by aspect morphemes.

Vendler (1967) brings into focus the lexically marked aspect features of verbs and accordingly classifies them as ‘states’, ‘activities’, ‘accomplishments’ and ‘achievements’. Smith (1997) adopts Vendler’s verb classes as ‘situation types’ and proposes semelfactive as another ‘situation type’. The aspectual features that motivate Vendler (1967) to identify different verb classes are given in Smith (1997: 19-20) with a few binary terms as follows: ³

(1) Situations

<table>
<thead>
<tr>
<th>Situation</th>
<th>Static</th>
<th>Durative</th>
<th>Telic</th>
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</thead>
<tbody>
<tr>
<td>State</td>
<td>[+]</td>
<td>[+]</td>
<td>[−]</td>
</tr>
<tr>
<td>Activity</td>
<td>[−]</td>
<td>[+]</td>
<td>[−]</td>
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<tr>
<td>Accomplishment</td>
<td>[−]</td>
<td>[+]</td>
<td>[+]</td>
</tr>
<tr>
<td>Semelfactive</td>
<td>[−]</td>
<td>[−]</td>
<td>[−]</td>
</tr>
<tr>
<td>Achievement</td>
<td>[−]</td>
<td>[−]</td>
<td>[+]</td>
</tr>
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</table>

Smith (1997) contrasts lexically marked ‘situation types’ with grammatically marked aspect features which she calls ‘viewpoint’ aspects.

Carlson (1977) classifies predicates as stage-level and individual-level. He considers them as semantic primes, without exact grammatical correlates. However, he (1977: 168, 170) just suggests that perfective and progressive are incompatible with individual-level predicates.

³ Smith (1997: 19) takes ‘static’ and ‘dynamic’ as equipollent terms; thus, their privative oppositions could be stated either as [±Static] or as [±Dynamic].
In this paper, I assume that stage-level and individual-level features along with the Vendlerian aspect features lexically form the aspectual features of the predicate; they are projected onto the aspect structure by the predicate and are checked by appropriate grammatical features.

1.1. Grammaticalized situation-types

Although situation types are assumed to be inherent to the lexical meaning of the predicate, interestingly, in Odia some of them can be expressed with grammatical auxiliaries; such auxiliaries can combine with the main verb to make its aspectual sense grammatically explicit. Consider the auxiliary rah (stay) in the following sentences:

(2)  kukura-ṭa: so -i -rah -i -(a)ch -Ø -i
dog-class sleep -vl -state -vl -cop -pres -agr
‘The dog is (in the state of) sleeping.’

(3)  *kukura-ṭa: goṭe ha:ḍa coba: -i -rah -i -(a)ch -Ø -i
dog-class one bone bite -vl -state -vl -cop -pres -agr
‘The dog is (*in the state of) biting a bone.’

In (2) the auxiliary rah goes well with the stative verb so (sleep); but in (3) it does not go with the activity verb coba: (bite). Thus, (2)-(3) illustrate the stative function of rah. Now, consider the behaviour of the auxiliary la:g (stick/engage/continue) in the following sentences:

(4)  *kukura-ṭa: so -i -la:g -i -(a)ch -Ø -i
dog-class sleep -vl -act -vl -cop -pres -agr
‘The dog is (*in the act of) sleeping.’

(5)  kukura-ṭa: goṭe ha:ḍa coba: -i -la:g -i -(a)ch -Ø -i
dog-class one bone bite -vl -act -vl -cop -pres -agr
‘The dog is (in the act of) biting a bone.’

In (4) the aspectual auxiliary la:g does not go with the stative verb so (sleep); but, in (5) it goes well with the activity verb coba: (bite). Thus, (4)-(5) illustrate the activity function of la:g. Further, consider the behaviour of the auxiliary ca:l (walk/move/continue) in contrast with la:g:

(6)  saka:ḷa-ṭhu bandi jaṇa-ka ghaṇa: pel -i -la:g -i -(a)ch -Ø -i
morning-ablat prisoner class-def oil-mill push -vl -act -vl -cop -pres -agr
‘Since morning, the prisoner is (in the act of) pushing the oil-mill.’

4. The state that the auxiliary rah (stay) denotes is a positional state which can be contrasted with characteristic states (typically expressed by generic sentences).
In (6) the verb *pel (push) indicates an activity; but in (7) the unaccusative, *pod (burn) does not indicate an activity, but simply a process. For a verb to have the activity sense it has to select an agent. Unaccusatives, which do not select an agent, do not have the activity sense. The auxiliary *la:g in (6) goes well with the verb *pel (push), which denotes an activity; but in (7) it does not go with the unaccusative *pod (burn), which does not denote an activity, but a process. However, as (8) illustrates, the auxiliary *ca:l (continue) goes well with the unaccusative *pod (burn), which indicates a process. Thus, (7)-(8) illustrate the process function of *ca:l.

Verbs which select *la:g (activity) can alternatively select *ca:l (process).

The fact is illustrated in the following sentences:

(9) saka:ḷa-ṭhu bandi jaṇa-ka ghaṇa: *pel -i -la:g -i -(a)ch -ø -i morning-ablat prisoner class-def oil-mill push -vl -act -vl -cop -pres -agr
‘Since morning, the prisoner is (in the act of) pushing the oil-mill.’

(10) saka:ḷa-ṭhu bandi jaṇa-ka ghaṇa: *pel -i -ca:l -i -(a)ch -ø -i morning-ablat prisoner class-def oil-mill push -vl -proc -vl -cop -pres -agr
‘Since morning, the prisoner is (in the process of) pushing the oil-mill.’

The possibility of *ca:l (process) being selected in the place of *la:g (activity), as illustrated in (9)-(10), implies that activities can be viewed as processes. However, the alternative view, that is, the activity view of a process is not available in the language, as evident from the behaviour of the unaccusative illustrated with (7). Although the language allows the process reading of the activity it still keeps them grammatically distinct.

There is another auxiliary in O’ria, namely *sa:r (complete/finish). It does not go with states or processes or activities; but it goes with accomplishments, as illustrated below:

(11) *bahi-ṭa: tebul upare paḍ -i -sa:r -i -(a)ch -ø -i (state)
book-class table -on lie -vl -finish -vl -cop -pres -agr
‘The book has completed/finished lying on the table.’

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5. These O’ria facts simply confirm Davidson’s (1967) view that an action (activity) can be seen as an event (process), but not *vice versa. (9) emphasizes the action view, while (10) emphasizes its event view.
On the surface, the auxiliary *sa:r* (finish) has a completive function in (14); but, the completive morpheme grammatically fuses the dynamic (process) feature of the event with its end point (telos). So, it can only select situations which have a dynamic (process) part followed by its telos; and, none but the accomplishment type has such features. Therefore, the auxiliary *sa:r* (finish) is selected only with accomplishments.

On the basis of the facts given so far, the following are the ‘situation-type’ auxiliaries and their related aspect features in Odia:

(15) | Rah (stay) | State |
    | Ca:l (walk/move/continue) | Process |
    | La:g (stick/continue/engage) | Activity |
    | Sa:r (finish) | Accomplishment |

Although ‘achievements’ and ‘semelfactives’ are assumed as distinct situation types, Odia does not show any overt aspect morphemes for them. This simply shows that a category which is semantically postulated is not necessarily grammaticalized in a given natural language.

Although, in many languages, the situation type features are just inherent to the lexical meaning of the predicate, they can be combinatorial in Odia. Their combinatorial nature in Odia has to be taken as a syntactic fact. For example, the sentence (6) can be given the following structural representation (omitting here the higher functional categories, namely, viewpoint aspect, copular auxiliary, tense and agreement to which I will return):\(^6\)

\(^6\) The VL (Verb Linearizer) -i in (16) is a default connector of verbs in Odia. I will come back to its nature in detail later.
In (16) and in the rest of this paper, I adopt the right-branching structure for Odia, and assume that the main verb moves higher up to incorporate the verbal features; and by doing so, it also checks its inherent aspectual features.\(^7\)

### 2. Viewpoint aspects

As far as I know, there is no study of the Odia aspect system which theoretically assumes the relevance of situation types. However, studies dealing with the verb morphology in Odia usually identify two aspect morphemes (cf. Nayak (1987: 34), Mohanty (1992: 46-47) and Sahoo (2001: 78-79)). Consider the following sentences:

(17) \[\text{ra:dh}a:\ ma:cha\ kha:\ -u\ -(a)ch\ -\emptyset\ -i\]
East fish eat -prog -cop -pres -agr
‘Radha is eating fish.’

(18) \[\text{ra:dh}a:\ ma:cha\ kha:\ -i\ -(a)ch\ -\emptyset\ -i\]
East fish eat -pf -cop -pres -agr
‘Radha has eaten fish.’

(19) \[\text{ra:dh}a:\ ma:cha\ kha:\ -u\ -th\ -il\ -a:\]
East fish eat -prog -cop -past -agr
‘Radha was eating fish.’

(20) \[\text{ra:dh}a:\ ma:cha\ kha:\ -i\ -th\ -il\ -a:\]
East fish eat -pf -cop -past -agr
‘Radha had eaten fish.’

The verb forms in (17) and (18) provide the minimal contrast between the morphemes \(-u\) and \(-i\); and so do the verb forms in (19) and (20). On the basis of the contrasts between the verb forms such as in (17) and (18), and (19) and (20), \(-u\) is analysed as the progressive and \(-i\) as the perfective aspect markers. Smith (1997) takes grammatically marked aspects such as progressive,

\(^7\) Following Chomsky (1995) I assume that a lexically marked feature is checked (interpreted) in a condition of match/identity with some grammatical feature.
imperfective and perfective as viewpoint aspects. This straightaway identifies the progressive -u and the perfective -i as the viewpoint aspect markers.

2.1. Ambiguity of the progressive

The progressive has ambiguous functions across languages. It can behave as a frequentative in both Odia and English if the predicate bears atelic process reading. Consider the following Odia sentence and its English gloss:

these days Radha fish eat -prog -cop -pres -agr
'These days Radha is eating fish.'

In (21), the temporal adverb which coerces an atelic process reading of the basic accomplishment sense of the verb kha: (eat) gives frequentative meaning to the progressive -u.

2.1.1. The Progressive goes with processes

In fact, the progressive -u goes with clear atelic processes. Consider the following sentences:

(22) pruthibi surjya ca:ri -paṭ -e ghur -u -(a)ch -ø -i
earth sun four -side -loc revolve -prog -cop -pres -agr
'The earth is revolving around the sun.'

2.1.2. The Progressive goes with activities

Activities conceptually do not have a telic feature either. The morpheme -u also goes with them. Consider the following sentence:

(23) bandi jaṇa-ka ghaṇa: pel -u -(a)ch -ø -i
prisoner class-def oil-mill push -prog -cop -pres -agr
'The prisoner is pushing the oil-mill.'

To sum up, the progressive -u in Odia goes with accomplishments (e.g. (17) and (19)), with processes, (e.g. (21)-(22)) and with activities, (e.g. (23)). Thus, it seems to bear an aspectual function common to all of them.

2.1.3. The Progressive does not go with states

However, the progressive -u does not go with verbs which have stative sense. Consider the following sentences:

(24) ?*se murti-ṭa: goṭe masa:la dhar -u -(a)ch -ø -i (state)
dis statue-class one torch hold -prog -cop -pres -agr
'That statue is holding a torch.'
(25) se murti-ṭa: gote masa:la dhar -i -(a)ch -ø -i (state)  
dis statue-class one torch hold -pf -cop -pres -agr  
‘That statue holds a torch.’

The verb dhar (hold/catch) is ambiguous in Odia. The sentence (24) illustrates that its stative sense is not available with -u. The sentence (25), in contrast, illustrates that its stative sense is available with the aspect morpheme -i.

If -u occurs with a stative verb, the verb acquires either a process or an accomplishment reading. For example, the verb dhar (hold/catch), which has a stative (hold) reading with -i in (25), has a process or an accomplishment (catch) reading with -u in (26):

(26) pila:-ṭi gotie kanki dhar -u -(a)ch -ø -i (Process/Accomplishment)  
child-class class dragonfly catch -prog -cop -pres -agr  
‘The child is catching a dragonfly.’ /* ‘The child is holding a dragonfly.’

However, (24)-(26) very well support the analysis that the progressive -u is inconsistent with the stative sense of a verb. They also illustrate that the two different senses of dhar, namely hold and catch, which are aspectually distinguished in Odia are lexically realized as different verbs in English.

Some other Odia verbs whose stative sense is separable from their Process/Accomplishment sense with the choice of viewpoint aspects are: cã:h (be awake/look at), ja:n (know/realize/understand/learn), pad (lie/fall)...

2.2. Progressive as [+Dynamic]

As we saw, the progressive -u goes with accomplishments, processes and activities, but not with states. In fact, it grammatically bears the [+Dynamic] feature, which is common to accomplishments, processes and activities; and it is in binary opposition with the [−Dynamic] feature, which marks the state. I will return to some broader implications of the grammatical aspects triggering [±Dynamic] feature contrast later.

2.3. Problems with the perfective reading of -i

Typically, the position immediately preceding the copular auxiliaries is identified as the position where the contrast between the perfective -i and the progressive -u holds. That is the only position where -u can occur; and -i in contrast with -u in that position is interpreted as the perfective aspect, as illustrated in (17)-(20). However, this analysis of the morpheme -i faces a number of problems in different contexts:

2.3.1. When governed by the copular auxiliary

Consider the following sentence:
(27) singha-ṭi so -(a)ch -i -i
lion-class sleep -pf -cop -pres -agr
‘The lion is sleeping.’

In (27), the verb so (sleep) refers to the lion’s sleeping state; but, there is no perfection of the event implied there. Thus, the usual perfective analysis of -i in the position immediately to the left of copular auxiliaries is not available with states.

2.3.2. When governed by the modal auxiliary

Further, consider the following sentences:

(28) *ra:ju se swara suṇ -u -pa:r -u -th -il -a:
Raju dis voice hear -prog -mod -prog -cop -past -agr
‘Raju was being able to hear that voice.’ (the intended sense)

(29) *ra:ju se swara suṇ -u -pa:r -i -th -il -a:
ra:ju dis voice hear -prog -mod -pf -cop -past -agr

(28)-(29), which disallow the progressive -u in the position immediately to the left of the modal auxiliary, illustrate that such positions are not valid positions for viewpoint aspects. Nevertheless, the morpheme -i does occur in such positions, as illustrated with (30)-(31) below:

(30) ra:ju se swara suṇ -i -pa:r -u -th -il -a:
Raju dis voice hear -vl -mod -prog -cop -past -agr
‘Raju was being able to hear that voice.’

(31) ra:ju se swara suṇ -i -pa:r -i -th -il -a:
ra:ju dis voice hear -vl -mod -pf -cop -past -agr
‘Raju had been able to hear that voice.’

Therefore, it cannot be assumed that -i has any aspectual sense in contrast with the progressive -u in the position before modal auxiliary in (30)-(31). Thus, the typical analysis of the morpheme -i as the perfective marker is contradicted in such positions.\(^8\)

2.3.3. When governed by situation type auxiliaries

Further, if we consider the occurrences of the morpheme -i with situation type auxiliaries in (2), (5), (8) and (14), the morpheme -i has no perfective sense in any position in those sentences. Thus, its typical perfective analysis is contradicted in those positions too.

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\(^8\) Sahoo (2001: 85-87) labels the -i occurring just before modal auxiliaries and light verbs as simply a “conjunctive morpheme (CM), which has very little grammatical function.”
2.3.4. As conjunctive participle

So far I have described the behaviour of the morpheme -i in the context of grammatical auxiliaries. However, it conjoins lexical verbs too. Consider its occurrence in the following sentence:

(32) raːju_, naːdiaː-ːaː-ːku [PRO, bhaːng -i] kor -i l -a:
Raju coconut-class-acc [PRO break -vl] scrape -past -agr
‘Raju, after breaking the coconut scraped it.’

In (32) the morpheme -i conjoins two lexical verbs, bhaːng (break) and kor (scrape). In fact, it does not merely conjoin the lexical verbs but the vPs (the clauses) they project. It conjoins clauses only if they share the same subject (but not necessarily the object). Morphemes with such functions in other Indian languages are traditionally labelled as ‘conjunctive participle.’ As for the function of the morpheme -i in (32), it seems to mark the sequence of events in time. That is, the subordinate verb (break) denotes a preceding or completed (perfected) event with respect to the event denoted by the higher verb, (scrape). However, consider the function of -i in (33):

(33) naːdiaː -ːaː [PRO gacha-ːru paːd-ːi] gad -i aːs -il ːa:
coconut -class [PRO tree-ablat fall-vl] roll -vl -come -past -agr
‘The coconut having dropped from the tree came rolling.’

Notice, the conjunctive participle -i iteratively appears between the verbs occurring in a series. In (33), the first instance of -i indicates the completion of the event denoted by the verb pad (fall) with respect to the subsequent event aːs (come). However, the second instance of it does not indicate the temporal sequence of events, for the verb gad (roll), which is marked with -i, actually indicates the manner in which the event aːs (come) happened.

Semantically, the term ‘conjunctive participle’ is just an imprecise descriptive label for a host of functions. It can indicate succession of events, or it can indicate the completion (perfection) of an event with relation to another, or it can indicate the manner in which the event progresses, etc. Dwarikesh (1971), Masica (1976: 113-114) and (1991: 399) summarize the different functions of the so called ‘conjunctive participle’.

Thus, there are a number of facts which show that the morpheme -i cannot be simply taken as the perfective marker for it can occur in different positions in the verb phrase with different functions. So far as the morpheme -i is concerned, the real challenge is to decide whether there are homophonous -i’s with independent and unrelated grammatical functions, or if it has a unified

9. The conjunctive participle is taken as one of the areal and typological features of South-Asian languages; cf. Masica (1976) and (1991).
underlying function, and its different functions are its conditional variants. I will propose the latter perspective in the section below:

2.4. A unifying analysis of -i

So far, it must be obvious that the morpheme -i does not have any single semantic sense. Thus, its function seems to be more general and syntactic. Descriptively, it would be adequate to say that it is a default verb subordinator, which overtly marks the subordinate relation of the lower verb with the higher one. It is marked on a lower verb to simply indicate that the lower verb needs some more verbal feature to be merged. This analysis of -i is consistent with its behaviour in all positions as it always occurs between two verbal elements.

However, towards a more explanatory account, I would propose that its verb subordinator role follows from the more general principle of ‘distinctness condition’ proposed in Richards (2010).

Richards (2010) proposes an obligatory ‘distinctness condition’ on multiple items of the same category label. Items with the same category label are not distinct unless their hierarchical grammatical relation is visible to Phonetic Form (PF). Therefore, they must be linearized just before the spell-out with some hierarchical grammatical information.

Adopting Richards’ (2010) general hypothesis, I would propose that the morpheme -i in Odia fulfills exclusively the linearization requirement of multiple verbs adjacent to each other. So, I would refer to it as the verb linearizer (vl). It is a default grammatical connector of verbs when there is no other grammatical feature to intervene between them. Its insertion seems to be a last resort strategy to maintain the distinctness of verbs. It is inserted just before the spell-out.

Having put the facts related to the Odia conjunctive participle in order, I would propose the following tree structure for (32) showing the merged structure of vP₁ and vP₂, the clausal projections of the conjoined verbs:
In (34), the two vPs are conjoined (merged) for they share the same subject. The subject sharing is expressed with the subject of the vP\textsubscript{1} copied at the subject position of the left-adjoined vP\textsubscript{2}; the same is assumed for the shared object too.\textsuperscript{10} With the referring subject copied at the subject position of the adjoined vP\textsubscript{2}, its initial position in the vP\textsubscript{1} is a controlled PRO;\textsuperscript{11} cf. Jayaseelan (2004: 74-75) for similar assumptions. As for the Vs, the V head of vP\textsubscript{1} incorporates (adjoins to the left of) the V head of the adjoined vP\textsubscript{2}.\textsuperscript{12} As all the elements from the vP\textsubscript{1} move away there remains no phonetic content to be pronounced, and the vP\textsubscript{1} as a phase is spelt out unpronounced.\textsuperscript{13} Now, in the vP\textsubscript{2} phase, the incorporated V-heads, namely, \textit{bha:ng} (break) and \textit{kor} (scrape), move higher up to incorporate the I-head (containing tense and agreement which get suffixed to the right V head); the subject moves (for Case) to the spec of IP; and in SOV languages the object somehow moves to a position higher than the tensed V. Now, at the final phase, the derivation has two V heads with the same

\begin{itemize}
\item \textsuperscript{10} As mentioned earlier, the object is not necessarily shared by the conjoined vPs; however, here I keep aside such cases.
\item \textsuperscript{11} As the movement to a theta position is prohibited, the lower subject cannot be a trace.
\item \textsuperscript{12} In Odia causativized Vs can also be conjoined; in such cases, the lower V first incorporates the cause feature and then incorporates the higher V.
\item \textsuperscript{13} Following Chomsky (2001) I assume that the derivation goes phase-wise; and the vP being a phase requires spell out.
\end{itemize}
category label, but without any grammatical element intervening between them. Here, the linearization of them, à la Richards (2010), is required as the last resort strategy; and the verb sequence is inserted with the verb-linearizer -i, just before the spell out.

If we analyse the morpheme -i as a mere verb linearizer, then the task in hand is to explain its different aspectual functions noted in descriptive studies. I will propose that the different aspectual functions ascribed to it in the descriptive studies follow from the inherent aspectual nature of the verbs and the sequences they form.

2.4.1. Sequence of event and state: the perfective relation

Taking the cues given in the previous subsection let us consider the anomalous behaviour of -i in the typical viewpoint aspect position in the following sentences:

(35) rødha: mä:cha kha: -i -(a)ch -ø -i = (18)
Radha fish eat -vl -cop -pres -agr
‘Radha has eaten fish.’

(36) singha -ṭi so -i -(a)ch -ø -i = (27)
lion -class sleep -vl -cop -pres -agr
‘The lion is sleeping.’

Odia has a multi-copula system. The copula -ach bears the realis feature (i.e. only present tense); and in contrast, the copula -th(a:) bears the irrealis features (other tense and mood features); cf. Mahapatra (2002) for details. In the analysis here the copula is [−Dynamic]. When a [+Dynamic] verb is governed by [−Dynamic] copular auxiliary, their relation indicates that a dynamic event is followed by a [±Realis] state, or a dynamic event led to a [±Realis] state (denoted by the copula). The relation in fact denotes a resultant state, and that is what is essentially denoted by the perfection of an event. This would explain the aspectual meaning of (35).

14. The copular auxiliaries, which bear [±Realis] world features in Odia, bear functions typically ascribed to the reference time (R) in Reichenbach (1947: 288ff). The [+Realis] ach which selects only the (proximal) speech time has a time reference not separated from the speech time (S). On the other hand the [−Realis] th(a:), which always selects (distal) non-present time, has a time reference essentially separated from the speech time (S). Reichenbach (op. cit.) considers the reference time (R) exclusively as a temporal deictic; but he does not consider a spatial deictic, namely the reference space/world (R) referring to the distance between speech world and the event world (required for mood features). However, as natural language categories, Odia copulas carry Reference (R) both for time and space/world; thus, they provide evidence that R in natural languages is basically a shifter which shifts the reference point both in space and time.
In Odia, only dynamic verbs, whether telic or atelic, can be governed by the dynamic aspectual *(i.e. progressive)* morpheme -\textit{u}. When the verb is governed by the dynamic aspectual morpheme -\textit{u}, as in (17) and (19), the morpheme denotes only its dynamic progression part. If the dynamic progression is not indicated, the morpheme -\textit{u} would be absent. Its absence would simply let the higher copular auxiliary be the governor of the main verb creating a non-distinct V-V sequence, forcing the verb linearizer -\textit{i} to intervene, as in (18) and (20).

Again, if a [−Dynamic] stative verb, for example so (sleep) in (36), is subordinate to the [−Dynamic] copula then there is no [+Dynamic] feature to be marked. So, there is no possibility for the progressive -\textit{u} to be projected. Thus, the copular auxiliary becomes the governor of the main verb creating the same V-V sequence which calls for the intervention of the verb linearizer. Semantically, the relation between the stative verb and the copular auxiliary indicates that the state denoted by the main verb holds either in a realis or irrealis world. This would explain the aspectual meaning of (36).

In the cases of non-copular auxiliaries, such as situation type or modal or other aspectual auxiliaries, the aspectual or the modal feature rests with the auxiliaries; so, the morpheme -\textit{i} has no specific function except of a default verb linearizer (vl).

2.4.2. Sequence of events and perfective relation

Let us come to the sequence of lexical verbs conjoined by the morpheme -\textit{i} — the case of the ‘conjunctive participle’ in (32). I propose that, as a conjoiner of lexical verbs, the -\textit{i} does not bear different functions, often attributed to it. Instead, these functions are necessary fall outs when two events are juxtaposed.

If two events are juxtaposed (to share a single subject) they can be interpreted only in two possible ways: they happen either in a temporal sequence or they are concomitant. If they are interpreted to be in a temporal sequence, as they are in (32), the very nature of temporal sequence presupposes that their event boundaries cannot temporally overlap but have to be discrete; and in a sequence of temporally discrete events, an event has to be a completed (perfected) event with relation to the following one. Thus, the default verb linearizer -\textit{i} which is just syntactically present in a verb sequence seems to mark the sequential function and the completion of an event with relation to the other. In fact, these two functions are the two sides of the same coin — the event sequence.
2.4.3. Concomitance of events and manner relation

On the other hand, if two events are interpreted to be concomitant they necessarily temporally overlap. With two temporally overlapping situations one event must have the manner function for the other. The manner function of a verb can be grammatically made explicit by the verb being reduplicated in Odia. Consider (37)-(38) below:

(37)  na’dia: -ṭa: gaḍ -i a:s -i  -a:
      coconut -class roll -vl come -past -agr
      ‘The coconut came rolling.’

(38)  na’dia: -ṭa: gaḍ -i gaḍ -i a:s -i  -a:
      coconut -class roll -vl roll -vl come -past -agr
      ‘The coconut came rolling.’

In (37) gaḍ (roll) has the manner function for a:s (come). In (38) the manner function of the verb gaḍ (roll) is grammatically made explicit by the verb being reduplicated. If two events x and y are concomitant the necessary condition is that x continues when y happens. Therefore, in (38), the x (roll) event is expected to be marked for continuity while the y (come) event happens. In fact, in (38) the reduplication of the verb gaḍ (roll) denotes the temporal extension (continuity) of the rolling event. The overt continuity marked on a juxtaposed event blocks its sequential reading with the other; thus, it indicates their concomitance.

The other condition which they seem to fulfil is that x (roll) continues till the termination of y (come). Therefore, y (come) can take telic aspectual features like past tense, perfective, completive etc.; but x (roll) can never take them; so, it can have only the reduplicated form indicating its continuity till the end of y (come). These features ensure that the events are not in a sequence but they are concomitant and coterminous.

Like in sequential contexts, in concomitant contexts too, such as in (37)-(38), the morpheme -i connects two verbs; and it seems to bear the manner function. But, in fact, the morpheme -i is nothing more than a default verb linearizer (vl).

2.5. Viewpoints and other functional categories

On the basis of the discussion so far, the hierarchical position of viewpoint aspects with respect to other functional features can be represented as in (40). The structure (40) represents the sentence (5) repeated as (39):

(39)  kukura-ṭa: goṭe ha:da coba: -i  -la:rg -i  -a:ch -ø  -i  = (5)
      dog-class one bone bite -vl -act -vl -cop -pres -agr
      ‘The dog is (in the act of) biting a bone.’
Like in the derivation of (34), in (40) too the ‘distinctness condition’ applies to all non-distinct adjacent Vs just before the spell out.

### 2.6. The perfective and its modes

As explained with (35), the perfection of an event is expressed as the syntactic relation between a [+Dynamic] verb and the [+Stative] copular auxiliary. However, it can be noticed in (14) that the completive auxiliary *sa:r* (finish), which marks telicity, can optionally intervene between them. Furthermore, when the completive occurs, the copular auxiliary can be optional, as illustrated below:

(41) ra:ju ciṭhi -ṭi lekh -i -sa:r -il -a:
Raju letter -class write -vl -complet -past -agr
‘Raju finished writing the letter.’

As for the completive and the copular auxiliary, both can co-occur, (*e.g.* 14); or, they can be mutually optional, (*e.g.* (35), (41)); but both cannot be dropped (in a perfective construction). Thus, syntactically, the perfective meaning is constituted as follows:

(42) Perfective: [+Dynamic, (+Telic), (+Stative)]

With all the features of (42) being present, the perfective construction conveys that a dynamic event attained its telos and then gave rise to a state. Given the mutual optionality of the last two features, the perfective construction
conveys different meanings. With the absence of the stative feature, as in (41),
the completive simply denotes the telos of the event, but with the absence of
the completive, as in (35), the stative copular auxiliary highlights the resulted
state.

The perfective features (in Odia) are essentially the projections of
accomplishments; thus, they are grammatical indicators of accomplishments.

2.7. Dynamic (progressive) vs Stative (imperfective)

Odia does not have an imperfective marker. However, Hindi, which
has an imperfective marker distinct from its progressive, shows that the
progressive goes with [+Dynamic] predicates but not with stative ones. The
fact is illustrated below:

(43)  rədha:  gə:  -rah  -i  -hɛ
Radha sing  -prog  -gnr  -world.time.agr
‘(Now) Radha is singing.’

(44)  *rədha:  sanskrit  jə:n  -rah  -i  -hɛ
Radha Sanskrit know  -prog  -gnr  -world.time.agr
‘Radha is knowing Sanskrit.’

Unlike the progressive, the imperfective in Hindi goes with
(characteristic) states, as illustrated below: 15

(45)  rədha:  sanskrit  jə:n  -t  -i  -hɛ
Radha Sanskrit know  -impf  -gnr  -world.time.agr
‘Radha knows Sanskrit.’

(46)  rədha:  gə:  -t  -i  -hɛ
Radha sing  -impf  -gnr  -world.time.agr
‘Radha sings.’

Thus, the progressive grammatically bears the [+Dynamic] feature; and in
contrast, the imperfective bears [+Stative]/[−Dynamic] feature.

The progressive in Odia — also in other Indian languages such as Hindi
and Marathi — obligatorily selects copular auxiliaries that bear [±realis] world
feature and tense feature. Without the world-time features the progressive
remains uninterpretable. Consider the following Odia examples:

15. Krifka, Pelletier et al. (1995) propose two types of characteristic (stative) sentences,
namely ‘lexical stative’ and ‘habitual generic’. The lexical stative (45) has no progressive
counterpart, as shown with (44); but, the habitual generic (46) does have one, i.e. (43).
Unlike the progressive, the imperfective does not select the world-time features. Marathi, which uses a single marker both as imperfective and progressive, construes its progressive meaning by selecting the copular auxiliary (that bears the [±realis] world feature and tense); but it construes its imperfective meaning by dropping it, as illustrated below:

(47) ra:dha: ga: -u -(a)ch -ø -i
    Radha sing -prog -cop.realis -pres -agr
    ‘(Now) Radha is singing.’

(48) *a:dha: ga: -u -i
    Radha sing -prog -agr
    ‘Radha (is) singing.’

As (43), (47) and (49) illustrate, the progressive can even be saturated with the strongest temporal deictic feature, the speech time. In contrast, the imperfective in (45), (46) and (50) never accepts the speech time. Now, let us consider the O’dia and English counterparts of (50), given in (51):

(51) ra:dha ga: -ø -e
    Radha sing -impf -agr
    ‘Radha sings.’

Both O’dia and English which do not have an overt imperfective marker convey its meaning by dropping both copular auxiliary and tense features in (51). Here, one can propose a parameter (alternatives) for the imperfective

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16. Unlike Marathi, Hindi selects the copula he with the imperfective; e.g. in (45-46). However, the Hindi copula he which in (43) bears the present tense (speech time) with the progressive cannot accept the same with the imperfective in (45-46). Possibly, the Hindi copula survives with the imperfective to retain the (actual) world feature. The opposing facts in Marathi (50) and Hindi (45-46) suggest that the world feature could optionally survive with the imperfective. Alternatively, one can assume that the Hindi copula, in which world, time and agreement features are fused, survives with the imperfective just to retain the agreement feature.

17. Giorgio and Pianesi (1997: 71) assume that the AGR feature in English essentially carries tense feature too. Thus, the agreement feature (-s) in the so called “simple present” form carries present tense too. However, as the morpheme is inconsistent with the speech time (now) I do not take it as the present tense marker but simply as the agreement marker.
construction as follows: if a language does not have an overt imperfective marker then it can express the same by the verb not checking for the world and time features. Thus, the simple present construction of Oḍia and English and the imperfective construction of Marathi and Hindi can converge on the fact that they do not check world-time features.\footnote{3}

Below, let us consider (52), the French counterpart of Marathi, Oḍia and English imperfective constructions given in (50) and (51):

(52) Marie chante.

French does not have a progressive form, and the imperfective form in (52) is ambiguously used for both. The form can have progressive interpretation with the typical speech time adverb là (right now and here) appearing in the CP position; or it can have the imperfective interpretation without the speech time adverb.

To sum up, languages (such as Marathi and French) which have imperfective markers derive its corresponding progressive meaning by selecting world time features. Alternatively, (Oḍia and English) which have a progressive marker get its contrastive imperfective meaning by dropping it and its associated world-time features.

3. Interaction between situation-types and viewpoints

3.1. Overt situation-types and the [+Dynamic] -\textit{u} as frequentative

In the previous section we considered the behaviour of the [+Dynamic] progressive when the verb projects it without the situation-type auxiliaries. However, the verb can project it with situation type auxiliaries too. The construction emphasises the situation-type, and the [+Dynamic] -\textit{u} gets iterative/frequentative meaning. The frequentative reading implies a regular or irregular iteration of episodic (discrete) events; and the predicate never implies a characteristic property of the subject. Consider the following sentences:

\begin{itemize}
\item In fact the real present (\textit{now}) in English is expressed only with the support of auxiliaries, namely \textit{be} or \textit{have}:
\begin{enumerate}
\item a. *John eats an apple now.
\item b. John is eating an apple now.
\item c. John has eaten an apple now.
\end{enumerate}
\end{itemize}

English copular auxiliaries (namely, \textit{be} and \textit{have}) like those in Oḍia bear the world feature; when they occur with the present tense they restrict the event to realis present (now).\footnote{3} The imperfective constructions such as (45), (46) and (50) are semantically understood to be characteristic (stative) sentences with individual level predicates. As the imperfective does not check world-time features so do not the individual-level predicates.
(53) *rati-re murti-ṭa: goṭe masa:la dhar -i -raḥ -u -(a)ch -ø -i
night-loc statue-class one torch hold -vl -state -prog -cop -pres -agr
‘In the night, the statue is (in the state of) holding a torch.’

(54) dina bel-e kukura-ṭa: a:ma pindā:-upar-e so -i -raḥ -u -(a)ch -ø -i
day time-loc dog-class our veranda-on-loc sleep -vl -state -prog -cop -pres -agr
‘In the day-time the dog remains asleep on our veranda.’

(53), in contrast with (54), illustrates that the [+Dynamic] -u cannot be projected with an overt situation type unless the main predicate is stage-level and modifiable by overt temporal adverbs or when-clauses. The iterative/frequentative reading of -u in (54) can be explained if we consider the nature of the situation type auxiliaries. When a situation type auxiliary denotes an atelic chunk of time the u cannot be bound by a single (deictic) point of time, e.g. the speech time; therefore, it needs to have an atelic iterative/frequentative reading. The similar reading of -u obtains with the auxiliaries la:g (activity) and ca:l (process) too. As for the accomplishment auxiliary sa:r, it always indicates a telic closure of the situation; so, the [+Dynamic] -u, which needs to express the progression of the situation, is inconsistent with it.

3.2. Role of viewpoints: Smith’s (1997) proposal

Smith (1997: 62) proposes that: “all sentences have a viewpoint, since situation type information is not visible without one.” However, such a condition is not applicable to Odia. As the situation type information can be made visible with the situation type auxiliaries, sentences can occur without the viewpoint aspects. Thus, the obligatoriness of the viewpoint aspect that Smith (1997) insists on is not honoured in Odia. So, the following sentences are fully acceptable without any “viewpoint” morpheme:

(55) murti-ṭa: goṭe masa:la dhar -i -raḥ -i -(a)ch -ø -i
statue-class one torch old -vl -state -vl -cop -pres -agr
‘The statue is (in the state of) holding a torch.’

(56) ra:dha: masala: ba:t -i -la:g -i -(a)ch -ø -i
Radha spices grind -vl -act -vl -cop -pres -agr
‘Radha is (in the act of) grinding spices.’

19. Let us recall here that the progressive in (21), as in (54), has a frequentative reading too. In both the cases, the [+Dynamic] progressive is not allowed to be bound by a single (deictic) point of time, so it gets the frequentative reading. The same condition seems to apply to the English progressive for its frequentative meaning. See Laca (2005) for the way the semantics of frequentative is constituted.
As summarized in §2.2, the viewpoint morpheme -u bears the [+Dynamic] feature. Thus, it holds ambiguity for all the situation types to which [+Dynamic] is applicable. With its inherent ambiguity it is incapable of making any particular situation type visible. It indicates the [+Dynamic] situation range, but it does not pick out any specific situation from that range. However, in order to make the exact situation type visible the language uses the situation type auxiliaries. The situation type auxiliaries are not obligatory in the language; however, they are selected to make the exact situation type of the main verb explicit and unambiguous. Once the exact situation type feature is given by the corresponding auxiliaries, the gross feature [+Dynamic] indicated by -u is syntactically redundant.

4. Parameter of aspect

The aspectual values of the situation types are universal. However, languages differ as to whether they are projected in grammar morphologically or periphrastically (syntactically). Furthermore, the distinctive aspectual values of the grammatical elements differ (though in a very restricted way) from language to language. Therefore, the parametric differences are tuned to the grammatically marked aspect features.

4.1. Progressive as [+Dynamic] in Odia

We generalized that the progressive and the imperfective contrast on [±Tense] feature. Thus, they grammatically trigger [±Tense] which is a root aspectual distinction. Further, we can generalize that the imperfective (which is [−Tense]) grammatically indicates the aspectual meaning of individual-level predicates; and the progressive (which is [+Tense]) grammatically conveys the aspectual meaning of the stage-level predicate. Krifka, Pelletier et al. (1995) put Individual-level predicates into two types, namely, lexical-stative and habitual-generic.

Mahapatra (2002) shows that in Odia [−Dynamic] states denoted by non-verbal predicates are marked with distinct copulas. The tense-bearing
stage-level copulas *ach* and *th(a:)* mark the stage-level states as well as the individual-level copula *aT*, which cannot bear tense and which has only the imperfective form, marks the individual-level (lexical stative) predicates. Thus, copulas too trigger [+Tense] distinction for non-verbal predicates in Odia.

The progressive, *i.e.* the [+Dynamic], bears the root feature of all [+Dynamic] predicate types. As (1) shows, the [+Telic] feature is always associated with the [+Dynamic]; so, there is no situation which is telic but not dynamic. Thus, accomplishment, which is marked for telicity, is a special type of the [+Dynamic]. This suggests that whatever marks telicity grammatically is a sub-category of the [+Dynamic] marker. A perfective, which indicates telicity, is in fact a relation between [+Dynamic] and [+Telic]. The following tree represents the way the aspectual morphemes polarize the root aspectual features in Odia:

![Tree diagram](image)

In Odia, [−Telic] is a privative feature (marked with the absence of the perfective, the [+Telic] marker). Thus, without the overt presence of the [+Telic] markers (namely, completive or perfective), the [+Dynamic] morpheme becomes a sufficient feature to mark the [+Dynamic, −Telic] predicates, namely, processes and activities.

### 4.2. Progressive as [−Telic] in English

We generalized that the progressive and the imperfective contrast on [+Tense] feature. So, they trigger [+Tense] as a root aspectual distinction in English too. Yet, the aspectual value of the progressive marker varies in Odia and English. Unlike the situation in Odia, the progressive in English, apart from occurring with accomplishments, processes and activities, occurs with (stage-level) states, as illustrated with the following English examples:

(60) Mary is eating an apple.  (Accomplishment)

(61) The earth is revolving on its axis.  (Process)
(62) The dog is biting a bone. (Activity)

(63) a. The book is lying on the table. (S-level state)
b. The statue is standing on the corner. 21 (Smith 1991: 115)

Thus, the English progressive has a feature which is common to the accomplishment, process, activity and stage-level state. However, the above-mentioned situation types share neither the [+Dynamic] nor the [−Dynamic] feature. Therefore, one cannot analyse that the English progressive, like the Odia one, holds the dynamic feature and polarizes the aspectual features to [±Dynamic].

We can say that the progressive in English marks the [−Telic] feature and makes the perfective mark the [+Telic]; and grammatically they trigger the binary opposition [±Telic] which seems to be a basic aspectual distinction for English. If the above observations are true for English then the aspectual values of the grammatical markers in English are as follows:

(64)

Our analysis so far suggests that the progressive in English carries the features [+Tense, −Telic]; and the [−Tense] imperfective, which also occurs with individual-level states (which are [−Telic]) — carries the features [−Tense, −Telic]. The [−Telic] feature being common to them they can occur with states — which are [−Telic]. However, they crucially differ with [±Tense] feature. The progressive being [+Tense] is not available with the individual-level states which are inherently marked for [−Tense] feature. Therefore, it is ruled out with the following sentences.

As we saw, the aspectual value of the progressive marker varies in Odia and English. Therefore, it groups the situation type features differently and indicates different conceptual hierarchies for Odia and English. The basic difference between Odia and English seems to be that while the progressive grammatically bears the aspectual value [+Dynamic] in Odia, it bears the aspectual value [−Telic] in English. This possible variation in choosing the aspectual value for the progressive is a parametric choice for a language.

4.3. Root aspectual distinctions and the parameter for Odia

Though it is less common for languages to show situation type grammatically, invariably languages show the viewpoint morphemes which grammatically trigger different aspectual oppositions, namely [±Tense] or [±Dynamic] or [±Telic]. This indicates the primacy of such aspect features over the situation types (Aktionsarts) in grammar. I will call the aspect features, namely, [±Tense] or [±Dynamic] or [±Telic] the root aspects and the grammatical morphemes which bear such features the root aspect morphemes. By and large, languages show that the number of such morphemes is much fewer than the number of situation types assumed. Apparently, Universal Grammar (UG) is structured using restricted binary values on which the aspectual parameter can be set.

In fact, languages parametrically vary in assigning different values to their grammatical morphemes. The present study shows that the progressive can have either [+Dynamic] or [−Telic] as its aspectual value; therefore, it can group the Aktionsart features differently.

A comparative difference on which languages like Odia can be distinguished from languages like English is the grammatical presence versus absence of the situation type auxiliaries. Predicates, in languages like Odia can check their Aktionsart features either with the situation type auxiliaries or with the root aspect morphemes— as redundancy (double checking) of them is avoided. Predicates in Odia by agreeing with the related situation type auxiliaries can grammatically check their finer aspectual features (situation types); but predicates in languages like English do not do so grammatically. Considering the fact that there are not many languages which overtly express situation type features, the absence of the situation type features in grammar is normal; however languages do not show the absence of root aspects, namely [±Tense] or [±Dynamic] or [±Telic], in grammar. Thus, their presence seems to be universal. Their universal presence seems to suggest that every language grammatically needs to check them as the most salient aspectual features of the lexical predicate; and such aspect features are grammatically available
with the functional grammatical morphemes which essentially check such features of the predicates. However, languages may differ, parametrically, in grammatically setting different aspectual values for their root aspects. For instance, while the progressive in a language like Odia grammatically triggers [±Dynamic], in English it triggers [±Telic].

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RéSUMÉ
On suppose généralement que les aspects situationnels (les aktionsarts) sont marqués lexicalement sur le prédicat. En Oďia, pourtant, ils peuvent être exprimés grammaticalement au moyen d’un ensemble fermé d’auxiliaires. Concernant les aspects marqués grammaticalement (les aspects de point de vue), l’Oďia possède un marqueur progressif mais n’a pas de marqueur perfectif ou imperfectif visible. Le marqueur habituellement appelé « perfectif », qui sert aussi de marqueur de « participe conjonctif », reçoit ici une analyse unifiée comme marqueur de linéarisation verbale. Notre analyse montre également qu’en Oďia, la perfectivité prend la forme d’une séquence qui consiste en un verbe événementiel plus un auxiliaire copule, c’est-à-dire un événement suivi d’un état. Nous faisons remarquer qu’à travers les langues, le morphème progressif ne peut pas recevoir d’interprétation en l’absence de traits de temps et de monde. Au contraire, le morphème imperfectif efface ces traits. En somme, ce travail propose que « l’imperfectif » et « le présent simple » sont des structures alternatives paramétrées qui ne valident pas les traits de temps et de monde. Bien que la forme progressive porte invariablement un temps grammatical, sa valeur aspectuelle varie selon les langues. En Oďia, sa valeur est [+Dynamique] mais en anglais sa valeur est [−Télique]. Les valeurs [+Dynamique] ou [−Télique] constituent un choix paramétrique des langues.

MOTS-CLÉS
Aspect, dynamique, imperfectif, irrealis, linéariser, paramètre, perfectif, progressif, realis, type de situation, télique, point de vue.