

# Additional notes along chp. 5 of the Kaplan Book

**Everything on this handout is relevant for the final exam!**

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Note that not all in this chapter is actually related to subcategories of V and N. Actually, passives and the ‘middle voice’ can only be related to subcategories of V if they are treated as I do it here, and **not** if you do it like Kaplan.

## 1 $\varphi$ features and Agreement

If we think about properties of lexical entries as features, we can very well say that PERSON, NUMBER, and GENDER are features of nouns. Once more, they are features the noun just has (in the lexicon), they do not just pop up in the syntax. What this means is: If you talk about two or more objects, you will not start conceptually by putting your verb in the plural – the multiplicity is a characteristic of the objects, and thus plurality is a property of the noun which refers to the object(s).

For syntax, even occurrences of the same word in the singular and in the plural should probably count as two different words, because one is [-plural], the other one [+plural]. Features are all that syntax can see to distinguish words, and once some relevant feature has a different value, syntax will look at the words as different. Now: Person, number, and gender features are definitely relevant to syntax, because a singular noun needs a singular verb if it is its subject, and so on. The collection of these three kinds of features is called a noun’s  $\varphi$  features<sup>1</sup>.

Usually, verb and subject **agree** w.r.t. their  $\varphi$  features (the phenomenon is called **agreement**). This just means that they must have the same  $\varphi$  features: A plural subject requires the verb to be in the plural, a first person subject requires a first person verb. In the Russian past tense, the verb even has special forms for gender agreement.

The so-called **constructio ad sensum** occurs when verb and noun seem to disagree w.r.t. the

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<sup>1</sup>  $\varphi$  is the Greek letter **phi**, read [fai].

plural  $\varnothing$  feature, because something is perceived as a singular or plural entity, but the language morphologically encodes it the other way round.

- (1) Outside town **is** the Morris Motor Works.
- (2) The police **are** looking for a man in its late twenties.

In this case, we're just tricked by the morphology. 'Morris Motor Works' and 'police' are stored in the lexicon with these fixed phonological plural/singular forms, but their  $\varnothing$  features are singular/plural respectively, of course. This should illustrate the usefulness of our conception of the lexicon and of features.

Some languages do things differently (or in a richer way) than English or even German or Latin: Instead of a two way gender distinction, Bantu (and many other) languages have a rich system of **classes** (which could also be encoded as  $\varnothing$  features). Possibly, these were once used to sort nouns into classes for large things, small things, humans, animals, etc. Only in the history of the language have these distinctions become blurred and arbitrary. Now, they are just arbitrary grammatical classes, and one has to learn into which class a certain noun belongs. As for number, some languages have a **dual** number for marking NPs which refer to two objects. Some languages even have a distinct **paral** for things that come in pairs (such as eyes). In English, the 'pair of ...' construction is like a paral, but of course it isn't a grammatical form, so it doesn't count as a paral.

## 2 Case, Case-marking Prepositions

In English, we have three distinguishable case forms: nominative ('I', 'he'), accusative ('me', 'him'), and genitive ('my', 'his'). As opposed to  $\varnothing$  features, case is not an **intrinsic feature** of the noun (a feature which is in the nature of the noun). Case seems to depend on the verb or (in case of the genitive) on the noun with which the cased noun cooccurs. Let's deal mainly with nominative and accusative here.

We say that these cases are **structural cases** which are **assigned by the verb to the NP**. We also assume for good reasons that these cases are **always** assigned to the NPs in the proper (subject or object) position, even though we only see them morphologically (in English) when the NP is a pronoun. We can thus make a first approximation of a case theory for English:

- (3) Nominative is always assigned to the left argument (=subject NP) of the verb.
- (4) Accusative is always assigned to the right argument (=object NP) of the verb.
- (5) For Accusative assignment, the object NP must be **adjacent** to the verb (nothing must come in between).

Notice that prepositions seem to assign case as well, viz. accusative: 'She walked [towards **her**].' In some cases, however, when certain verbs require an additional PP (such verbs are said to **subcategorize for a PP**), the preposition does what additional cases do in other languages

(such as the dative in German). In these cases we assume that the preposition loses its own semantic content and just stands in for a case form. These are called **case-marking prepositions**. See 6.

- (6) a. \* She reached.  
b. She reached [for her].

### 3 Dative Shift

One nasty construction of English is the so-called **double-object construction** which can undergo **dative shift**. Some verbs like ‘give’ take two objects, one (the indirect object) being marked by the case-marking preposition ‘to’:

- (7) I give [the book] [to Mary].

Not very exciting so far. But if this sentence undergoes dative shift, we get this:

- (8) I give [Mary] [the book].  
(9) He gave [her] [him].

Now, we suddenly seem to have two accusative objects (cf. 9). How this construction actually works is a matter of some debate.

### 4 Arguments and Thematic Roles

**Transitive** verbs take two arguments (subject and object), whereas **intransitives** only take one (just a subject). Verbs with two objects are called **ditransitive**. Actually, as we have seen, English verbs always require a nominative subject, but the arguments on the right side can be accusative NPs or sorts of PPs – on the first handout we actually saw ‘that’ clauses as objects as well.

If we stick to nominal (NP) arguments for the time being, we can make the minimal claim that the verb has to hold lexical information about the **number** of its arguments. A transitive verb will have some lexical marking that it needs two arguments. For an intransitive verb, this marking will specify that it needs only one argument. Since every verb comes with a subject, and some verbs only have one argument, we can assume that the first argument will always be put to its left as a subject, and it will always receive nominative case in that position. The second one will in the standard case be realized to its right and receive accusative case. For other arguments, special rules seem to be involved to determine where and how (as what kind of PP) they are realized.

Is it possible that the verb knows more about its arguments than just their number? Now, a verb can be thought of as describing<sup>2</sup> a situation, and the argument NPs denote the objects involved

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<sup>2</sup> Sloppy terminology for explanatory purposes only!

in the action/event that is going on in that situation. As it turns out, the kind of **role** the objects referred to by the NPs play in such situations has grammatical consequences. We call these roles **thematic roles** or  **$\theta$  roles**.<sup>3</sup>

Before turning to the passive, let's illustrate this by looking at German perfect tense forms: They are formed either with 'haben' or 'sein':

(10) Er hat eingekauft.

(11) Er ist geplatzt.

If you think about which verbs take 'sein', you will notice that the subject referent never plays a very active role in the situations covered by the verb. It is not in full **volitional control** of the action or event. In general: You have those verbs which have one argument the referent of which performs an **AGENT role** (like 'einkaufen'). On the other hand, you have those (like 'platzen') where the referent of the subject performs the role of a non-active undergoer of the action. Let's call this the **PATIENT role**. That is, the simplified lexical **thematic structures** of these verbs look like this:

(12) einkaufen: [AGENT-NP]

(13) platzen: [PATIENT-NP]

This gives us a good explanation for the auxiliary selection properties of such verbs in German (and Italian, etc.). We call the type in 12 **unergatives** and the type in 13 **unaccusatives**. The unaccusative/unergative distinction is thus a distinction between different types of intransitive verbs.

Transitive verbs will need to be equipped with a list containing two such roles. Take 'cut':

(14) cut: [AGENT-NP, PATIENT-NP]

The first element on this list will always be realized as the (nominative) subject to the left of the verb, the second one as an object:

(15) [He] cut [him].

What about **passives**? Kaplan tells you that NPs are pushed around, 'function words are added' etc. Couldn't we just say that before the sentence is formed, the verb undergoes the following change in its thematic structure:

(16) [AGENT-NP, PATIENT-NP]  $\xrightarrow{\text{passivize}}$  [PATIENT-NP]

This operation would turn transitive verbs into unaccusatives by deletion of the AGENT role. And behold: In German, the passive always takes the perfect Aux 'sein'! This also explains why the object of the active sentence appears as the subject of the passive sentence: It becomes the first argument on the  $\theta$  list through application of 16, and thus will automatically be realized to the left of the verb as the subject.

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<sup>3</sup>  $\theta$  is the Greek letter **theta**.

Obviously, every transitive verb can be passivized, and it's the passive auxiliary and the verbal morphology which mark the omission of the AGENT role. So, in the passive it's the same verb as in the active, and it's the construction and morphology which mark the erasure of the AGENT role. Notice that in Kaplan's **middle voice**, the AGENT role is stripped away from the verb, too! However, at the same time the verb acquires a **generic or general meaning** ('The book sells well.' = 'Generally, this book is sold quite often.'). The fact that this can by no means happen to every transitive verb (\*'This book owns nicely.'), the fact that the valency reduction is not marked by a special construction, and the fact that there is an additional shift in the verb's meaning towards a generic interpretation indicate that we can treat 'middle voice' verbs as distinct from the active verb. The deletion of the AGENT role happens at a deeper level, and active and middle verbs are probably both stored independently in the lexicon.

The criteria to distinguish middle and passive are:

<b>middle</b>	<b>passive</b>
active construction	passive 'be ...-en'
generic meaning	no generic meaning
only with selected verbs	with every transitive verb

Let's finally turn to **causatives**. Again, we can reduce causativization to an operation on argument structures. Look at the examples 17 and 18 again.

(17) The ice melts.

(18) The sun melts the ice.

Here, we seem to turn an unaccusative into a transitive, right? So, we can assume the operation in 19.

(19) [PATIENT-NP]  $\xrightarrow{\text{causativize}}$  [AGENT-NP, PATIENT-NP]

In German, this operation is marked by the 'lassen' construction, in other languages there is special verbal morphology (such as the affix '-sasu' in Japanese).

### **A note on verbs of motion as unaccusatives**

Some verbs of motion seem to involve volitional control and AGENT-hood in general, such as 'walk'. It is usually unintuitive to think of them as unaccusatives. Nevertheless they behave like unaccusatives in many languages of the world. There are many ways to tackle this problem. One could, for example, say that our definition of the AGENT role is only an approximation, and that a realistic description would involve other features or just more features of AGENT-hood than volitional control etc. This would mean we just haven't found the right definition for what an AGENT role is. Alternatively, we could develop a more flexible theory of how the semantic information encoded in a verb is **mapped** to its syntactic arguments. There is an active discussion about such matters which we unfortunately cannot even start looking at.

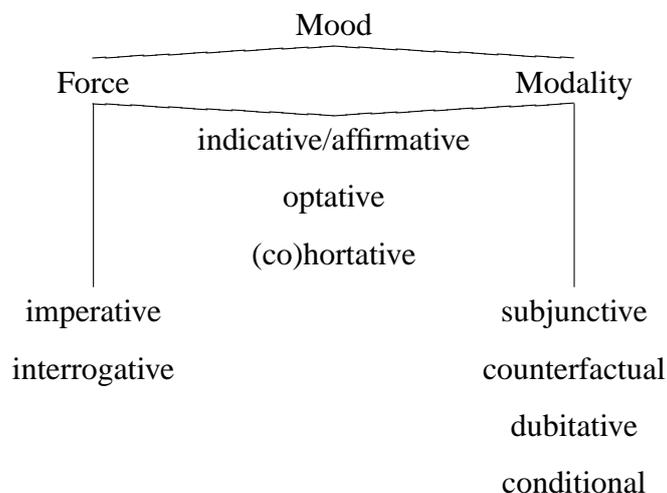
## 5 Mood

Grammatical mood actually marks two things not directly related: the **communicative force** of an expression and **modality**. The **indicative mood** is neutral w.r.t. both notions. Indicative sentences refer to a state of affairs and **affirm** that this state of affairs holds. If it doesn't hold, then the sentence is false. Of course we cannot always determine whether an **affirmative sentence** describes an actual state of affairs or not, but that is just because we humans are seriously flawed and not omniscient.

All moods besides the indicative/affirmative deviate in some way from this straightforward affirmative character. Some (the force-related moods) like imperative and interrogative have special functions in a discourse or in human interaction in general. The others (those which introduce modality) are marked as *not simply conveying a true fact about the real world*. Modality comes into play whenever an utterance is marked as possibly true, as a hypothetical option, as something about the truth of which the speaker cannot be sure, as something which the speaker wishes to be true etc. Modal utterances involve truth in worlds (possibly) different from the real world.

One further problem with the notion of mood is that there are a lot of moods one can find in the languages of the world. Usually, we only speak of mood when there is a distinct marking of a specific mood function on the verb (such as the indicative, subjunctive, optative in Ancient Greek, which are morphologically distinct). However, every language can mark sentences as optative, conditional, imperative, interrogative, etc. This marking just very often comes in the form of special constructions, particles, auxiliaries, and so on. So, we can transcend the traditional notion of mood (which always comes with special morphological marking) and use **sentence mode** instead. The mode of a sentence can be expressed by all the aforementioned different means grammars have in store.

Here are some of the proposed moods – or modes as we might want to call them:



The optative marks wishes considered fulfillable by the speaker, the cohortative marks a wish or collective self-command (the 'Let's go!' kind of sentence). Interrogative marks questions. In

English, this is done by **subject-auxiliary inversion** ('Did you ...'), but some languages have morphological marking for questions. In Japanese, you just put the particle 'ka' at the end of the sentence to mark it as a question.

The **subjunctive** marks hypothetical sentences. In English there are modal auxiliaries to do the job of subjunctives: e.g., 'could' and 'would'. In 'if' clauses, a true morphological **hypothetical subjunctive** exists:

(20) If I **were** the king of France, I'd shave my head.

Subjunctives are also used to make statements sound indirect and thereby polite:

(21) Sie **dürften** jetzt eintreten.

In other languages, subjunctive is grammatically triggered by certain verbs or conjunctions without the subjunctive marking any kind of special function. In French, 'bien que' is such a conjunction which requires the subjunctive.

(22) Elle me déteste bien que je ne **fasse** rien.

Such subjunctives are usually called **Subjunktiv** in German, the true subjunctives as in 20 and 21 are called **Konjunktiv**.

## 6 Modality

Let me just quickly point out that modality comes in many disguises in English. Just behold the following table.

modal auxiliaries	'I <b>might</b> find the answer.'
affixes	'Frau Eckardt is recognizable.'
adverbs	' <b>Maybe</b> the penny has dropped.'
unmarked	'This car drives 200 mph.' (in the sense of 'can drive')

## 7 Tense: Reichenbach

Tense is a linguistic manifestation of our perception of time. Time as we perceive it seems to have certain interesting properties, just informally defined here.

<b>linearity</b>	Time proceeds in a linear forward fashion.
<b>unboundedness</b>	There is no imaginable starting or endpoint of time.
<b>composition</b>	Time is a sequence of either instants or intervals (depends on the theory).
<b>density</b>	Between every two instants there can be another one.

Actually, this means that we perceive the **timeline** to be much like the sequence of real numbers! Some portion of the logic by which we perceive time has made it into the language system as **tense**. We have grammatical ways of relating events about which we speak to other events on the timeline. Again, there are lots of ways to mark such temporal relations. Very often, however, temporal relations are not marked at all. Especially the present tense can be used to refer to past, present, future events etc.

morphology	‘Tokugawa Ieyasu <b>died</b> .’
construction/Aux	‘Rikyū <b>has invented</b> the Wabi-Cha ceremony.’
adverbials	‘ <b>Next week</b> , it’s over.’
implicit/discourse structure	He opens the door. He walks in. He closes the door. (a temporal sequence of events, not explicitly marked)
conjunctions	‘ <b>Before</b> he went, he hit the man from the RIAA.’

How do we capture the meaning of such tenses? Kaplan gives you E and S as event time and speech time. This is a good approximation: By using the past tense, we mark that the event we’re talking about happened at E, which is before S. This theory is simple, however, if you try to apply it to even moderately complex tense systems like that of English.

Hans Reichenbach, in (Reichenbach 1947) has developed a theory which is significantly better. He introduced an additional point in time relevant to the interpretation of certain tenses: the **reference time R**. As you might have noticed, the theory is not very intuitive in as much as it is not very clear what the relation between R and E (the ‘event viewed from R’ relation) exactly is. We’ll try to clarify it as we proceed.

What’s so special about the perfect? If you say ‘I have opened the door.’, the opening event occurred in the past, of course, but you’re interested in it from the viewpoint of the speech time. Usually you’re only interested in a past event viewed from the speech time if the **result state** of the event still holds. That is the main characteristic of the perfect. If the event occurred in the past, and there’s no recognizable relevance for the present time, then you use the simple past, marking that you’re interested in the event from the time of the event. This also accounts for the **hot news perfect** as in ‘The president has resigned!’ (cf. Kaplan): The reported event occurred in the past, but it is still highly relevant for the present moment (because it happened only shortly ago and probably has important consequences: its result state).

Shifting the viewpoint in such a manner is what R does. We thus get the following distinctions, taking  $a < b$  to be ‘a occurs earlier than b’ and v.v.:

(23) for simple tenses:  $E=R$

(24) for perfect tenses:  $E < R$

(25) past:  $R < S$

(26) present:  $R=S$

(27) future:  $R > S$

And the following permutations:

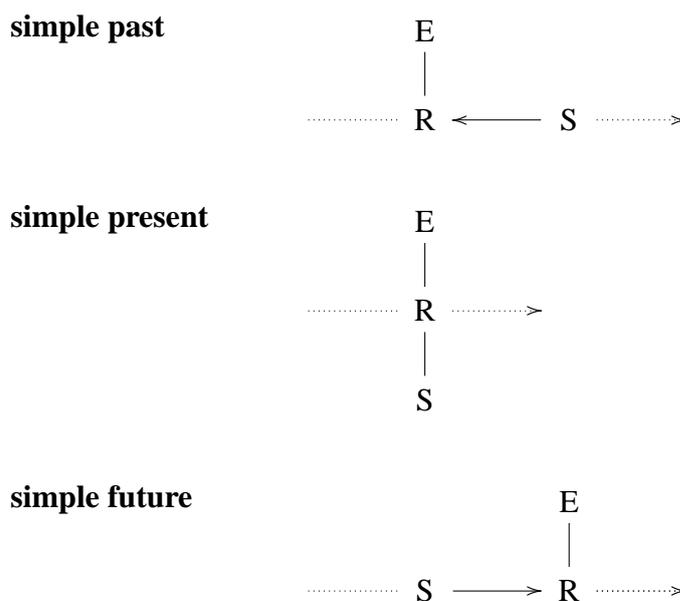
	<b>past</b>	<b>present</b>	<b>future</b>
<b>simple</b>	<i>simple past</i> E=R R<S	<i>simple present</i> E=R R=S	<i>simple future</i> E=R R>S
<b>perfect</b>	<i>past perfect</i> E<R R<S	<i>present perfect</i> E<R R=S	<i>future perfect</i> E<R R>S

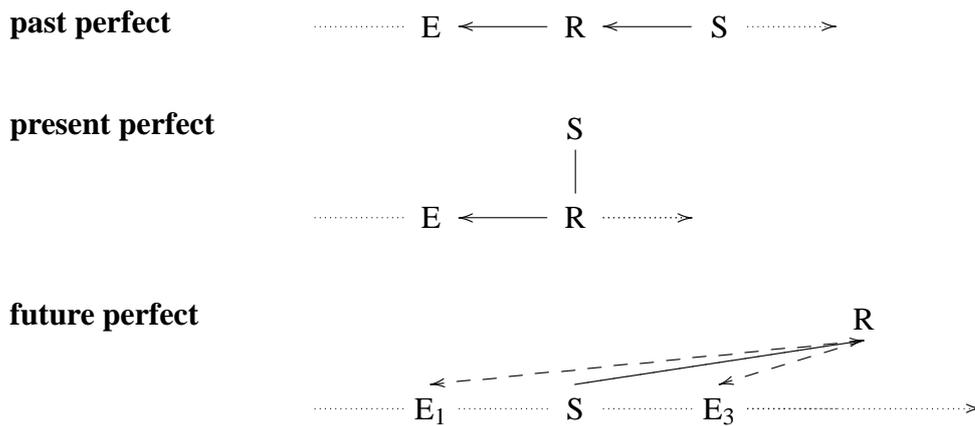
These conditions are actually sufficient, although we never say anything about the relation between E and S anymore. They are only related via R. Think of the future perfect as in 28.

(28) I will have finished the handout.

In the future perfect, you're viewing an event from the future ( $R>S$ ), and from that future viewpoint, the event is in the past ( $E<R$ ). This means, however, that the event (E) can be located before or after the speech time. If it is located before the speech time (if, for example, I have finished the handout at the speech time already), then using the future perfect will be odd, because it is not very informative for the hearer. But the sentence in 28 would still be true, even though not very informative.

The following table visualizes the simple and perfect tenses in the common **timeline format**. The timeline is dotted. The relevant constraints from the table above appear as solid-line arrows (for < and >) and solid lines (for =). The dashed lines for the future perfect indicate optionality. It will be either the one or the other.





## 8 Aspect: Moens & Steedman

The goal of this chapter is to explain how the English progressive and the perfect work. This is not an entirely semantic question, because in the case of the progressive, there are subtle interactions between the (aspectual) subclass of the verb and the constructions it can appear in. **Aspect and aktionsart** are related to the **internal structure of events** as they are referred to by verbs. The classical distinction between **perfective** and **imperfective** is sometimes referred to as aspect proper, all other phenomena to be discussed here being called aktionsart. In traditional terms, a perfective verb refers to an event as a whole, not as an ongoing process. The imperfective refers to an event as ongoing, open, unfinished. In Russian, this aspectual distinction is rigidly marked by grammatical means. The difference of 29 and 30 would be marked by a special form of the verb, the rest of the sentences being identical.

(29) Yesterday, I read the (whole) book. (perfective)

(30) Yesterday, I read (some of) the book. (imperfective)

In the first case, the action of reading the book is finished. In the other case it isn't, so the book might remain unfinished, too. This illustrates the classic notion of aspect, the perfective/imperfective distinction.<sup>4</sup>

But there are many other linguistic form/constructions of focussing on parts of events or on the way in which it is progressing. We shall here refer to all of these as aspect in the broader sense.

<sup>4</sup> One trap here is to mix up perfective and perfect. Perfectivity is an aspectual notion, independently realized by grammatical means in some languages. Perfect, on the other hand, is a tense form with an aspectual twist. This aspectual twist is not the same as perfectivity. The perfect sentence 'I have lived here for a long time.' is used in situations where the living-event is still going on. So, it can't be perfectivity in the sense that the event is closed and referred to as a whole. In English, the progressive/non-progressive distinction is much closer to the perfective (non-progressive)/imperfective (progressive) dichotomy. Reichenbach tried to capture the perfect notion by introduction of the R point, and we're going to introduce a more flexible way below.

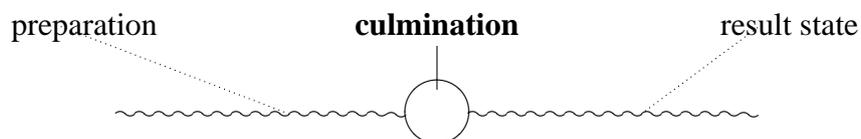
## 8.1 Aspectual Classes

The most important fact to realize is that verbs themselves come with fixed lexicalized aspectual notions. They form **aspectual classes**. Some verbs refer to punctual events (‘sneeze’), some to processes (‘run’, ‘build a house’), some to punctual achievements (‘recognize’). We start by finding out what aspectual classes of verbs we need. Then, we can see what the English progressive and perfect do to the different classes.

The model from Moens and Steedman (1988) is in fact very simple. They assume that a verb denotes events which either have or don’t have a **consequent state**. The second criterion is whether they are temporally **extended** or **atomic** (non-extended/punctual). Extended events are perceived as taking up a considerable time interval. We get the following permutations.

	<b>atomic</b>	<b>extended</b>
<b>+conseq</b>	CULMINATION (recognize)	CULMINATED PROCESS (build a house)
<b>–conseq</b>	POINT (hiccup)	PROCESS (run)

The events described by verbs are taken to have the following maximal **internal structure**, called the **nucleus**. It’s maximal, because some events don’t have the full structure as given here.



You might object that every event has some consequences! Even hiccupping leaves the hiccupper and the world around her/him in a state which is distinct from their previous state. Running has consequences, too, of course. However, these consequences are not in any way conventionalized and encoded in the language. They are, in a way, not relevant enough to play a role in the grammatical system. The same goes for the objection that even the shortest event covers an interval instead of a perfect point in time. The length of a hiccupping is too irrelevant to allow the word ‘hiccup’ to refer to an ongoing action.<sup>5</sup>

One important concept needs to be understood before we get to Moens & Steedman: **coercion**. Assume some verb refers to a CULMINATION, but some construction or verb form can only be applied to verbs which refer to a CULMINATED PROCESS. In such cases the grammar is

<sup>5</sup> Don’t be lead to think that these are lame excuses in favor of a system that doesn’t work or simplifies matters too much! We make these distinctions because they play a detectable role in the grammar. As you will see in the following paragraphs, the aspectual classes we construct lead to different results when inserted into constructions like the progressive. And verbs of different classes combine with different adverbs, too! You must realize that language is conventionalized: It freezes certain concepts about the world which we (unconsciously) have into the grammar. This has nothing to do with what we consciously and intellectually know. In the system of the English language, hiccupping just appears as a POINT, not as a PROCESS.

sometimes allowed to **convert** the verb into something that it isn't originally. This conversion is called coercion; it's the conversion of a word into something else under the pressure of a certain linguistic construction. As you see in the case of Moens & Steedman, the conversions allowed are **restricted**; not everything can be coerced to whatever is needed.

Why does...

- ... **'recognize' refer to a CULMINATION?** Recognizing something or someone is an event which usually just happens to you (atomic). In the recognizing itself, there is no phase involved during which one tries to recognize or gradually recognizes the object of recognition. If there is such a phase, you would never encode it by using the verb 'recognize': '\*I recognized her for an hour.' Instead you would use another verb like 'try to recognize' to describe that phase: 'I tried to recognize her for an hour.' However, having recognized something, you are in the state of knowing what you have recognized; your knowledge about the world has changed, and it remains changed. This is why CULMINATIONS are [+conseq]. They have a culmination point and a result state.
- ... **'build a house' refer to a CULMINATED PROCESS?** Building a house means to start building (start digging the whole), keep building (putting stone on stone), and at some point to decide that it's a complete house. Once more, it will have a consequence, namely the existence of the house! As long as you haven't finished building it, you will be in the preparation phase, the moment of decision that it's done will be the culmination. And the result state is the time until the bulldozers first hit the house to bring it down. So, building a house is clearly not atomic, and it's also [+conseq].
- ... **'hiccup' refer to a POINT?** Hiccupping has no standardized characteristic consequences, so it's [-conseq]. It has no temporal stretch worth mentioning, and thus you cannot prepare a hiccupping (atomic). In the diagram of the event nucleus, it will only be a culmination point. Put simply: Hiccupping just happens to you; it comes out of nowhere and leaves again immediately without consequences.
- ... **'run' refer to a PROCESS?** running obviously takes some time (extended). You cannot run without using up a noticeable amount of time. Probably something will only count as a running event if you make at least five to ten steps in a fast enough fashion. However, running events are not structured: There is no culmination point at which one can say that the running has now taken place. Also, after having run, the runner and the world around will not have changed significantly or permanently. That's why a PROCESS is [-conseq]. In the nucleus diagram, it's just a 'preparatory phase' without culmination or result.

## 8.2 Progressive

The English progressive construction ‘be . . . -ing’, as Moens & Steedman tell us, works on verbs referring to a PROCESS. The PROCESS verb in the progressive then denotes a **progressive state**, a state which is characterized by a process going on at the time of speech. Actually, it’s going on at the reference time, but that won’t play a role as long as we stick to the present. Behold 31.

(31) Peter is running.

This is true when at the time of speech, the process of Peter’s running is going on.

**Coercion from POINT to iteration-PROCESS:** What happens if we put a verb that denotes a POINT event into the progressive? We cannot stretch punctual events like a hiccupping and say that there is a state of one hiccupping event going on at the moment. Instead, the POINT is coerced into an **iteration**, the PROCESS of continuous and repeated hiccupping. So, the only way to turn a POINT into a progressive state is to have several such POINTS (several hiccuppings) in a row as in 32.

(32) Peter is hiccupping.

**Coercion from CULMINATED PROCESS to PROCESS:** If you have a verb denoting a CULMINATED PROCESS such as ‘run a mile’ and put it into the progressive, the easiest way to turn it into a PROCESS is to remove the culmination point and the consequent state and focus on the preparation phase. Take 33.

(33) Peter is running a mile.

This sentence is true under the condition that Peter is in the preparatory phase of running a mile; he has started running, but the culmination (reaching the mile) has not yet occurred. More interestingly, the culmination doesn’t even have to occur! Peter can have been running a mile without ever finishing, because in the progressive, the necessity of there being a culmination is removed by coercion. This is known as the **imperfective paradox** since Dowty (1978). Let’s illustrate this again in 34 and 35. With the progressive in 34, the house might never have been finished, because the culmination was stripped away. The simple (non-progressive) past sentence in 35 will only be true if the house was actually finished at some point.

(34) Peter was building a house.

(35) Peter built a house.

**Coercion from CULMINATION to PROCESS:** This is difficult, because if you take a CULMINATION like ‘reach the top’, there is no preparation to focus on. If used with a progressive, we therefore need to add a preparatory phase. This preparation will contain whatever other events precede the CULMINATION. In the case of reaching the top, this will probably be some climbing event.

(36) Mary was reaching the top.

This is highly interesting since the reaching of the top is actually removed from the verb's denotation. In this case we are just talking about a climbing which is intended to lead to a reaching of the top. So, the following is also a perfectly possible utterance.

(37) Mary was reaching the top. But unfortunately she had to return before she got there.

### 8.3 Perfect

The English perfect construction, according to Moens & Steedman, needs a CULMINATION verb. What the CULMINATION verb in the perfect will denote, is the **result state** which must still hold at the speech time. This is more explicit than the Reichenbach solution, because the result state really seems to be the most markable thing about the perfect. Look at 38.

(38) Peter has recognized Mary.

For this to be true, at some point in the past there must have been a culmination of Peter recognizing Mary, and Peter is still 'in recognition' of Mary at the time of speech.

That the result state must still hold can actually be tested by linguistic means. The utterance in 39 is nonsensical because the speaker is denying the result state (the coffee still being spilled).

(39) # I have spilled the coffee and Mary cleaned it up again.

To convince yourself that coercion is actually restricted, look at 40.

(40) \* The star has twinkled.

'twinkle' is a POINT. By no means can we construct a result state for twinkling, hence such verbs can't ever be put in the perfect.

**Coercion from a CULMINATED PROCESS to a CULMINATION:** If you use a CULMINATED PROCESS verb like 'climb the mountain' with the perfect, then the whole nucleus (preparation, culmination, and result state) of the actual event referred to by the verb are re-interpreted as a single culmination, and a new result state which captures the larger consequences of, e.g., having climbed some mountain, are referred to. Look at 41.

(41) Have you climbed Mt. Everest yet?

41 cannot be asked in a situation when the climber is still actually climbing. Suppose it's a question asked by some fellow climber (who stayed at the base camp) over the radio. This question cannot be about the simple result state of the climbing (which would be the standing on top of Mt. Everest). It is more in the spirit of the **existential perfect** as mentioned in the Kaplan book. That means that the result state considered in this case is the one after the climbing, reaching the top, getting down, etc. It's the result state of the whole venture of climbing Mt. Everest, not of the actual climbing.

## References

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