The Progressive in English

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The Empirical Ground

As is well known, the ordering of the English auxiliaries is rigid (cf. **?**), as illustrated in (1).

(1) (a) {T, Mod} ≺ Perf ≺ Prog ≺ Pass ≺ V
     (b) He could have been being interviewed.
     (c) *John is having returned.
     (d) *John is being hunting.
     (e) *John seems to have had already eaten.

(2)   **The -ing Participle**
        (a) John is runn*ing*.   *Progressive -ing: activities*
        (b) John is draw*ing* a circle.   *Progressive -ing: accomplishments*
        (c) The danc*ing* children are happy.   *Attributive -ing participle*
        (d) Danc*ing* is fun.   *Gerundive*[1]

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[1]The gerundive here actually encompasses a host of subtypes, as is well known from the literature. In fact, since this book deals with verbal extended projections, it will not deal with these in any detail, although it will try to provide a motivation for the existence of this family of more nominal like expressions built around *-ing* forms.

(3)   **Auxiliary and Main Verb Be**
   (a) John *was* in the garden.   *PP-predication be*
   (b) The computer *was* broken.   *AP predication be*
   (c) The metal *was* hammered flat.   *Passive be*
   (d) The thief *was* running.   *Progressive be*

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•Derive the ordering of forms without item-specific templatic specifications.
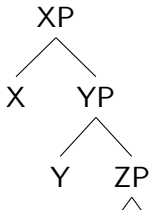
Morphosyntactic Assumptions

(4) *Span*:
     A span is a contiguous sequence of heads in a
     complementation relation.

Thus, in an abstract tree structure such as the one shown in (5),
vocabulary items can be specified via their category features, to
spell out any contiguous span of heads in the complement
sequence.

(5)

```
        XP
       /  \
      X    YP
          /  \
         Y    ZP
```

In addition, I will assume the 'spanning' version of the elsewhere condition here which says that while an LI can be inserted into a structure that contains its category features as a subset, it cannot be inserted in a tree where the LI does not possess the feature.[2] If we tried to insert LI $< X,Y >$ to span category heads X, Y and Z, then *specificity* will be violated. These two principles are listed below in (6).

(6)   (a) *Contiguity*: An LI can only be inserted in a phrase structure tree as the exponent of a SPAN if it spans a contiguous sequence of heads in the structure.
         (b) *Specificity*: An LI can only be inserted in a phrase structure tree as the exponent of a SPAN if its lexical entry contains all the features in the span.

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[2]See ? for an explication of the equivalence between DM's version of Elsewhere in terms of underspecification ('The Subset Principle') and the version required by the spanning approach ('The Superset Principle').

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- Competition in this domain needs to be recast in terms of efficiency/economy of structure.
- Late insertion in the functional domain.

Syntax: The Progressive is in the First Phase

(Harwood 2011).

(7) (a) *There could have been being <u>a truck</u> loaded.
     (b) There could have been <u>a truck</u> being loaded.
     (c) *There could have <u>a truck</u> been being loaded.
     (d) *There could <u>a truck</u> have been being loaded.
     (e) *There <u>a truck</u> could have been being loaded.
     (f) <u>A truck</u> could have been being loaded.

Even when the progressive itself is not present, we see that the position to the left of the perfect participle is still unavailable, while the position to the left of the main verb and passive participle is fine, as we see in (8).

(8) (a) There could have been <u>a truck</u> loaded.
     (b) *There could have <u>a truck</u> been loaded.
     (c) *There could <u>a truck</u> have been loaded.
     (d) <u>A truck</u> could have been loaded.

Similarly, leaving out the perfect and building sentences with just the progressive and the passive as in (9), shows exactly the same restriction: there is 'low' subject position to the left of the progressive participle.

(9) (a) *There could be being <u>a truck</u> loaded.
     (b) There could be <u>a truck</u> being loaded.
     (c) *There could <u>a truck</u> be being loaded.
     (d) <u>A truck</u> could be being loaded.

The 'low' position of the subject is thus at the left edge of a domain that can include the *-ing* participle and the passive participle, but not the perfect participle.

VP fronting and pseudoclefts

(Sailor 2012)

Turning now to a distinct phenomenon concerning displacement,

(10)   (a) *. . .   [eaten], they will have been being.

         (b) . . .   [being eaten], they will have been.

         (c) *. . .   [been being eaten], they will have.

         (d) *. . . [have been being eaten], they will.

(11)   (a) A: John should have been being praised. B: No, . . .

         (b) *. . .   [criticized] is what he should have been being.

         (c) . . .   [being criticized] is what he should have been.

         (d) *. . .   [been being criticized] is what he should have.

         (e) *. . . [have been being criticized] is what he should.

When the progressive is not present, we see that the constituent consisting of the passive participle can also be fronted much like the progressive participle phrase. Nevertheless, the perfect participle phrase and the infinitival phrase selected by the modal are not legitimate targets.

(12)   (a) If Mary says that the cakes will have been eaten, then
            . . .
            (b) . . .   [eaten], they will have been.
            (c) *. . .   [been eaten], they will have.
            (d) *. . . [have been eaten], they will.

The examples in (13) show that when both the progressive and passive are present in the absence of the perfect, it is still the *-ing* phrase that fronts. The fact that the passive participle phrase does not front on its own seems to indicate that what is being targeted here is the maximal phrase of a certain type.

(13)   (a) If Mary says that the cakes will be being eaten, then
            . . .
        (b) *. . .   [eaten], they will be being.
        (c) . . .   [being eaten], they will be.
        (d) *. . . [be being eaten], they will.

These facts show that there is a privileged boundary at the point between Perfect *-en* and Progressive *-ing* which is not dependent on the surface presence of any specific aspectual feature or morphological exponent.

British nonfinite *do*-substitution

Finally, I turn to an argument of my own from British nonfinite *do*-substitution, which exposes the same essential division. In British English, *do* is an abstract pro-form that substitutes not just for eventive verbs but for stative verbs as well, after an auxiliary.

(14) (a) John might leave, and Mary might do also.
      (b) John might really like oysters, and Mary might do also.

No substituting for auxiliaries.

(15)   (a) John might have seen the movie, and Mary might
        (*do) also.
        (b) John might be singing a song, and Mary might (*do)
        also.

However, even within these constraints, not all nonfinite main verb forms may be substituted for by *do*:

(16)   (a) John might leave, and Mary might do also.
        (b) John has left, and Mary has done also.
        (c) John is leaving, and Mary is (*doing) also.
        (d) John was arrested, and Mary was (*done) also.

- *-ing*-Phrases, Passive *-en*-phrases and main verb phrases all contain a base position for the external argument
- *-ing*-Phrases, Passive *-en*-phrases and main verb phrases all form a unit with regard to independent mobility
- *-ing*-Phrases, Passive *-en*-phrases and main verb phrases cannot be substituted by the pseudo-auxiliary verb *do* in British English

British English nonfinite *do*-substitution is a pro-form for the higher, but crucially not the lower domain. This makes the difference between the British English dialects and the more restrictive ones, such as the American, quite simple to state: standard dummy *do*-support in the US dialects has only finite instantiations, British English possesses a non-finite version of this *pro*-form as well. If we locate passive *-en* in *-en$_{pass}$P*, and *-ing* in *-ing$_{prog}$P*, then the phrase structural description for what we see to see from the purely syntactic evidence given above, can be represented as in (17).

(17)   FIRST PHASE: ingP

                (ing)

                        (en$_{pass}$)   vP
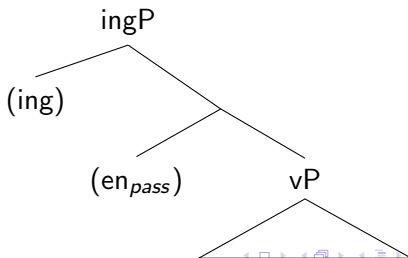
I will pursue the natural conjecture, given the proposal in chapter 1, that the lower domain diagnosed here is the domain of abstract eventive properties independent of time and place. This lowest zone denoting properties of D_μ contains the progressive and the passive be, while the higher domain is the domain of spatio-temporal properties of situations and contains the perfect auxiliary have.

The dominant analysis of the progressive in English and the imperfective paradox it gives rise to involves intensionality in the form of inertial worlds (**?**), or event continuation branches (**?**). The appeal to a mechanism already available from the treatment of modality is appealing, but it underplays the differences between the kind of contextual variability we find with modal interpretations and what we find with the progressive. Despite, variability in judgements, one thing remains curiously robust in all of this contextual sensitivity and variability, and that is the fact that people will all agree that the following sentence in (18) is good.

(18)   Mary was crossing the bridge when earthquake hit, so she never made it to the other side.

I list here the core semantic properties/paradoxes to do with progressive meaning that any successful analysis needs to be able to account for.

(19)   **Core Semantic Features of the Progressive**
   (i) The progressivized eventuality is related in an organic way to its non-progressivized counterpart, but does not actually entail it (in the actual world) at a future time.
   (ii) The relationship between a progressivized event and the event simpliciter is not qualitatively the same as epistemic uncertainty (Klinedinst's Observation).
   (iii) The perceived relationship between a progressivized event and the event simpliciter is affected by contextual properties of the discourse and gives rise to variable judgements across speakers. In this regard, *internal properties of the participants and their intentions*, and the *nature of the process evidenced* seem to be more important than external

I think it is fair to say that all of the possible worlds accounts we have seen fall short of complete objective explicitness when it comes to point (i) above. In all cases, the appeal to possible worlds still leaves an unexplained residue completely independent of the possible worlds mechanisms themselves. In the case of Landman it is his appeal to the 'stage-of' relation, in Portner it is the relativization to event descriptions, in Hallman's situational version it is the relation R 'the relevant subpart relation'. The essential question of "What does it mean to be an in-progress version of an event?" remains a primitive.
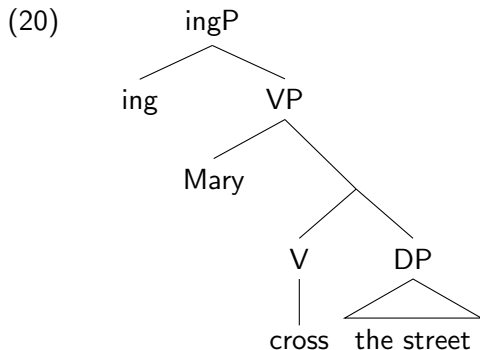
There is good evidence that this primitive is indeed cognitively basic. It has been known for a long time that the progressive participle in *-ing* is one of the very earliest pieces of morphology acquired by English children. It is acquired between the ages of 19 - 28 months, and appears *before* both irregular past tense (which in turn appears often before regular past inflection) and the copula (**?**; **?**). The use of the *-ing* participle thus appears before any actual tense inflection or modal expression, and is used correctly immediately.[3] A fully modal and intensionalized analysis of the progressive would require us to believe that English children acquire a modalized meaning accurately before they are two years old, and always do so before they even have the ability to express tense or use modal auxiliaries. The pragmatic complexity of inferences connected to the setting up of modal bases and ordering sources is supposed to be something that children need some social and interactional maturity in order to develop. But standard accounts seem to assume that they can do this even before they pass theory of mind tests! The role of *-ing* in identifying and

The point of formal explicitness is so that we do not hide from ourselves our unexplained assumptions. But here the unexplained part is the core of the progressive meaning itself— the idea of what it means to be a subpart of a particular event described in a particular way.

In my own proposal, I will assume the equivalent of the unexplained part as a basic cognitive primitive. To anticipate, the ability to identify a snapshot state of an event as being a *part* of that event, is a sensory/cognitive judgement that forms the basis of our ability to classify the world based on symbolic labels. Further investigation and explication of this idea, while important and interesting, is more properly the job of psychologists and philosophers.

The task is to express the denotation of the *-ing* participle, as an *ingredient* of the progressive. I will assume first of all that the *-ing* morphology is a productive suffix that applies and takes scope over the whole VP constructed so far with all of its required arguments.

(20)

```
          ingP
         /    \
       ing     VP
              /
           Mary
                \
                 V    DP
                 |
               cross  the street
```

Taking seriously evidence for the stative nature of the progressive in English, I propose that the semantic part of the *-ing* morpheme is a

In the description of the 'quotational' semantics in chapter 1, linguistic items are elements of the ontology and can be composed to give complex linguistic items with a derived conceptual contribution. By default, I have assumed that the standard way of combining the semantic content of the individual pieces is by simple argument identification (of the event argument variable). In the case of *ing*, I will assume a slightly special rule for its composition with a complex phrase within the D_μ domain.

The Formation of the -ing Participle If A is formed from the merge of ing and B where $B \in D_\mu$, then A is also in D_μ, and
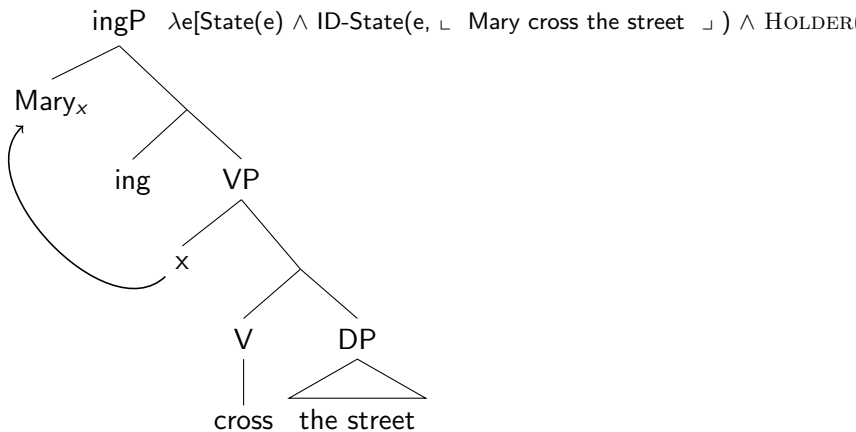⌞ A ⌟ $= \lambda e[\text{State}(e) \wedge e$ is an Identifying-State for property ⌞ B ⌟]

The definition of an **Identifying State** is given in (21).

> **Identifying State (Id-State): Definition** For all event descriptions P, an *Identifying-State* for P, is a stative eventuality that manifests in snapshot the cognitive/perceptual identifiers of the event property P.

Thus, the denotation of an -*ing*-participle would be as shown in (21).

(21) $\llcorner$ u$_V$-ing $\lrcorner$ = λe[State(e) $\wedge$ ID-State(e, $\llcorner$ u$_V$ $\lrcorner$)]

(22) ⌞ u_V-ing ⌟ = λxλe[State(e) ∧ ID-State(e, ⌞ u_V ⌟)∧
      $\text{HOLDER}(e)=x$]

ingP λe[State(e) ∧ ID-State(e, ⌞ Mary cross the street ⌟) ∧ HOLDER

Mary_x

ing   VP

x

V   DP

cross   the street

It is easy to see that this kind of analysis does not give rise to the imperfective paradox since the *-ing* event bears a stative identifying relationship to the non-*ing* event property, but neither of them so far is asserted to exist in any particular world or time, so no entailments automatically exist between the instantiated versions. So how do we capture the fact that the imperfective paradox only arises for accomplishments? In other words, sometimes the simple form and the progressive are related by entailment and sometimes they are not. The first core fact is that a past tense utterance of any eventive verb in English will entail the past tense version of its progressivized counterpart. Thus, (23-a) entails (23-b) for any (non-stative) verb of English.

(23)   (a) John built a house.
         (b) John was building a house.

I will assume the following natural relationship between events that fully instantiate a particular property and identifying states for that property.

(24)   **Axiom: Event Existence Entails Existence of Identifying State**:
         The existence of an event entails the existence of at least one identifying state. The state in question is always a mereological subpart of that event.

Importantly, the converse does not hold. The existence of an identifying state for an event property does not guarantee the existence of an event that fully exemplifies the property. This means in particular that (24-b) will not in general entail (24-a), although (24-a) entails (24-b).

On the other hand, it is usually assumed to be the case that (25-a) does entail (25-b).

(25)   (a) John was running.
        (b) John ran.

We also need to be able to explain the judgements for activities here, and why they differ from achievements and accomplishments. In fact, it is plausible to assume that (25-a) does not actually entail (25-b) either. It is just that the fact that the progressive does not entail the simple past version is much more obvious in the case of accomplishments than in the case of activities. We can explain this effect because of *inferences* based on real world information combined with the homogenous properties of activities— the fact that if they are true at any interval at all, they are true at *every* subinterval of that interval larger than a moment, including extremely short intervals indeed. The following set of meaning postulates for different primitive aktionsart categories of events are given below, adapted from **?**. They constrain the possibilities for

Temporal Properties of Different Primitive Event Types
(I). **Temporal Properties of Simple Dynamic Events**:
A process event must have a temporal parameter longer than a moment. If a simple process is true at an interval I, then it is true at every subinterval of that interval larger than a moment.

(II). **Temporal Properties of States**:
A state can have a moment as its temporal parameter. If a state is true at an interval I, then it is true at every subinterval of that interval, including at each moment.

(III) **Temporal Properties of Complex Events**:
An event with complex subevental structure must have temporal run times corresponding to *each* of the subevents in that structure. If a complex event is true at an interval I, then we cannot guarantee that there is any subinterval of I at which the complex event is true.

So far, the proposal is that the morpheme *-ing* in English is a function from D_μ to D_μ which has the following denotation:

(26) $\llcorner$ u$_V$-ing $\lrcorner$ = λxλe[State(e) $\wedge$ ID-State(e, $\llcorner$ u$_V$ $\lrcorner$)$\wedge$HOLDER(e)=x]
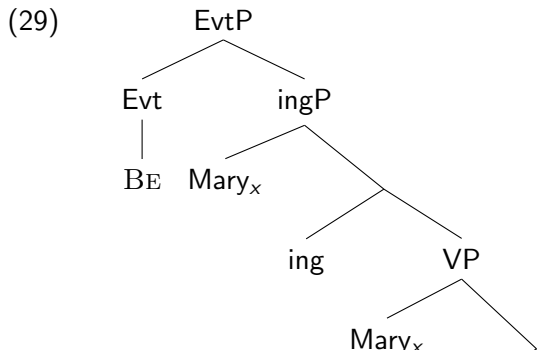
where the value for x is filled in by the movement of the highest argument to the specifer of the *-ing*P.

Notice that there are some well known things about the progressive that I have *not* built into this denotation. One is the restriction to dynamic events that the English progressive is famous for. An obvious way to build in this selectional requirement would just be as a brute force presupposition on the nature of the P that *-ing* combines with. However, there is compelling evidence that the restriction to dynamic eventualities is a property of the progressive construction as a whole, not of the *-ing* participle per se. Even if we look at the most closely related form, the reduced relative or attributive participle in *-ing*, we see immediately that there is no ban on stative verb phrases as the input to *-ing*.

(27)   (a) A man is dancing in the corner.
       (b) A man is eating an apple.
       (c) *The wall is surrounding the castle.
       (d) *The boy is fearing the dark.

(28)   (a) The man dancing in the corner is tall.
        (b) The man eating an apple is tall.
        (c) The wall surrounding the castle is high.
        (d) The boy fearing the dark was the only one who could
        not get to sleep.

The progressive is composed of the participle in *-ing* and the progressive auxiliary *be*. I will essentially follow the analysis of **?** in proposing that the *be* auxiliary is inserted as a dummy verb in order to host inflectional features whose exponence is required. Participle formation in *-ing* does more than create a derived state-description, it also has syntactic effects. Specifically, I will assume that the output of merge with *-ing* no longer has unvalued features for tense or aspect.[4].

(29)

```
              EvtP
             /    \
           Evt    ingP
            |     /  \
           BE  Mary_x
                      \
                  /       \
                ing       VP
                         /  \
                      Mary_x
```

If we were to build the same phrase structure for a stative verb, we would build (30-a) with the semantics in (30-b).[5]

(30) (a)
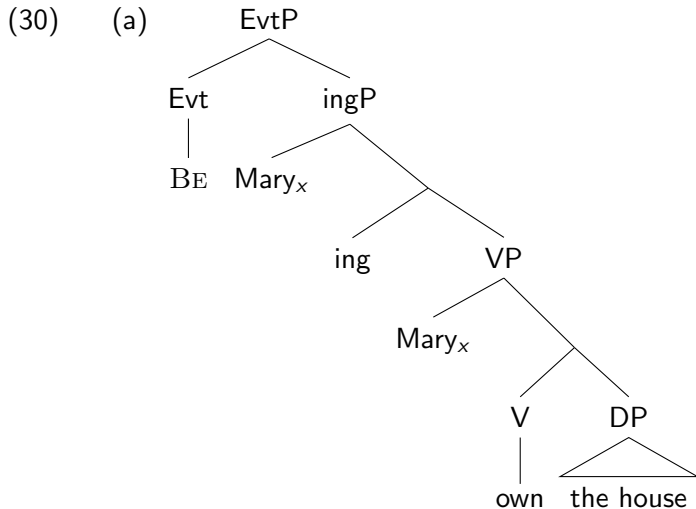
(b) $\lambda e[\text{State}(e) \wedge \text{ID-State}(e, \llcorner \text{Mary own the house} \lrcorner)]$

Since we have assumed that a definitional property of states is that they are true at a moment, the existence of the ID-state for a property entails the existence of the state, and vice versa. Thus, for states and states alone the two notions are mutually entailing. We can state this explicitly as an axiom of this system, although I suspect it can be derived by the fact that the lexical stative property is adduced by the very same sort of evidence that the ID-state requires, so that there could be no difference between the two. This is expressed in (31).

(31)   **Axiom on States and Identifiability**: If $u_V \in D_\mu$ is a state semantically, then
$\llcorner u_V \lrcorner = \llcorner u_V\text{-ing} \lrcorner$
(i.e. The ID-State of s is just s)

It is only in the case of states that there is no difference between the state itself and the identifying state, with more complex events, the identifying and inferential properties of the ID-state are distinct from the conceptual properties of the whole extended eventuality it is related to (the latter expressing unfolding properties in time, while the former is static).

This means that the semantics of the tree in (31) is strictly identical to the semantics that would be derived by (32).
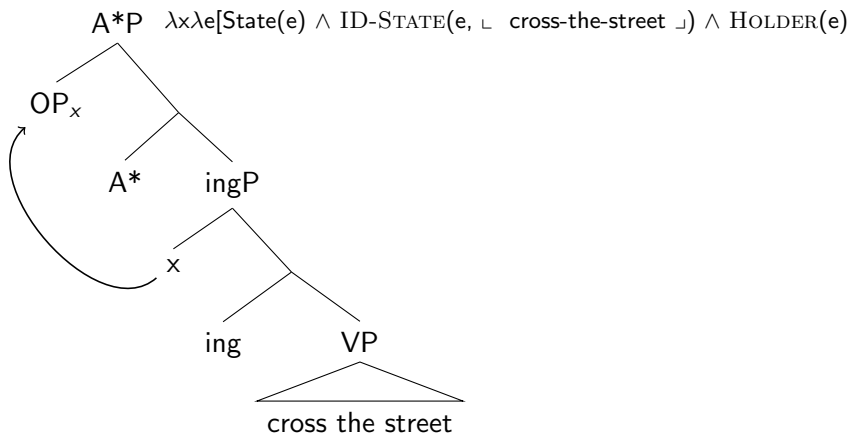
(32)   Mary owns the house.
        $\lambda e[\text{own-the-house}(e) \wedge \text{HOLDER}(e)=\text{Mary}]$

I will assume that this means that by some reasonable statement of semantic economy, that the attachment of *-ing* is prohibited in precisely this case.
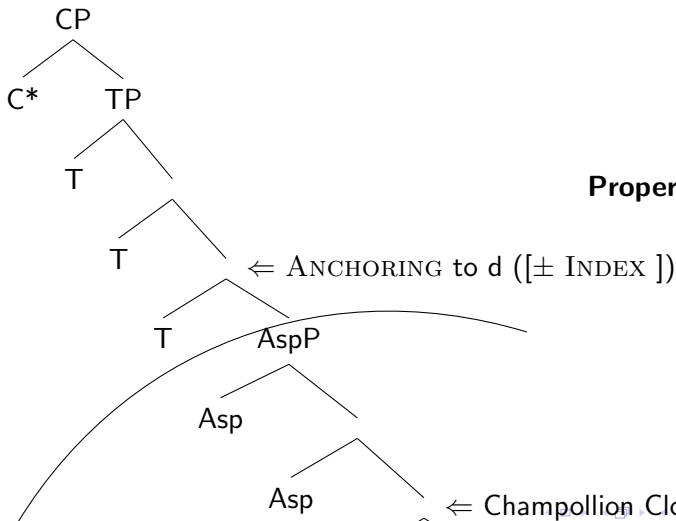
Blocking of Auxiliation:
In cases where a single verbal lexical item generates the same Event description as an Auxiliary structure, expression by means of an auxiliary is blocked.

A*P $\lambda x\lambda e[\text{State}(e) \wedge \text{ID-STATE}(e, \llcorner \text{cross-the-street} \lrcorner) \wedge \text{HOLDER}(e)$

OP$_x$

A* ingP

x

ing VP

cross the street

The zones proposed and their correspondence to
the standard syntactic labels for the hierarchy are shown in figure **??**.

CP

C* TP

T

Properties of Assertion

T

T $\Leftarrow$ Anchoring to d ($[\pm$ Index $]$)

T AspP

Asp

Spatiotemporal

Asp $\Leftarrow$ Champollion Closure