Morphosyntactic content of v
Heidi Harley, University of Arizona (hharley@u.arizona.edu)

(→ PS the dependence of pronouns on particle shift is related to stress. Unstressed (weak) pronouns must appear cliticized to the verb or preposition which selects them. Stressed pronouns only optionally undergo particle shift, like full DPs.)

→ one proposal for a light-verb-like projection involves an AspectP, for computing the telicity of a given event

→ I think this is a misguided approach. First we'll look at some evidence that telicity does have something to do with structure. Then we'll consider what kind of structure this might be, looking at some aspectual effects apparently related to root meaning. Then we'll look at consequences for root naming, and for v naming.

1.   Mcginnis 2002: On the systematic aspect of idioms

Tests for aspectual classes:

(1)   Telicity: for/in
         a. State: atelic   Harry knew the truth for years/#in an hour.
         b. Activity: atelic   Hermione pushed the cart for an hour/#in an hour
         c. Accomplishment: telic   John emptied the bottle #for 5 minutes/in 5 minutes.
         d. Achievement: telic: Hermione noticed the painting #for 5 minutes/#in 5 minutes.

(2)   State vs. Accomplishment/Activity event: progressive
         a.   State: *Harry is knowing the truth.
         b.   Activity: Hermione is pushing the cart.
         c.   Accomplishment: John is emptying the bottle.
         d.   Achievement: #John is noticing the painting.

(3)   Idioms with each class:
         a.   State: Hermione was the cat's pyjamas for years/#in an hour.
                      *Hermione was being the cat's pyjamas.
         b.   Activity: Harry jumped through hoops for years/#in an hour.
                      Harry is jumping through hoops.
         c.   Accomplishment: Harry got his act together #for years/in an hour
                      Harry is getting his act together
         d.   Achievement: Hermione struck paydirt in an hour/#for an hour.
                      #Harry is striking paydirt.

(4)   More tests distinguishing accomplishments from achievements:
         a.   Hermione stopped emptying the bottle.
         b.   Hermione stopped paying her dues.
         c.   #Harry stopped noticing the painting.
         d.   #Harry stopped striking paydirt.

(5)	There are subclasses of accomplishments and acheivements, each of
	which also have their own corresponding idioms:
	Accomplishments that are pretty good with for-phrases
	a.	Harry climbed the mountain for an hour/in an hour.
	b.	Harry paid his dues for 10 years/in 10 years.
	Achievements that are pretty good in the progressive
	c.	Hermione was finding the exit.
	Still bad with *stop*:
	d.	#Hermione stopped finding the exit.
	Acheivement idioms like *find*:
	e.	Harry got to first base.
	f.	Harry was getting to first base.
	g.	#Harry stopped getting to first base.

→ message so far: as far as any aspectual classification goes, verbal idioms and verbal non-idioms may fall into any of the possible aspectual classes. 'In this sense, idiomatic VPs are aspectually systematic'.

→ Deeper question: does aspect form part of the 'structural' system of meaning, or part of the 'idiosyncratic' system of meaning?

→ certainly idioms containing a given verbs also satisfy the verb's selectional requirements. *Kick* is transitive, and so are idioms involving *kick*, like *kick the bucket*.

→ What about aspect? Marantz (1997) says that *kick the bucket* (idiom) has the punctual acheivement aspect of *kick the bucket*, not the accomplishment aspect of its usual idiomatic translation *die*:

(6)	a.	Hermione was dying for weeks.
	b.	#Hermione was kicking the bucket for weeks.
	c.	#Hermione was kicking the bucket for an hour	(#on one iteration of kicking)

→ As is well known, manipulating the number, definiteness or mass/count-ness of the object of certain kinds of verbs affects their aspect. Oddly enough, the same effects are seen even when the items in question are part of the verbal idiom:

(7)	Non-idiomatic VPs with Incremental Theme objects:
	a.	Hermione ate her vitamins in 2 seconds flat/#for five minutes.
	b.	Harry ate turkey for an hour/#in an hour.

(8)	Idiomatic VPs with Incremental Theme objects:
	a.	Hermione ate her words in 2 seconds flat/#for five minutes.
	b.	Harry ate crow for an hour/#in an hour.

→ conclusion: structural meaning, as distinct from encyclopedic meaning, is built in the syntax.

2.   Harley (2001-2003): How do verbs get their names?

→ Distinguishing between 'aspectual feature-checking' analyses and 'constructional telicity' analyses
→ Examining the consequences of the latter for the decomposition of verbs in English

(1)   *Discussions of aktionsart and verb class generally divide eventive verbs into three kinds:*

       A   incremental theme verbs (verbs of creation and consumption, or making and unmaking)
       B   change-of-state verbs (both transitive and unaccusative)
       C   other unergative and transitive verbs, of all types: activities, semelfactives, and some accomplishments

➢ In most of the literature, A and B have been treated as a natural class. Both A and B verbs are usually Accomplishments, and both may have objects that Measure-Out, in the sense of Tenny 1992. They have usually been treated together in discussions of the robust connection between object boundedness, object case and measuring-out (e.g. Tenny 2000; Van Hout 2000).

(2)   *Claim: a different typology of verb classes is needed*

➢ We can account for the aktionsart properties of more predicates if we understand the ways in which groups A and C form a natural class, distinct from B.

Background

➢ Much recent work on telicity has turned on the important connection between the direct object position and the telicity of the VP, shown in Tenny 1992 and also Dowty 1991. The central observation is that in many VPs, the boundedness of the direct object determines the telicity of the event denoted by the whole VP complex. A proposal that has gained substantial currency is that there is a functional projection which checks the features of the direct object to provide an aspectual interpretation, e.g. Borer 1993; Borer 1996; van Hout and Roeper 1998, among many others. This projection is sometimes conflated with the accusative case-checking projection, sometimes independent of it.

(5)   *Objects without measuring-out:*

➢ Other authors have called the importance of the direct object as a determiner of telicity into question, notably Jackendoff 1991; Jackendoff 1996 and also Levin 2000. There are verbs which take an overt, bounded, definite direct object and are yet inherently atelic (5a, c); they become telic when a goal argument is provided (5b, d).

a.	Sue pushed the cart	for an hour/#in an hour.
b.	Sue pushed the cart to the field	#for an hour/in an hour.
c.	Sue kicked the ball	for an hour/#in an hour
d.	Sue kicked the ball to the center	#for a second/in a second

(6)   *Measuring-out without objects*

→   There is a similar set of unergative verbs of motion: they are essentially atelic, as is expected since they don't have a direct object, *but*, they may become telic with the addition of a goal PP (still without a direct object) illustrated in (2).

a.	Sue danced	for an hour/#in an hour.
b.	Sue danced across the stage	#for five minutes/in five minutes.
c.	Sue hopped	for an hour/#in an hour
d.	Sue hopped across the stage	#for five minute/in five minutes

(7)   *Objects without measuring-out and measuring-out without objects:*

➢   An essentially similar class of verbs of motion may be transitive as well as intransitive, but do not become telic until a goal PP is added:

a.	Sue walked	for an hour/#in an hour.
b.	Sue walked the dog	for an hour/#in an hour.
c.	Sue walked (the dog) to the park	#for 5 minutes/in 5 minutes.

(8)   *Buy goal PP, get object for free:*

➢   With respect to these verbs of motion, when motion appears to be spontaneous or internally caused, there is a well-known connection between tests for unaccusativity and the presence of a goal PP:

a.   *There*-insertion:
The bullet whistled as it passed my ear.
*There whistled a bullet (as it passed my ear).
There whistled a bullet past my ear.

b.   Auxiliary selection in Dutch Borer 1996
Jan **heeft/*is** gesprongen
Jan has jumped.
Jan **is** in de sloot gesprongen
Jan is in(to) *the ditch jumped.*
Jan **heeft** in de sloot gesprongen
Jan has in the ditch jumped

(9)   *Buy resultative phrase, get measuring-out for free*

➢ A third class of atelic activity/semelfactive verbs with objects become telic only with the addition of a result phrase Rappaport Hovav and Levin 1998:

a.	Sue hammered the metal	for 5 minutes/#in 5 minutes.
b.	Sue hammered the metal flat	#for 5 minutes/in 5 minutes.
c.	#This metal hammers easily.	
d.	This metal hammers flat easily.	

→ As we'll see, my take on all this is that certain structures make available certain kinds of interpretations, whose ultimate telicity is calculated compositionally from the meanings of subparts.

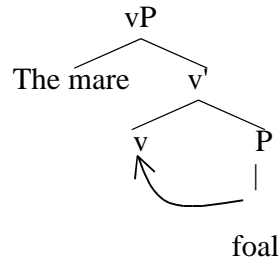Question 1 for aspect-checking object position people: *Why are verbs like* push *different?*

➢ from Van Hout 2000: "Following Dowty, Tenny, Krifka and Verkuyl, I take it that it is a lexical property of verbs that distinguishes the *push*-class from verbs like *drink* and *write*."

➢ In this paper, I propose to identify what that lexical property is. I claim that it is an intersection of various independent properties of the verb root: its structural position, its ontological class and its inherent (un)boundedness.

➢ We also need a way to motivate the sudden acquisition of measuring-out ability in cases 5-9, and explain the absence of measuring-out ability where it's absent. The dominant type of explanation for these phenomena has been that a semantic alteration to the LCS of these verbs (e.g. via the addition of a Path argument or a resultative state), has the effect that the mapping rules produce different results in the syntax. I wish to argue, with Mateu Fontanals 2000, that in fact, the addition of PP or resultative state material in 5-9 directly forces a *syntactic* change which gives the correct results. If it's necessary at all, the LCS-type information can be read off the syntax.

An overlooked class of telic verbs

(11)   *Hale and Keyser's denominal unergatives with* Thing *roots*

➢ To begin to make the argument for such an approach, let's first consider a class of unergative verbs that (unusually!) denote Accomplishments, Hale and Keyser's denominal unergative verbs.

a.	The mare foaled	#for 2 hours/in 2 hours
b.	The dog whelped	#for 2 hours/in 2 hours
c.	The cow calved	#for 2 hours/in 2 hours.

(12)   *An adaptation of H&K's proposal for verbs of birthing:*

```
              vP
           /      \
    The mare       v'
               /        \
              v          P
              ↖___        |
                  _____
                         foal
```

→   Hale and Keyser propose that unergative verbs (in general) are essentially transitive, derived by incorporating a noun root in object position into the transitive verb that selects it; that is, by conflating a transitive structure.
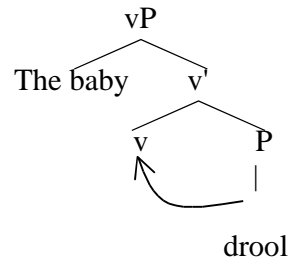
(13)   *Telicity of both unergative and transitive paraphrase*

    a.   The mare foaled   #for 2 hours/in 2 hours
    b.   The mare had a foal   #for 2 hours/in 2 hours

➢ The aktionsart properties of these verbs correspond to the aktionsart properties of their transitive paraphrases. In both cases, it should be obvious that the baby animal(s) that are contained in the mother's womb (hence necessarily finite in number) are the incremental theme that determines the telicity of the predicate.

(14)   *The difference between babies and other bodily emissions*

    a.   The baby drooled   for 2 hours/#in 2 hours
    b.   The athelete sweated   for 2 hours/#in 2 minutes
    c.   The wound bled   for 2 minutes/#in 2 minutes
    d.

```
              vP
           /      \
    The baby       v'
               /        \
              v          P
              ↖___        |
                  _____
                         drool
```

➢ Notice that all these unergative verbs of bodily emission are atelic, unbounded.

(15) *Atelic paraphrases with incremental themes*

    a.   The baby made drool   for 2 hours/#in 2 hours.
    b.   The athlete made sweat   for 2 hours/#in 2 hours.
    c.   The wound oozed/made blood   for 2 minutes/#in 2 minutes.

Conclusion #1: in the paraphrases in (13b) and (15) we attribute telicity or lack of it to the mass vs. count properties of the incremental theme in complement position. In the corresponding unergative verbs, the verbs are derived via incorporation of a nominal root from complement position — the incremental theme —which has inherent mass or count properties. The parallel telicity properties of the unergative verbs and their transitive paraphrases should be attributed to the *same mechanism*. A lexical syntactic account allows us to do that.

Consequence #1: in at least these cases, the boundedness cannot be checked in Spec-AgrOP or similar functional projection as a case feature or telic event feature (c.f. Van Hout 2000). Conceivably it *could* be the case that feature checking in these unergative verbs is accomplished via incorporation rather than spec-head agreement, if we wish to maintain a feature-checking account.

Denominal unergatives with Event roots

(17)   *Two kinds of* Thing *roots*

➤ So far, we have investigated two types of   s: s that denote Things that are either bounded or unbounded. The bounded   s in complement position give us telic predicates, measured out by the bounded   , while unbounded   s in complement position give us atelic predicates. We can sum up the typology of roots so far as follows:

	bounded	unbounded
Thing	foal	drool

(18)   *Two kinds of unergative verbs with* Event *roots*

Activities
a.   Sue danced   for 5 minutes/#in 5 minutes
b.   Sue whistled   for 5 minutes/#in 5 minutes
c.   Sue slept   for 5 minutes/#in 5 minutes

Semelfactives
d.   Sue hopped   #for 5 minutes/#in 5 minutes
e.   Sue tripped   #for 5 minutes/#in 5 minutes
f.   The light flashed   #for 5 minutes/#in 5 minutes

➤ Note that denominal unergatives with event-naming roots cannot be telic, unlike the verbs of birthing above. Rather, they are instantaneous events, which may be coerced to a repetition reading if coocurring with an atelic frame adverbial. Following Smith 1991, I'll call these *semelfactives*.

(19)   *Same structure:*

➢ H&K propose the same structure for these verbs as for the denominal verbs above:

a.   vP   b.   vP
      Sue   v'   Sue   v'
            v   P   v   P
            ↖___| ↖___|
                  dance   hop
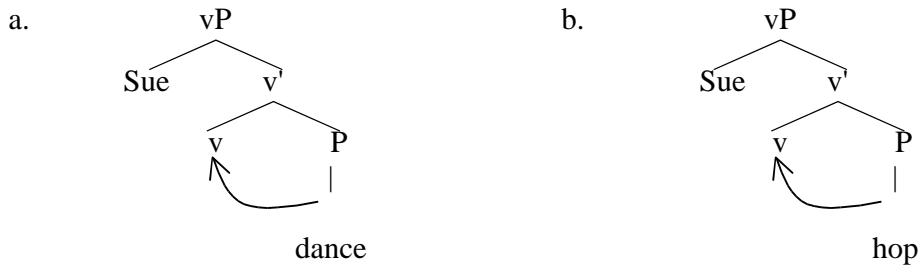
(20)   *Same aktionsart possibilities with paraphrase and unergative*

a.   Sue danced   for 5 minutes/#in 5 minutes
b.   Sue did a dance   for 5 minutes/in 5 minutes
c.   Sue hopped   #for 5 minutes/#in 5 minutes
d.   Sue did a hop   #for 5 minutes/#in 5 minutes

➢ Note the one difference in the atelic paraphrase: "dance" in its nominal form is a count noun, and a measured-out telic reading is available for the transitive paraphrase in 20(b). As with *pee* above, though, the important thing to notice is that it does allow an atelic reading, indicating that it may be interpreted unboundedly.

(21)   *A speculation about the nature of roots that name Events*

➢   The bounded Event roots above do not "measure-out"; rather, they name an event that occurs at a point in time, not one that evolves over time. Consider that in the case of the bounded Thing roots, the measuring-out occured over the physical quantity of the bounded Thing(s) in question. I hypothesize, following Pustejovsky 1991 and Jackendoff 1991 that while bounded Things must necessarily take up space, linguistic Events are fundamentally either pointlike (instantaneous) or extend arbitrarily long (activities).

➢   Where we're going: Most events that evolve over time to a culmination point (accomplishments) must be constructed from *two* sub-eventualities (again following Pustejovsky 1991). More on this anon. (Note: Incremental theme verbs (foal etc.) will constitute the exception to this generalization about accomplishments.)

(22)   *Four kinds of √s*

	bounded	unbounded
Thing	*foal*	*drool*
Event	*hop*	*dance*

(23)   *The story so far:*
       Unergative verbs are created by incorporating a nominal root into a light verb.

The telicity of the resulting verb can be computed on the basis of the ontological category of the root (Event or Thing), and whether that root denotes a bounded or an unbounded entity.
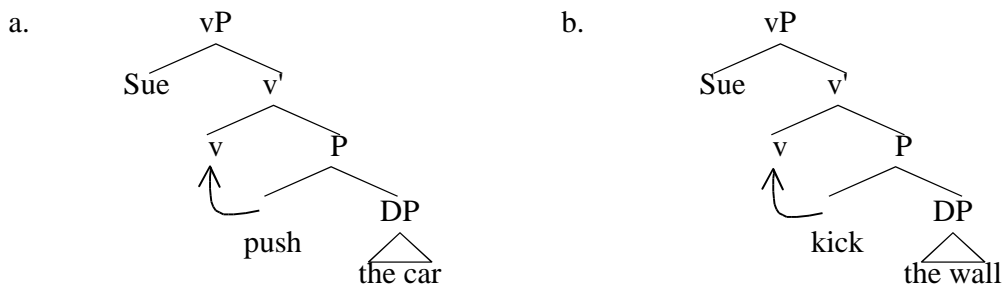
Transitive atelic verbs

(24) *Pushing, hitting, kicking*

➢ Recall our class of problem verbs: they have a non-affected object which cannot measure out. In the past, this has been attributed to the Affectedness Condition, which governs the application of mapping rules.

a.	John pushed the cart	for 5 minutes/#in 5 minutes
b.	Sue drove the car	for 5 minutes/#in 5 minutes
c.	Sue kicked the wall	#for 5 minutes/#in 5 minutes
d.	A bird pecked Sue	#for 5 minutes/#in 5 minutes

(25) *A proposal*

➢ If Event-denoting roots (but not Thing-denoting roots) can select for a complement, we can group these together with the unergative verbs with Event-denoting roots in (18). Note that they have the same aktionsart properties and they all have corresponding event-denoting nominals (*a push, a peck,* etc.). This would then entail that they have the structure below:

(26) *Another speculation*

➢ Why isn't there a corresponding group of transitive denominal verbs whose roots denote Things, not Events, and whose telicity depends on the boundedness of the incorporated thing?? Let us suppose that roots denoting Things cannot select arguments, while Events can do so. Our inventory of basic root properties now looks like this:

	no complement		complement	
	bounded	unbounded	bounded	unbounded
Event	*hop*	*sleep*	*kick*	*push*
Thing	*foal*	*drool*	N/A	N/A

(27)   *The $64,000 question: Why can't these objects measure-out?*

➢ Before answering that, let's first take a look at the structure of the other major class of verbs whose objects *do* measure out: not Incremental Theme predicates, but Change of State predicates.

<u>Change-of-State verbs</u>

(28)   *Deadjectival change-of-state verbs*

a.	Sue cleared the table	#for 5 minutes/in 5 minutes.
b.	The archaeologist opened the sarcophagus	#for 5 minutes/in 5 minutes
c.	Sue tamed the lion	#for 5 minutes/in 5 minutes
d.	Sue roughened the tire surface	#for a minute/in a minute

➢ These are, of course, the canonical verbs that appear to have a very straightforward semantic analysis in terms of CAUSE + (BECOME) + STATE, where STATE = a small clause consisting of the adjectival state predicated of the object. Some undergo the inchoative/causative alternation, some do not.

(29)   *The lexical syntax of deadjectival change-of-state verbs*

➢ Essentially preserving the analysis of the generative semanticists, H&K (and many others) propose the following light-verb structure for such verbs:
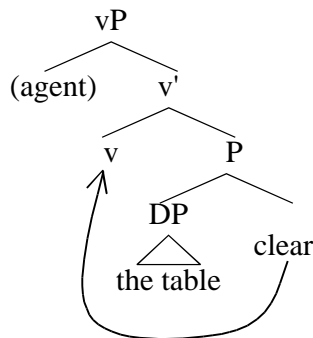
➢ Note that the incorporation of *clear* does not violate the HMC, as the DP is in the specifier of P, and incorporation is head-to-head movement. The object DP is in what H&K call the "inner subject" position, as it is the subject of a small clause predicate, "the table (is) clear".

➢ In these cases, the measuring-out is with respect to the existence of the entire *state* denoted by the small clause — the endstate. It is <u>not</u> with respect to the existence of the object DP.
➢ When thestate is acheived, the accomplishment denoted by the whole construction is over. Note that the whole is constructed from two eventualities: the CAUSE event (little v), and the ENDSTATE event (the small clause). This has the nice property of corresponding to the semantic decomposition of accomplishments proposed by Pustejovsky and others.

➢ Speculation: how do you tell the difference between an "inner subject" and a complement (like the complements to "push" verbs)?

→ aside: the unergative vs. unaccusative problem with VP-internal subejct hypotheis
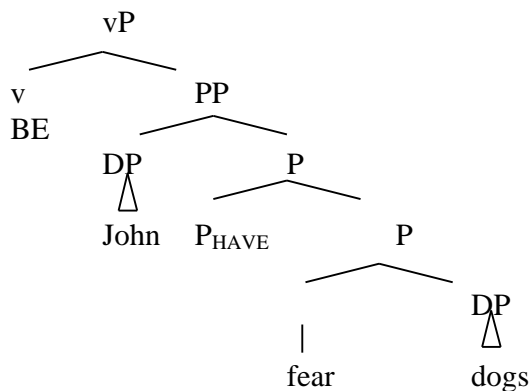→ back to the inner subject problem

→ possibility 1: it's a fact about adjectives being predicates (i.e. a semantic fact).
→ possibility 2: what if…. adjectives are themselves a derived category, resulting from the conflation of a   naming a State with a P? Then deadjectival verbs will really be like the locative cases, where the difference follows not from a difference in a complement-selecting vs. inner-subject-selecting structure but from the ontological category of the root.

There would be three different kinds of structure that XP that are complement to v, could have, then, and only the PP structure would involve a small clause and hence result in change-of-state verbs:

"P/A"   "N"   "V"

        PP   DP   P
      /   \   /   \
   DP   P'   DP
          /   \
        P
               DP
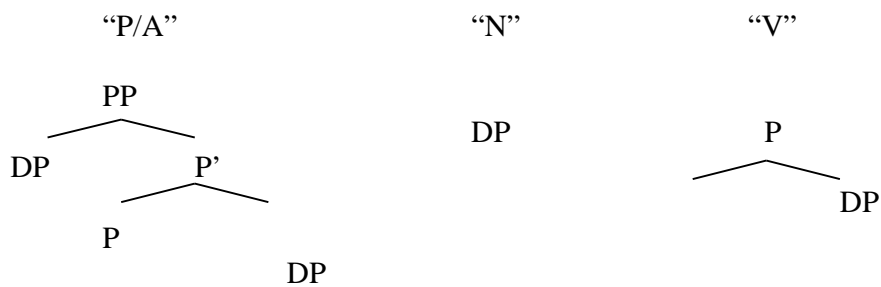
(29') a.   John has a fear of dogs.
       b.   John is afraid of dogs.
       c.   John fears dogs.
       d.   John is in fear of dogs

        vP
      /   \
   v   PP   a.   have=P+B
   BE   /   \   b.   fear *v* =   +P+BE
         DP   P   c.   a-fraid=   +P
         △   /   \   d.   fear *n* =
       John P_HAVE   P
                     /   \
                           DP
                    | △
                  fear   dogs

11

(30)   *A third kind of root*

➢ Finally, notice that it must be inherent to the nature of these roots that they are predicative —
they select for a subject argument, not for an object. They are then fundamentally stative, and
neither bounded nor unbounded, adding to our inventory of roots:

→   Another speculation: perhaps some states are bounded and others unbounded, thus filling
out our table beautifully; the relevant distinction would be scaleable vs. non-scaleable,
following Wechsler 2001:

(30)'   a.   John reddened the solution for an hour/in an hour
         b.   John cleared the table #for an hour/in an hour.

	no complement		complement	
	bounded	unbounded	bounded	unbounded
Event	*hop*	*sleep*	*kick*	*push*
Thing	*foal*	*drool*	N/A	N/A
State	*clear*	*redden*	TBA (prepositions)	

More change of state verbs: Denominal Location/Locatum verbs

(30)   *The pièce de resistance*: *denominal location/locatum verbs.*

   Location: bag, bank, bottle, box, cage, can, corral, crate, floor (opponent), garage, jail,
            kennel, package, pasture, pen, photograph, pocket, pot, shelve, ship (the oars),
            shoulder, tree.
   Locatum: bandage, bar, bell, blindfold, bread, butter, clothe, curtain, dress, fund, gas,
            grease, harness, hook, house, ink, oil, paint, pepper, powder, saddle, salt, seed, shoe,
            spice, water, word.

➢ For more verbs and significant discussion, see Kiparsky 1997.

(31)   *Measuring-out while* saddling:

➢ Notice that the object of these verbs may measure-out:

         a.   John saddled the horse   #for 5 minutes/in 5 minutes
         b.   Sue boxed the computer   #for 5 minutes/in 5 minutes
         c.   Mom blindfolded a 6-year-old   #for a minute/in a minute.
         d.   John saddled horses   for 5 minutes/#in 5 minutes
         e.   Sue boxed computers   for 5 minutes/#in 5 minutes
         f.   Mom blindfolded children   for 5 minutes/#in 5 minutes.

(32)   *Paraphrase has same aktionsart properties:*

         a.   Mom fit the six-year old with a blindfold   #for 5 minutes/in 5 minutes.
         b.   Mom fit children with a blindfold   for 3 hours/#in 3 hours.

(33)   *A Hale-and-Keyser-style structural proposal:*
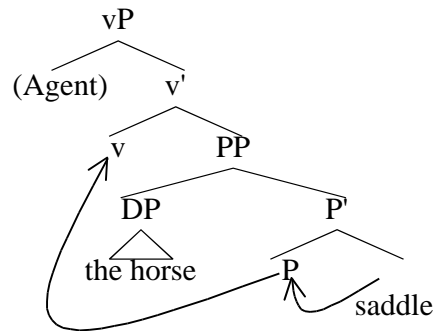
➤ Essentially, the proposal is that this, too, is a change of state verb. The PP is a small clause, predicating something like "WITH SADDLE" of the inner subject, *the horse*. Little v corresponds to CAUSE, as in the deadjectival case, above.

➤ The same structure is proposed for both location and locatum verbs — that is, although in "saddle the horse", the saddle is being put on the horse, but in "box the computer", the computer is being put in the box, the incorporated thing (*saddle, box*) is always the sister of P below P'. We'll see below that what matters is the boundedness of the incorporated thing, not whether it's the location or locatum.

(34)   *Another measurer-outer in the paraphrases:*

      a.   Sue put the computer in boxes   for 5 minutes/#in 5 minutes
      b.   Sue fit the horse with saddles   for an hour/#in an hour.

➤ Note that, although pragmatically odd, manipulating the boundedness of the prepositional object affects the aktionsart of the predicate. Selecting an unbounded root for incorporation, then, ought equally to affect the aktionsart of the predicate, in a way parallel to the *foal/drool* contrast above.

(35)   *An unbounded, incorporated Locatum*:

      a.   Susan watered the garden   for an hour/in an hour
      b.   Bill greased the chain   for 5 minutes/in 5 minutes
      c.   Jill painted the wall   for an hour/in an hour
      d.   Adelaide buttered the bread   for 2 minutes/in 2 minutes

➤ While the telic reading is available, as expected given the measuring-out potential of the definite, singular objects ("inner subjects" of the change of state), an atelic reading is also available! This is very surprising. Contrast these examples with the necessary telicity of a verb like *saddle* (cf. 31a above).

Conclusion #2: Again, we attribute the introduced atelic reading in the paraphrases in (33) to the introduced unboundedness of the prepositional object. Similarly, we can explain the available

atelicity of *to paint* in contrast to the necessary telicity of *to saddle* by attributing it to the unboundedness of the incorporated prepositional object in *paint,* vs. the boundedness of the incorporated prepositional object in *saddle*.

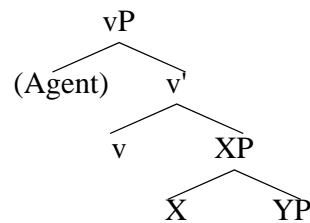The importance of being X-bar: Deriving telicity

(36)   *The typology of argument structures, so far*

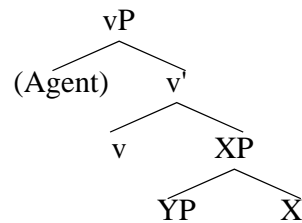   a.   vP with non-branching complement

```
                vP
              /    \
        (Agent)     v'
                  /    \
                 v      X
```
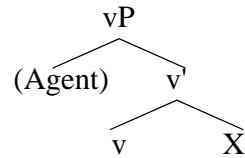
foal, run, drool, dance, calve....

    b.   vP with branching complement lacking a specifier

```
                vP
              /    \
        (Agent)     v'
                  /    \
                 v      XP
                      /    \
                     X      YP
```
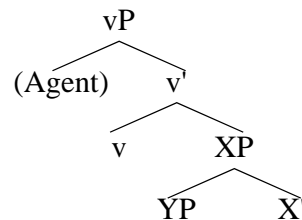
push, kick, hit, kiss, pull...

    c.   vP with branching complement lacking a complement (small clause)

```
                vP
              /    \
        (Agent)     v'
                  /    \
                 v      XP
                      /    \
                     YP     X
```

clear, redden, clean, weaken...

    d.   vP with branching complement with both specifier and complement (small clause)

```
                vP
              /    \
        (Agent)     v'
                  /    \
                 v      XP
                      /    \
                     YP     X'
```

```
        X       ZP
```
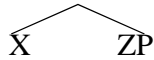
saddle, box, water, paint, butter...
Also, without incorporation of ZP, this is the Larsonian framework for ditransitive verbs:
give, send, put....(see, e.g. Harley 1996 for discussion).

➢ Note that the distinciton between type (b) and (c) above can be made on the basis of the
ontological type (State vs. Event) of X: if X is an Event, it cannot be predicated of something

---

Assumption #1: The above represent all the argument structures available in language:
maximum of three "direct" arguments. Note: no multiple specifiers allowed!

---

(37)   *A different kind of denominal verb: instrumental activities*

    a.   John hammered the metal   for 5 minutes/in 5 minutes
    b.   Sue brushed the dog   for 5 minutes/in 5 minutes
    c.   Jill raked the leaves   for an hour/in an hour

➢ Notice that the boundedness of the nominal root here has no effect on the available atelicity.
This is expected if the structural source of these nominal roots is not one of the possible
measuring-out incorporating positions (i.e. complement to v or complement to P).
Considering the incorporated nominal in thematic role terms, this makes sense: these
incorporated nouns are neither Themes nor Location/Locatums, but rather Instruments.

Assumption #2: These are verbs created by Manner Incorporation: naming a verb of one of the
four classes above ((36b), verbs of contact —*push, kick, kiss,* etc.) after a salient aspect of the
Manner in which it is accomplished. This conflates these verbs with other manner-of-contact
verbs such as *wipe,* etc.

---

(38)   *What happens when you try to include an endstate in the argument structure of* push?

a.   John pushed the cart   John DO (a) PUSH (of) the cart
b.   John pushed the cart to New York   John CAUSE [the cart to New York] by PUSH

➢ All of a sudden, there's no room for the PUSH event nominal in the argument structure,
which is now saturated with a State complement to vP, complete with an internal subject (*the
cart*) and a predicate (*P New York*). The aspectual interpretation of the VP changes
accordingly. Pushing is now relegated to a mere Manner element, which gets into the verb by
(ta da!) Manner Incorporation on-the-fly.

(39)   *Same problem with manner-of-motion verbs*

a.   Sue ran.   Sue DO (a) RUN
b.   Sue ran to New York   Sue CAUSE [(self) to New York] by RUN

c.	The bullet whistled	The bullet DO (a) WHISTLE
d.	The bullet whistled past my ear	BECOME [the bullet past my ear] while WHISTLE

➢ What happens is that the (36d) verb frame is being used, but the verb is named after a manner element that can also occur as its own verb root in the (36a or b) frames.

(40) *The argument structure of* push the cart to New York.
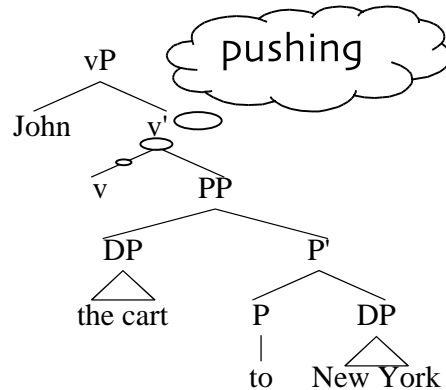
➢ Another way of thinking about it: consider Gleitman's example of the independent meaning supplied by the ditransitive frame. If you take a verb like *think*, which usually takes only a CP or DP complement, and force it into a ditransitive frame — *Sue thought the book to Mary* — what results is not ungrammaticality. Rather, we interpret *thinking* as a manner element describing the way in which the book was transferred to Mary (telepathically or telekinetically, probably). Cf. also the insights of construction grammar: Goldberg 1995.

→ *transfer*, then, is a kind of structural meaning.

The productivity of Manner Incorporation varies parametrically?

(42) *Lack of lexical Manner elements in Romance*:

➢ As demonstrated by Talmy 1986, verbs of manner of motion are not much available in Romance languages:

a.	The bottle floated away from the bank.			
b.	La botella	se fué	de la orilla	flotando.
	the bottle	REFL moved-away	from the bank	floating

➢ Similarly, resultative constructions are unavailable in Romance languages, and most verbs of motion do not permit the addition of goal PPs or the causative accompanied motion construction (see Harley 1999; Mateu Fontanals 2000 for further discussion):

c. The horse jumped / Kay jumped the horse over the fence.
d. El caballo brincó / *Juan brincó el caballo sobre el cerco.
   the horse   jumped / *John jumped the horse over the fence.

Conclusion #3: If we understand that resultative constructions and motion-to-a-goal constructions involve a reanalysis of the verb root as a Manner element, we can attribute the absence of such constructions in Romance to the lack of productivity of Manner Incorporation in those languages.
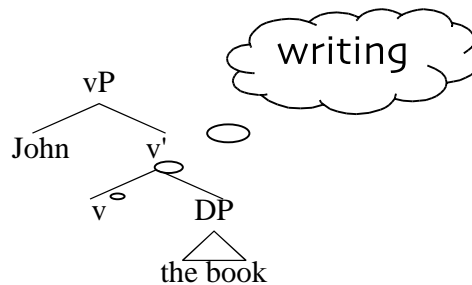
Reprise: Incremental Themes

(43)   *So: what about the telicity of verbs with incremental themes?*

➢ Above, the only classes of verbs that really measure out with their direct object are change-of-state verbs, with argument structures (36c) and (36d) above, whose direct object is an inner subject. Verbs whose direct object does not affect their telicity one way or another have no inner subject (frames 36a and 36b above), except in one case: verbs of making or unmaking. This was the original parallel that led us towards the idea that decomposing verbs in the syntax might be a useful idea. The verbs that they paralleled were the very Incremental Theme verbs that got Tenny and Dowty going in the first place:

    a.   Sue ate the apple   #for 5 minutes/in 5 minutes
    b.   Bill built the house   #for a year/in a year.

(43)   *A structure for incremental theme verbs*

➢ Just as ditransitive verbs parallel location/locatum verbs without all the incorporation, I wish to claim that verbs of making and unmaking parallel the verbs of birthing without all the incorporation. The verb root will be an incorporated Manner element. The structure of, e.g., *write* will then be:

         John MAKE the book by WRITE

➢ There is then a significant structural difference between the objects that measure-out in change-of-state verbs (including ditransitive verbs), and the incremental theme objects. The former are "inner subjects" of a small clause, the latter are direct objects of a light verb of creation (or negative creation).

17

> **Conclusion #4**: Middle formation (may) only apply to verbs whose argument structure contains an inner subject. Hale and Keyser 1999 come to the same conclusion looking at a very different set of data from psych verbs.

So which light verb *is* it?

(47)   *DO, CAUSE, and MAKE*

➢ In my paraphrases, intended to elucidate the lexical semantics and lexical syntax of these different types of verbs, I've used several different light verbs to correspond to the contribution of little v:

a.   Susan DO (a) DANCE
b.   Bill DO (a) PUSH (of) the cart.
c.   The mare MAKE (a) FOAL.
d.   Jennifer MAKE a book (by) WRITING
e.   Jill CAUSE the table CLEAR
f.   Maria CAUSE the horse WITH SADDLE
g.   Patty CAUSE the cart to New York (by) PUSHING

➢ In fact, I think it's the same little v in all cases: one that denotes the beginning of an event, and its initiator. It's just a weakness of English that the beginnings of different kinds of events are referred to by different verbs. We MAKE Things, we DO Events, and we CAUSE states; the interpretation is wholly dependent on the ontological type of the complement to little v. In French, all three English verbs translate the same way: *faire*.

Some Concluding Thoughts

(49) *Take-home messages*
        a) Evidence that root type affects telicity of unergative verbs and denominal
                location/locatum verbs argues for a lexical-syntax approach to argument structure
        b) A Pustejovsky -style semantics for accomplishments — CAUSE+ ENDSTATE — is
                directly represented in their lexical syntax[1].
        c) The fact that English allows productive Manner Incorporation accounts for certain
                transitivity alternations and the measuring-out effects that go with them; it can
                also explain why Romance doesn't show such alternations

---

[1] Note that this entails that no monomorphemic root can name an Accomplishment. Is this true?

3 Johns 2003: Restricting Noun Incorporation

→ Claim: the verbs that require Noun Incorporation in Inuktitut are *v*s, made up of structural morphosemantic features

possession & lack thereof
1. a. qimmi-qaq- -tunga
      dog- have/exist- INTR.PART.1S
      'I have a dog'

   b. tuktu- qaq- -tuq Nunavu-mi
      caribou-have/exist- INTR.PART.3S Nunavut-in
      'There are caribou in Nunavut'

   c. ulu-iruti-junga (is this also a verb of denying existence?)
      ulu-lack- INTR.PART.1S
      'I'm out of ulus'

possession of a quantity & lack thereof:
2. a. savi- quar- -tunga
      knives-have.a.lot- INTR.PART.1S
      'I have plenty of knives'

   b. savi- kiksa- -rama
      knives-not.have.enough- INTR.CMOOD.1SG
      'I am short of knives'. (same questions as above—there aren't enough seals in the ocean?)

getting (and negative getting-losing?)

3. qukiuti--taar- -tunga
   rifle- -get - INTR.PART.1S
   'I got a rifle'

providing and negative providing (removing)

4. Nuka-p puisi ame- er- -paa
   Nuka-rel seal skin- remove- -TR.3S/3S
   Nuka took the skin from the seal.

identity (?nominal predication?)

5. Saali ilisaiji-u- -juq
   Sally teacher-be- INTR.PART.3S
   "Sally is a teacher'

subclass: appearance Vs

6.   a.   Naatatali-   urquuji-   -juq   'be+VISION'
               Natalie-   resemble-   INTR.PART.3S
               'She/he resembles Natalie.'

      b.   urqusaut   sikituur-   valuk-   -tuq   'be+SOUND'
               furnace   skidoo-   sounds.like- - INTR.PART.3S
               'The furnace sounds like a skidoo'

      c.   unnir- sunnir-   -tuq
               armpit-smell.like-   - INTR.PART.3S
               'It smells like an armpit'.

      d.   natati- rjuujaaq-   -tuq
               Natalie-act.like-   - INTR.PART.3S
               'She/he's acting like Natalie.'

becoming

7.   a.   kigursiriji-   -nngur-   -tuq
               dentist-   -become-   -INTR.PART.3S
               'S/he's becoming a dentist'

creation & negative creation (consumption)

8.   a.   jaapa- liur-   -tunga
               parka- make- - INTR.PART.1S
               'I'm making a parka'

      b.   tuttu-vini-   -tu-   -vunga
               caribou-former-consume-   - INTR.INDIC.1S
               'I'm eating caribou meat'

      c.   tii-   tuq-   -tunga
               tea-   consume-   -INTR.PART.1S
               'I'm drinking tea'.

doing

9.   a.   qukiuti-   -liri-   juq
               rifle-   -do.with-   INTR.PART.3S
               'He's fixing/playing with the rifle'

      b.   kiguti- liri-   -ji
               tooth- -do.with-   -ER
               "dentist" (lit. "tooth-doer")

subclass: vs of feeling?

10. siu-   siri-   -juq
    ear-   -bother/busy.with-   INTR.PART.3S
    'He's busy with his ear'/ 'His ear hurts'…

movement

11. sugusi-up   illu-nga-   no-   -vunga
    child-rel   house-3s-   go.to-   INTR.INDIC.1S
    'I am going to the child's house'

→ Johns' claim: all of these are purely featural combinations which may be instantiated directly
    in v. In Innuktitut, you get NI iff the verbal head is a 'light' verb, i.e. realizes purely these
    combinations of features, no additional elements involved, because v, being rootless,
    cannot stand on its own.

→ my take: all of these do realize purely structural kinds of meaning, i.e. meanings made up of
    morphosyntactic primitives, but not all of them involve just a v. Some (particularly the
    verbs of possession, getting and giving, also prob motion) are v+P.

→ others involve a change from a stative v BE to an eventive v BECOME or CAUSE.

→ Cf. Persian. (Folli, Harley & Karimi 2002)

Persian Complex Predicates: An Overview

(1) **Simple**   **Complex**
     geristan   gerye kardan   (weeping doing)   'to cry'
     kushidan   kushesh kardan   (attempt doing)   'to try'
     yâftan   peydâ kardan   (evident doing)   'to find'
     pasandidan   pasand kardan   (approve doing)   'to approve'
     lâfidan   lâf zadan   (brag hitting)   'to brag'
     porsidan   so'âl kardan   (question doing)   'to ask'

The verbal elements of CPs;

(3) a. *kardan*   'to do'   l.   *budan*   'to be'
     b. *shodan*   'to become'   m.   *chidan*   'to arrange'
     c. *xordan*   'to collide'   n.   *gereftan*   'to catch, to take'
     d. *zadan*   'to hit'   o.   *keshidan*   'to pull'
     e. *dâdan*   'to give'   p.   *nemudan*   'to show'
     f. *dâshtan*   'to have'   q.   *oftâdan*   'to fall'
     g. *âmadan*   'to come'   r.   *pâshidan*   'to scatter'
     h. *andâxtan* 'to throw'   s.   *raftan*   'to go'
     i. *âvardan*   'to bring'   t.   *sepordan*   'to entrust'
     j. *bastan*   'to tie'   u.   shostan   'to wash'

| | k. | *bordan* | 'to carry' | v. | *gozashtan* | 'to pass, to cross' |

Karimi (1997)

The NV elements of CPs ranges over a number of phrasal categories.

(4)   a.   **N+ LV**

da'vat kardan/shodan	(invitation doing/becoming)	'to invite, to get invited'
kotak zadan/xordan	(beating hitting/colliding)	'to beat, to get beaten'
shekast dâdan/xordan	(defeat giving/colliding)	'to defeat, get defeated'
panâh bordan	(refuge carrying)	'to take refuge'
panje andâxtan	(palm throwing)	'to grip'
râh raftan	(way going)	'to walk'
âtash zadan	(fire hitting)	' to put on fire'

        b.   **A+LV**

tamiz kardan/shodan	(clean doing/becoming)	'to clean/become clean'
bidâr kardan/shodan	(wakening/awake becoming)	'to wake up'
xarâb kardan/shodan	(destroyed doing/becoming)	'to destroy/become destroyed'
sabok kardan/shodan	(light doing/becoming)	'to degrade/becoming degraded'
pahn kardan	(wide doing)	'to spread, to widen'
derâz keshidan	(long pulling)	'to lie down, take a nap'
kam kardan	(little doing)	'to subtract'
chune zadan	(chin hitting)	'to negotiate'
xar kardan	(donkey doing)	'to fool'
dast andâxtan	(hand throwing)	'to mock'
dun pâshidan	(seed scattering)	'to try to attract someone's interest'
dust dâshtan	(friend having)	'to love'

        c.   **Particle+LV**

birun kardan	(out doing)	'to fire (someone), to make someone leave'
bâlâ bordan	(up carrying)	'to promote'
bâlâ âvardan	(up bringing)	'to vomit'
bâlâ keshidan	(up pulling)	'to steal'
pas dâdan	(back giving)	'to return'
pâyin âvardan	(down bringing)	'to degrade (someone/ the value of something)'
bar chidan	(over arranging)	'to pick up, to remove'
dar kardan	(out doing)	'to fire (a shot), to deduct'
dar gozashtan	(off passing)	'to die'
dar oftâdan	(off falling)	'to quarrel, to oppose'
dur andâxtan	(far throwing)	'to throw away'

      d.   **PP+LV**

az dast dâdan	(of hand giving)	'to lose'
az yâd bordan	(of memory taking)	'to forget'
be yâd âvardan	(to memory bringing)	'to remember'
be nazar âmadan	(to view coming)	'to appear'
be kâr bastan	(to work tying)	'to use'
az sar gereftan	(of head catching)	'to restart'
be sar bordan	(to head taking)	'to spend, to live'
be sar âmadan	(to head coming)	'to expire'
bejâ âvardan	(to place bringing)	'to recognize'
be bâd dâdan	(to wind giving)	'to waste'

The NV element of Persian CP may be a complex phrasal element, as in (5):

(5)   **Complex NV element**

dast o pâ kardan	(hand and foot doing)	'to try (hard)'
sar o kâr dâshtan	(head and work having)	'to be involved'
dast be dast kardan	(hand to hand doing)	'to hesitate'
dast be sar kardan	(hand to head doing)	'to get rid of someone'
sar az pâ nashnâxtan	(head of foot not distinguishing)	'to be excited'
dast az jân shostan	(hand of life washing)	'to despair'

- ➢ Productivity of CP formation: NV element is not restricted to native Persian elements, nor to Arabic infinitives, but also includes recent borrowings from European languages (e.g. *tâyp kardan,* 'to type' (lit. type doing), *telefon kardan* 'to call' (lit. call doing) (Mohammad and Karimi 1992).
- ➢ CP formation has completely replaced the morphological rule of simple verb formation (Bateni, 1989).
- → The argument and event structures of Persian CP, as well as their syntactic properties such as control, cannot be simply derived from the lexical specifications of NV element or LV.
- → Therefore, the syntactic and semantic properties of these elements are determined post syntactically rather than in the lexicon (Karimi 1997).

Conclusions:
- ➢ the event structure of LV is not always the same as the event structure of its heavy counterpart.
- ➢ LV determines the *agentivity* and the *eventiveness* of CP, but fails to completely determine the event structure and the telecity of CP.
- ➢ depending on the NV element, the same LV may occur in different types of event structure (e.g. LV *xordan* 'collide' may occur in both *accomplishment* and *achievement* CPs, the LV *zadan* 'hit' can occur in *activity, accomplishment,* and *semelfactive* CPs in different combinations.