The goal of this talk is to argue, based on evidence from the Dravidian language Tamil, that the syntax and semantics of transitivity, ‘get’-like middles, and passives is distributed across three distinct heads.

These heads are contiguous and have the following rigid ordering: Transitivity < ‘Get’ < Passive.

As such, it makes sense to talk about an articulated *v* layer or domain – much along the lines of the articulated C layer/domain proposed within the cartographic framework (Rizzi, 1997; Cinque, 1999) – rather than a single *v* head.

Tamil is a highly inflected agglutinative language:

- The verbal form consists of the verb root + a sequence of functional morphemes.
- These functional morphemes have a rigid relative ordering, thus serve as a window into the underlying structure above the verb root, in the region traditionally labelled *vP*.

Below, I will consider three types of marking, all of which occur between the verbal root/stem and morphemes that realize a higher portion of the structure, such as tense and agreement markers:

- Transitivity marking
- Middle marking (with a GET-type semantics)
- Passive marking

## 1 Transitivity marking in Tamil

Transitivity distinctions in Tamil are typically marked by a systematic (phonological) voicing distinction – either on the coda of the stem-final syllable or on the aspectual marking directly following the stem.

Thus, in (1) below, the voiced form of ‘break’ *odē-ndx*- is interpreted as unaccusative whereas its voiceless variant *odē-cč* in (2) must be used transitively:

(1) **Unaccusative:**
Paanæ  oḍæ-nʔ-ād́u/*oḍæ-čč-ād́u.
Pot[NOM] break-INTR.ASP-3NSG/*break-TR.ASP-3NSG
“The pot broke.”

(2) **Transitive:**
Sri  paanæ-jae oḍæ-čč-aan/*oḍæ-nʔ-aan.
Sri[NOM] pot-ACC break-TR.ASP-3MSG/*break-INTR.ASP-3MSG
“Sri broke the pot.”

Further examples of this type of transitivity alternation are provided in Table 1 below:

<table>
<thead>
<tr>
<th><strong>VERBAL ROOT</strong></th>
<th><strong>UNACCUSATIVE STEM</strong></th>
<th><strong>TRANSITIVE STEM</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>oḍæ (BREAK)</td>
<td>oḍæ-nʔ-</td>
<td>oḍæ-čč-</td>
</tr>
<tr>
<td>suruɡã (SHRINK)</td>
<td>suru-ŋɡ-</td>
<td>suru-kk-</td>
</tr>
<tr>
<td>vaɿar (GROW)</td>
<td>vaɿar-nd</td>
<td>vaɿar-tt-</td>
</tr>
<tr>
<td>veɿi (BURST)</td>
<td>veɿi-nʔ-</td>
<td>veɿi-čč-</td>
</tr>
<tr>
<td>kiri (TEAR)</td>
<td>kiri-nʔ-</td>
<td>kiri-čč-</td>
</tr>
<tr>
<td>maɿi (FOLD)</td>
<td>maɿi-nʔ-</td>
<td>maɿi-čč-</td>
</tr>
</tbody>
</table>

Table 1: Transitive and unaccusative verbal stems

- Given that this voicing alternation directly tracks alternations in transitivity, it seems reasonable to propose that it encodes a position related to the introduction of the external argument – very much like the Voice head in (Kratzer, 1996).
- However, I’ll shortly be arguing that there are other morphemes in the verbal complex that appear to perform functions that one might have associated with Voice.
- To avoid confusion with different potential meanings of “Voice”, I’ll thus label this head “Trans” and be specific about its function, which is to introduce the external argument of the verb in its specifier and associate it with a specific \( \theta \)-role.

I envision a transitive verbal structure like that in (3a), familiar again from the Kratzer (1996) structure for the introduction of an external argument, and an intransitive structure like that in (3b):

(3) a. TransP  
   DP  
   Raman  
   VP  
   Trans’  
   V  
   VP  
   Trans  
   V  
   DP  
   oḍæ  
   pot

   b. VP  
   V  
   DP  
   oḍæ  
   pot
• The intransitive variant in (3b) is seen as basic, with the verbal structure being voiced by default.

• In (3a), the presence of the Trans head will, either directly or indirectly, result in the devoicing of the phonological material in this region (be it the stem-final syllable or the aspectual morpheme directly following it).

Note, incidentally, that there are different potential strategies to deal with the idea that transitivity alternations has the appearance of a morphophonological process – as briefly described below – and I will not concern myself with the details here:

(i) via DM-style readjustment rules (Halle and Marantz, 1993)

(ii) Nanosyntax-style spanning/non-terminal SpellOut (Ramchand, 2008; Caha, 2009)

(iii) the insertion of an abstract piece of morphophonology that in turn effects a phonological process (as recently proposed in Bye and Svenonius, 2012).

2 Passive marking in Tamil

Now consider the passive structure below:

(4) Paanæ (Sri-aal) oɕær-kkær-pa-t-adũ/*oɕær-jær-pa-t-adũ.
    Pot[NOM] (Sri-INST) break-TR-PASS-PST-3NSG/*break-INTR-PASS-PST-3NSG
    “The pot was broken (by Sri).”

The structure in (4) is instructive in several regards:

• (4) shows that the passive has to be built on the transitive variant of the verb (seen in (2)).

• It thus supports the view (Embick, 2004, among others) that passives are more “agentive” than unaccusatives in some sense.

• Crucially furthermore, (4) shows that the passive applies to a verbal structure that has already had the phonological (de-)voicing process apply to it.

• This is most elegantly captured by proposing, according to the Mirror Principle, that the head that the passive marker paɗ- spells out (call it Pass) is above Trans.

This results is further articulation in the structural zone traditionally associated with a single head (namely v), as illustrated below:¹

¹I have drawn a specifier position for Trans and assume that this will either be filled by an empty operator controlled by the instrumental-marked agent (the equivalent of a ‘by’-phrase) or will be filled by the instrumental-marked agent directly. Of course, Embick (2004) proposes that the TransP (VoiceP in his terminology) is specifierless to begin with – I later present some evidence that might contradict this idea, however – but don’t take a firm stance on this position for now.
The data from passives thus argues against the idea that there is a single head (e.g. Voice) which is responsible for the unaccusative-transitive alternation as well as the active-passive one.

Rather, the evidence suggests that these alternations are encoded on two distinct heads, with the head responsible for encoding passivity being higher than that which introduces the external argument.

3 Introducing the koı́ morpheme

There is another type of morpheme which can occur in the Tamil verbal sequence:

This is a morpheme koı́ which, I will argue, has a middle-like semantics.

The distribution, syntax and semantics of this morpheme are also instructive in understanding the shape of the v domain in Tamil.

In the typical case, co-argument reflexivity in Dravidian is only possible under the presence of a morpheme koı́ suffixed onto the verbal stem, as (6) illustrates:

(6) Srițıtı tamn-æactory{t, rect} adzi-ččśću-kko-ŋčś-aan/*adzi-čč-aan.
    Sri[nom] ANAPH-ACC hit-TR-kol-pst-3msg/*hit-TR.PST-3MSG
    “Sri hit himself{t,rect}.”

koı́ also marks unaccusatives, as shown below:

    “The pot got broken.” (rough translation)

- The distribution of koı́ seems to support popular analyses (see e.g. Alexiadou, Anagnostopoulou, and Everaert, 2004, for different proposals in this spirit) according to which reflexives and unaccusatives share an identical structural subcomponent, based on the observation that they are often identically marked crosslinguistically.
• I.e. it seems to bolster the idea that reflexivity is (always) a species of voice phenomenon.

• Based on very similar data, Lidz (2001, and subsequent), in fact, proposes that kol in the closely related Dravidian language Kannada spells out a specifierless Voice head in unaccusative and reflexive structures, much along the lines of Embick (2004) for non-active morphology in Greek.

However, closer inspection reveals that kol (at least in Tamil) realizes a head distinct from Kratzerian Voice (which I’ve been calling Trans):

I. kol-suffixation on unaccusatives is fully optional, as illustrated in the minimal pair below:

(8) Paanæ oðæ-ndo*adu/*oðæ-čč-adu.
Pot[NOM] break-INTR.ASP-3NSG/*break-TR.ASP-3NSG
“The pot broke.”

“The pot got broken.” (rough translation)

II. kol marks not only reflexives and unaccusatives but may also optionally mark a (non-reflexive) transitive, as in (10):

(10) Sri paanæ-jæ
Sri[NOM] pot-ACC
break-TR.ASP-kol-PST-3MSG/*break-INTR.ASP-kol-PST-3MSG
“Sri got the pot broken.” (rough translation)

III. The verb form is phonologically marked as unaccusative vs. transitive even before kol-suffixation. This is illustrated by the obligatory phonological voicing of the morpheme immediately following the verbal stem in (9) and its obligatory voicelessness in (10).

I’ll come back to the syntactico-semantic contribution of kol momentarily, but it is important to note at this juncture that:

☞ Regardless of how kol is ultimately analyzed, the data above show conclusively that the distribution of kol has nothing to do the valency of the predicate it attaches to.

☞ I.e. it must represent a distinct syntactic head (call it F, for the moment) from Kratzerian Voice/Trans.

☞ This head is, furthermore, higher than Trans (as per the Mirror principle) since it linearly succeeds it.

Thus, a transitive kol sentence like that in (10) would have the following structure:

2I’ll revise this structure a little, once I’ve discussed what kol actually means.
3.1 Brief excursus into the syntax-semantics of $kō|$ 

- $kō|$ is often treated in the Dravidian literature as a notoriously difficult morpheme to characterize, with a range of apparently internally inconsistent meanings, like self-benefaction or self-affectedness, volitionality, accident, inchoation from a state, the simultaneity or completion of an action (Schiffman, 1995; Annamalai, 1999; Steever, 2005).

- It is also often described as a reflexive marker, since its presence is typically obligatory to obtain co-argument binding – a characterization that the data above, however, reveals to be too simple.

In Sundaresan (2012), I investigated the effect of adding $kō|$ to a range of predicates culled from the Levin (1993) verb classes and also conducted a survey of such sentences against different discourse scenarios amongst native speakers, to hone in on its meaning contribution. Here, I briefly summarize the results:

- $kō|$ attaches to the derived result state of a main event predication such that the highest argument of this event *comes to hold* the result state of this event in their mental or physical space.  

- Thus, it introduces a semantics very much like those in Sells (1987)’s SELF and PIVOT roles.  

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3This analysis of $kō|$’s meaning is further supported by the extent to which $kō|$ is compatible with different verb-classes:

i. Verbs that lack a result state (inherent statives) or actively resist the addition of one (involuntary emissives) are incompatible with $kō|$.

ii. In contrast, change-of-state/location telic predicates (grooming, postural verbs, and change-of-state un-accusatives) especially “like” $kō|$.

iii. All other verbs, which lack a telos but are compatible with the addition of one, are optional with $kō|$.

4Sells characterizes as “SELF” “one whose mind is being reported” (Sells, 1987, 455). As for PIVOT, he states: “I understand PIVOT in a very physical sense . . .; if someone makes a report with Mary as the PIVOT, that person is understood as literally standing in Mary’s shoes” (Sells, 1987, 455-456).
The contribution of ko[1] is illustrated by the transitive ko[1]-sentence below:

\[(12)\] Mansi paal-æ uutt-i-ko-[aal],
\[\text{Mansi[NOM] milk-ACC pour-TR.ASP-ko[1]-PST-3FSG}
\]
“Mansi poured-ko[1] the milk.”

- The addition of ko[1] to the verb uutt- (‘pour’) in (12) contributes the information that the result state of milk-pouring comes to be evaluated from Mansi’s physical or mental space.

- Informally, we get the reading that Mansi either poured the milk for herself (mental space), or that she poured it on herself (physical space).

In a sense, therefore, ko[1] associates the highest argument with an extra semantics, much like a θ-role:

- I propose that ko[1] is a (thematic-)raising predicate (along the lines of Ramchand, 2008) (or a control predicate, as has been proposed for adjectival passives by Bruening (To Appear)) which raises the highest argument in the event predication to its Spec.

- This raising property is crucial in explaining the obligatory presence of ko[1] in typical cases of co-argument binding in Tamil.

- Briefly, the addition of ko[1] to a sentence like (6) allows the agentive DP to raise to a position where it can scope over the entire event predication giving it the right perspectival semantics required to antecede the anaphor.\(^5\)

- This in turn explains why, in structures where such a perspectival semantics is already encoded as part of the verb meaning, as in the case of psych-predicates, the use of ko[1] is prohibited and co-argument binding still obtains.

\(\text{To sum up, the distribution of ko[1] is thus very similar to that of get in English kriegen in German. We can thus rename the head that ko[1] spells out as Get (rather than F).}

\(\text{Formally: } [\text{ko}[1]] = \lambda Q_{<s,t>} \lambda x. \lambda e' \exists s.Q(s) \wedge \text{Get}(e') \wedge \text{Locus}(e', x) \wedge \text{Theme}(e', s)\)

\(\text{This denotation states that ko[1] takes a stative proposition as its argument and binds off the state. It further takes an individual and a(n) (sub-)event and relates them to the result state. Specifically, } x \text{-ko[1]-[AspP]} \text{ means “x comes to hold the derived result state denoted by Asp”}.\(^6\)

\(\text{Note, finally, that the Locus predicate is underspecified with respect to whether it is interpreted as a mental or spatial locus. This information is contextually supplied.}\)

\(^5\) Anaphoric antecedence in Tamil, as in many languages, is perspectivally determined. I.e. the antecedent denotes an individual in the evaluation context that holds a particular mental/spatio-temporal perspective with respect to the minimal predication containing the anaphor.

\(^6\) This is incidentally a nice result because it is very close to the fully lexical meaning of ko[1] in older stages of the language, where it means HOLD.
4 Putting it all together

Let us now return to the nature of the articulation within the vP layer:

- At this point, we have seen two markers that appear above Trans – the passive morpheme *pa*- in (4)/(5), and now the *ko* morpheme.

- One possibility – perhaps even a reasonable one, given that *ko* introduces a middle-ish ‘get’-type semantics – is that these markers are two alternative instantiations of the same structural position.

- The other logical option, of course, is that they represent two distinct structural positions.

- The latter possibility predicts that *ko* and the passive marker may co-occur, whereas the former predicts that they cannot.

As it turns out, *ko* and the passive marker *pa*- *can* co-occur, as illustrated below:

POT[NOM] Sri-INSTR break-tr-*ko*-PASS-PST-3NSG/*break-tr-PASS-*ko*-PST-3NSG
“The pot got broken by Sri.”

* The possibility of a sentence like (13) shows conclusively that *ko* and the passive marker occupy distinct heads in the v domain.

* Furthermore, the ordering of *ko* and the passive marker is fixed: *ko* must linearly precede the passive morpheme, never succeed it, as shown above.

* This in turn indicates that Pass is higher than Get, the head that *ko* spells out, which in turn is higher than Trans.

We thus have a final picture involving a higher degree of articulation in the v domain, as illustrated by the structure for (13) below:7

7Note, incidentally, that the DP that gets associated with the *ko* semantics – i.e. is raised into its specifier – is the AGENT Sri, not ‘the pot’. This is what we would expect if the external argument is still introduced in [Spec, TransP] even in the passive, but would require additional assumptions under a theory where the normal external argument position is empty and ‘by’-phrases are projected elsewhere.
5 Conclusion

We have seen three pieces of data from Tamil: phonological voicing alternations that directly track alternations in transitivity, a middle marker \( ko \) with a semantics much like that of ‘get’ in certain ‘get’-passives, and a passive marker \( pad \).

These markers may crucially co-occur and do so in the following rigid relative ordering: \( \text{Trans} < \text{Get} < \text{Pass} \).

Such data thus suggests that there isn’t a single \( v \) (or Voice) head in the \( vP \), which is simultaneously responsible for encoding the syntactico-semantics of transitivity, reflexivity, and active-passive alternation.

Rather, this information is distributed across a functional sequence of at least three distinct, rigidly ordered, contiguous heads.

Thus, it makes sense to think of \( v \) as a layer or domain (much like with C), consisting of different heads manipulating various aspects of the event semantics, as proposed e.g. in Adger (2007) and more recently in Ramchand and Svenonius (2013).

A more general question is to what extent the nature and degree of this articulation is parametrized:

If it is parametrized, we would need to show that passives, reflexives, and unaccusatives in other languages have systematically different meanings or have different possibilities for being combined with each other than in Tamil and Tamil-like languages.
But if indeed it is not parametrized, and all languages have an articulated $v$ layer such as that argued for here—a theoretically attractive idea—then the differences in surface patterns must be treated, not as a function of differences in underlying structure but of how that structure is realized (we could propose e.g. that the overt morphology in less inflected languages “spans” (Ramchand, 2008) a contiguous sequence in $v$).

References


Bruening, Benjamin. To Appear. Word formation is syntactic: adjectival passives in English. *Natural Language and Linguistic Theory*.


