Split Coordination and Successive-Cyclic Movement in Passamaquoddy

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1 Two Types of NP Coordination

1. Overt 'and'

> (1) a. Piyel **naka** Mali ali-wiciyew-t-**uwok**.
> P. and M. around-go.with-Recip-**3P**
>
> 'Piyel and Mary are going around together.'
>
> b. Kil **naka** Tihtiyas (k)-kolh-a-**wa** muwin.
> 2 and T. 2-trap-Dir-**2P** bear
>
> 'You and Tihtiyas will trap a bear.' (*note overt pronoun*)

2. No overt 'and'; conjunction expressed through agreement:[1]

> (2) a. Piyel ali-wiciyew-t-**uwok** Mali-wol.
> P. around-go.with-Recip-**3P** M.-Obv
>
> 'Piyel and Mary are going around together.'
>
> b. K-itap k-toli-nomiy-uti-**pa** Kehlis-k.
> 2-friend 2-there-see-Recip-**2P** Calais-Loc
>
> '(You and) your friend saw each other in Calais.' (*null pronoun*)

Note that verbs here are intransitive and show agreement with a plural subject (reciprocals *require* a plural subject).

1.1 Difference 1: Obviation

Within a clause, one 3rd person NP is proximate (unmarked), all others must be obviative:

> (3) Ipa, **Mali San** nit uci nuhsuhk-aku-n **wen-il**.
> hey Mary Jane there 3.from chase-Inv-N who-Obv
>
> 'Well, something (Obv) chased after Mary Jane (Prox).' (Newell 1979, 8)

With overt 'and', second NP may not be obviative:

> (4) Piyel naka Mali-**(*wol)** ali-wiciyew-t-uwok.
> P. and M.-(*Obv) around-go.with-Recip-3P
>
> 'Piyel and Mary are going around together.'
>
> (5) Piyel wolitahasu eli nekom naka Mali-**(*wol)** utuhkmin-ti-htit.
> P. be.happy.3 C 3 and M.-(*Obv) date-Recip-3PConj
>
> 'Piyel is happy that he and Mary are dating each other.'

With no overt 'and', second NP *must* be obviative:

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[1] As far as I am aware, this construction has only been noticed in print by Quicoli (undated), in the closely related language Micmac.

(6)   Piyel ali-wiciyew-t-uwok   Mali-**(wol)**.
        P.   around-go.with-Recip-3P M.-*(Obv)

        'Piyel and Mary are going around together.'

(7)   Piyel wolitahasu eli Mali-**(wol)** utuhkmin-ti-htit.
        P.   be.happy.3 C M-*(Obv)   date-Recip-3PConj

        'Piyel is happy that (he and) Mary are dating each other.'

1.2   Difference 2: Word Order

Natural word order—proximate preverbal, obviative postverbal (hence *split coordination*):

(8)   *Piyel* ali-wiciyew-t-uwok   *Mali-wol*.
        P.   around-go.with-Recip-3P M.-Obv

        'Piyel and Mary are going around together.'

This is the most natural order of a transitive too; see (3) and (25).

1.3   Difference 3: Extraction

May not extract from conjunction with overt 'and':

(9)   a.   * Keqsey Estela usam-som-a-t   Pilips-ol [$_{CP}$ *t* naka toqonikon-ok] ?
           what   Stella excessive-feed-Dir-3Conj Phil-Obv   and dumpling-3P

           'What did Stella feed Phil too much of *t* and dumplings?'

      b.   * Tan kehsi-ni-ya   ketunol-ot-ulti-htic-ihi   [muwin naka *t* mahtoqehsuw-ok] ?
           WH X.many-N-3P IC.be.after-Recip-Plural-3PConj-PartObvP bear   and   rabbit-3P

           'How many rabbits are a bear and *t* after each other?'

May extract from conjunction without overt 'and':

(10) a.   Wen-il   Mali ali-wiciyew-ti-htic-il?
           who-Obv M.   around-go.with-Recip-3PConj-PartObv

           'Who are Mary and *t* going around together?'

      b.   Tan kehsi-ni-ya   muwinuw-ok ketunol-ot-ulti-htit   mahtoqehsu?
           WH X.many-N-3P bear-3P   IC.be.after-Recip-Plural-3PConj rabbit.ObvP

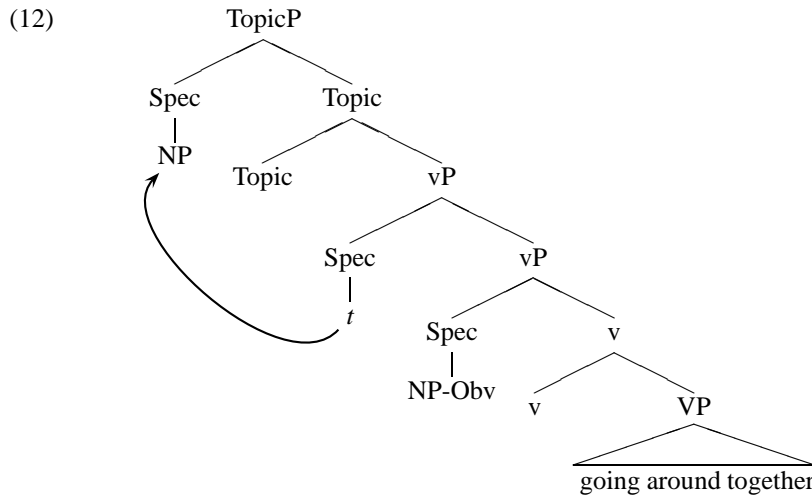   'How many bears are *t* and some rabbits after each other?'

Note that may extract either the proximate or the obviative one:

(11) a.   **Wen-il**   *Mali* ali-wiciyew-ti-htic-il?
           who-Obv M.   around-go.with-Recip-3PConj-PartObv

           'Who are Mary and *t* going around together?'

      b.   **Wen** ali-wiciyew-ti-htit   *Mali-wol*?
           who around-go.with-Recip-3PConj M-Obv

           'Who are *t* and Mary going around together?'

2   Analysis

1. Conjunction with 'and' just like familiar NP coordination in other languages.

2. Split coordination without 'and' involves generating a second subject in second Spec-vP.

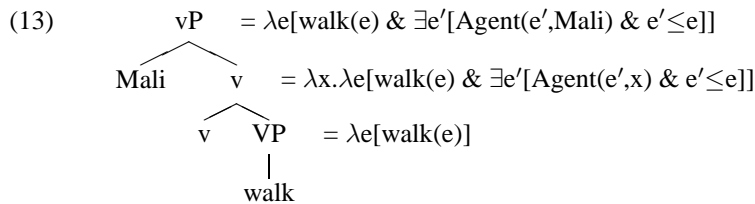- The only way to interpret this is as second subject, i.e., conjunction.

- Highest subject is attracted to higher discourse position:

(12)

```
                    TopicP
                   /      \
               Spec        Topic
                |         /      \
               NP     Topic       vP
                ↑              /      \
                |          Spec        vP
                |           |         /    \
                |           t      Spec      v
                |                   |       /   \
                |                NP-Obv    v     VP
                                               /    \
                                        going around together
```

- V-to-I gives correct word order; lower NP forced to become Obviative.

- Though interpreted as a single argument thematically, the two positions can be targeted by syntactic processes differentially.

3. Passamaquoddy allows only one wh-phrase; split coordination blocks successive-cyclic wh-movement because the intermediate position at vP is taken.
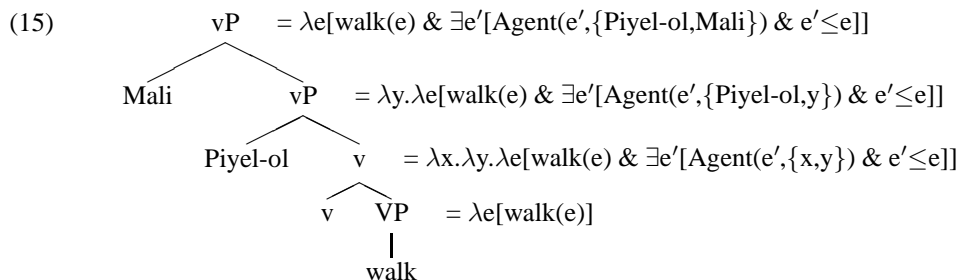
2.1 Interpretation: Event Identification

Kratzer's (1996) Event Identification:

(13)

```
        vP      = λe[walk(e) & ∃e′[Agent(e′,Mali) & e′≤e]]
       /   \
   Mali      v    = λx.λe[walk(e) & ∃e′[Agent(e′,x) & e′≤e]]
            /  \
           v    VP    = λe[walk(e)]
                |
              walk
```

- What happens if you add another argument on top that isn't part of a chain?

- Default interpretive rule for multiple specifiers if no other rule applies: iterate the function of the head.
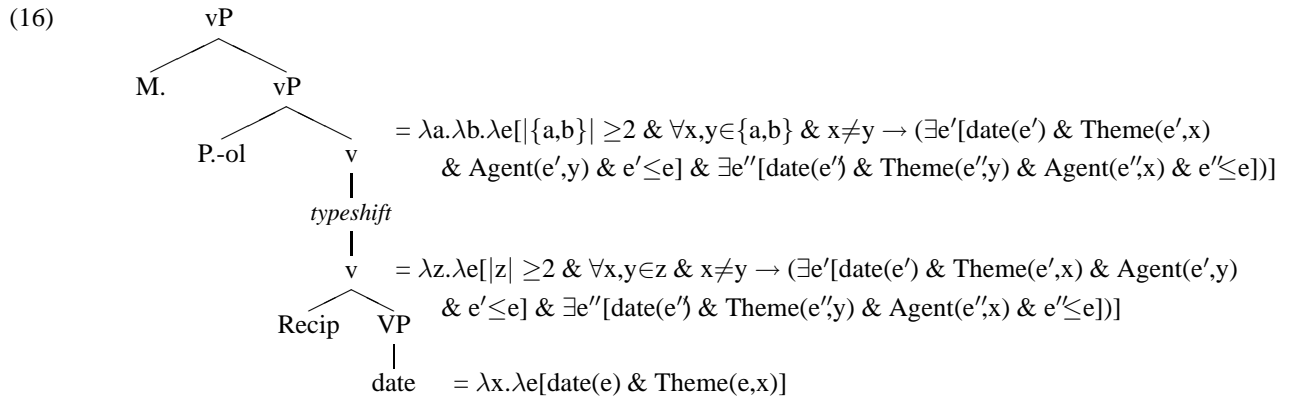
(14) Type-shifting rule for multiple specifiers:
$\lambda x.f(x) \rightarrow \lambda x.\lambda y.f(\{x,y\})$ *or* $f(x \oplus y)$

(15)

```
           vP      = λe[walk(e) & ∃e′[Agent(e′,{Piyel-ol,Mali}) & e′≤e]]
          /   \
      Mali      vP    = λy.λe[walk(e) & ∃e′[Agent(e′,{Piyel-ol,y}) & e′≤e]]
               /   \
          Piyel-ol    v    = λx.λy.λe[walk(e) & ∃e′[Agent(e′,{x,y}) & e′≤e]]
                     /  \
                    v    VP    = λe[walk(e)]
                         |
                       walk
```

- Why can't you do this just anywhere? Answer: only vP has option of extra specifier (as shown by object shift, intermediate stopping point for wh-movement).

- Preliminary attempt at reciprocals, using Strong Reciprocity from Dalrymple *et al.* (1998):

(16)

```
              vP
         ┌────┴────┐
        M.         vP
              ┌─────┴─────┐
            P.-ol         v
                          │
                      typeshift
                          │
                          v
                    ┌─────┴─────┐
                  Recip        VP
                               │
                             date
```

$= \lambda a.\lambda b.\lambda e[|\{a,b\}| \geq 2$ & $\forall x,y \in \{a,b\}$ & $x \neq y \rightarrow (\exists e'[\text{date}(e')$ & $\text{Theme}(e',x)$ & $\text{Agent}(e',y)$ & $e' \leq e]$ & $\exists e''[\text{date}(e'')$ & $\text{Theme}(e'',y)$ & $\text{Agent}(e'',x)$ & $e'' \leq e])]$

$= \lambda z.\lambda e[|z| \geq 2$ & $\forall x,y \in z$ & $x \neq y \rightarrow (\exists e'[\text{date}(e')$ & $\text{Theme}(e',x)$ & $\text{Agent}(e',y)$ & $e' \leq e]$ & $\exists e''[\text{date}(e'')$ & $\text{Theme}(e'',y)$ & $\text{Agent}(e'',x)$ & $e'' \leq e])]$

$= \lambda x.\lambda e[\text{date}(e)$ & $\text{Theme}(e,x)]$
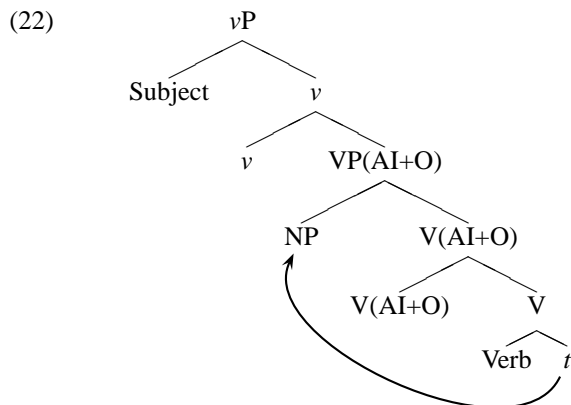
2.2 Supporting Evidence: Intransitives Only

(17) Mali al-kawtuw-**ok** Piyel-ol.
Mary around-walk(Dual)-**3P** P.-Obv
'Mary and Piyel are walking around.'

(18) * Muwin n-kolh-a-**k** mahtoqehsuw-ol.
bear 1-trap-Dir-**3P** rabbit-Obv
'I trapped a bear and a rabbit.'

(19) * Mali nomiy-a-**wa**-l Piyel-ol Susehp-ol Kehlis-k.
M. see-Dir-**3P**-Obv P.-Obv S.-Obv C.-Loc
'Mary and Piyel saw Susehp in Calais.'

(20) * Muwinuw-ok n-kolh-uku-**k** malsom.
bear-3P 1-trap-Inv-**3P** wolf.ObvP
'Bears and wolves trapped me.'

- Second subject takes up position that is necessary to license the object.

- In a transitive, the object will not be able to be licensed.

- Splitting object is out for a couple of reasons: either two Specs just not allowed (only vP has extra position), or vP can only license one object.

One exception: AI+O verbs, so called because they are morphologically intransitive but take a syntactic object:

(21) Mali '-kisi-saputiy-ahka-ni-**ya** Piyel-ol *ponapsq* possiyanteski-k.
M. 3-Perf-through-throw.AI+O-N-**3P** P.-Obv rock window-Loc
'Mary and Piyel threw a rock through the window.'

Bruening (2001, ch.2) suggests that the object of an AI+O verb is actually licensed by a lower head:

(22)

```
                vP
         ┌──────┴──────┐
      Subject          v
                 ┌──────┴──────┐
                 v           VP(AI+O)
                        ┌───────┴───────┐
                       NP             V(AI+O)
                              ┌──────────┴──────────┐
                           V(AI+O)                  V
                                              ┌──────┴──────┐
                                            Verb            t
```

Morphologically intransitive verbs that take CP complements also fine; follows if CPs do not need licensing (Case Resistance):

(23)   Mali yuhu-t-uwok   Piyel-ol [CP wen-ihi   keti-nipuwam-a-htic-ihi   ] .
          M.   say.to-Recip-3P P.-Obv   who-ObvP IC.Fut-marry-Dir-3PConj-PartObvP
          'Mary and Piyel told each other who they're going to marry.'

(But note that morphologically transitive clause-embedding verbs are bad.)

2.3   Word Order

Natural word order—proximate preverbal, obviative postverbal:

(24)   *Piyel* ali-wiciyew-t-uwok   *Mali-wol.*
          P.   around-go.with-Recip-3P M.-Obv
          'Piyel and Mary are going around together.'

This is also the most natural word order of a transitive:

(25)   a.   *Koluskap* 't-oli   asitem-a-l   *nicalku-l*, . . .
              K.   3-thus answer-Dir-Obv 3.uncle-Obv
              'Koluskap answers his uncle, . . . ' (Mitchell 1921/1976b, 7)
   b.   Ipa, *Mali San* nit   uci   nuhsuhka-ku-n *wen-il.*
              hey Mary Jane there 3.from chase-Inv-N   who-Obv
              'Well, something [An.] chased after Mary Jane,' (Newell 1979, 8)

But different permutations are also possible, just like with transitives (two NPs move around independently):

(26)   *Mali-wol Piyel* ali-wiciyew-t-uwok.
          M.-Obv   P.   around-go.with-Recip-3P
          'Piyel and Mary are going around together.'

Restriction: Obv NP may not follow object in AI+O:

(27)   a.   Mali '-kis-ahka-ni-ya   *Piyel-ol* <u>katkuhk</u>.
              M.   3-Perf-throw.AI+O-N-3P P.-Obv   pot.ObvP
              'Mary and Peter threw pots.'
   b.   * Mali '-kis-ahka-ni-ya   <u>katkuhk</u>   *Piyel-ol.*
              M.   3-Perf-throw.AI+O-N-3P pot.ObvP P.-Obv
              'Mary and Peter threw pots.'

Explanation: secondary object does not move to vP; can scramble, but only to the left of the verb. Rightward adjunction only possible with heavy pauses.
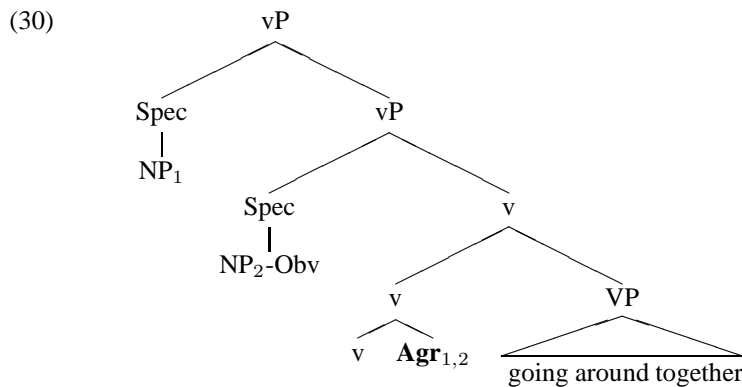
2.4   Agreement and Lexical Restrictions

Get agreement with both subjects simultaneously, and the two together count for requirements for dual or plural subjects:

(28)   a.   Mali al-kawtuw-ok   Piyel-ol.
              Mary around-walk(Dual)-3P P.-Obv
              'Mary and Piyel are walking around.'
   b.   * Mali al-apasuw-ok   Piyel-ol.
              Mary around-walk($>$2)-3P P.-Obv
              'Mary and Piyel are walking around.'

    c.   Piyel ali-wiciyew-t-uwok   Mali-wol.
         P.   around-go.with-**Recip**-3P M.-Obv
         'Piyel and Mary are going around together.'

- Semantics interprets as a set: {Mali, Piyel}, which is dual.

- Agreement: suppose it is Agr node adjoined to v (30).

- Agr on v agrees with whatever arguments are licensed by v.

- v licenses subject of intransitive, object of transitive.

- Agreement with subject in intransitives is the same as agreement with object in transitives:

(29)   a.   opuw-**ok** b. n-tokom-a-**k**
           sit-**3P**   1-hit-Dir-**3P**
           'they sit'   'I hit them'

(30)

```
                    vP
               /          \
           Spec            vP
            |          /        \
          NP_1      Spec          v
                     |         /      \
                  NP_2-Obv    v        VP
                            /   \     /      \
                           v  Agr_{1,2}  going around together
```

- In split coordination v licenses (semantically and syntactically) two NPs, as a plural agent. Hence Agr will copy features from both of them.

- (So normal movement of proximate NP to higher position is not related to licensing, but to something like discourse prominence.)

- (Subject in transitive is licensed by some higher head, e.g. T.)

2.5 Obviation

- Independent NPs in a single clause: one always obviates the other.

- Highest NP always obviates c-commanded NPs.

- Only way around this is to move an object to a higher A-position (the Inverse), as shown by WCO:

(31)   a.   * Keqsey pett-aqoso-k   [$_{NP}$ not   kis-uwikho-k   ] t?
            what   IC.accidentally-burn-3Conj   that.An Perf-write-3Conj
            'What$_1$ did the one who wrote it$_1$ accidentally burn?'

    b.   Wen pihce t w-itapihi-l   nekol-iht t kcihku-k?
          who long.ago 3-friend-Obv IC.leave-3ConjInv forest-Loc
          'Who$_1$ (Prox) did his$_1$ friend (Obv) abandon in the forest a long time ago?'   INVERSE

- This higher A-position is not available in intransitives, as shown by agreement, lack of an Inverse (in AI+Os), and WCO:

(32)   * Keqsey [$_{NP}$ not   kisi-ht-aq   ] napisqahma-t t?
           what   Dem Perf-make-3ConjTI   trip.over.AI+O-3Conj
           'What$_1$ did the one who made it$_1$ trip over?'

2.6 Variable Binding

The proximate NP in split coordination may bind a variable in the obviative one (33), but not vice versa (33c); word order does not matter:

(33) a. *Psi=te wen* ali-wiciyew-t-uwok   **'-tutem-isqih-il**.
        everyone   around-go.with-Recip-3P 3-white.friend-Female-Obv
        'Everyone$_1$ and his$_1$ girlfriend are going around together.'

   b. **'-Tutem-isq-ihil**   ali-wiciyew-t-uwok   *psi=te wen*.
        3-white.friend-Female-Obv around-go.with-Recip-3P everyone
        'Everyone$_1$ and his$_1$ girlfriend are going around together.'

   c. * **'-Tutem-isqih-il**   ali-wiciyew-t-uwok   *psi=te wen-il*.
        3-white.friend-Female-Obv around-go.with-Recip-3P everyone-Obv
        'His$_1$ girlfriend and everyone$_1$ are going around together.'

This is just like transitives:

(34) a. Katolu   *psi=te wen* '-koselom-a-l   **w-ikuwoss-ol**.
        of.course everyone   3-love-Dir-Obv 3-mother-Obv
        'Of course everyone$_1$ loves his$_1$ mother.'

   b. * **Skitap musqitaham-a-c-il**   '-koti-tqon-a-l   *psi=te wen-il*.
        man   hate-Dir-3Conj-PartObv 3-Fut-arrest-Dir-Obv everyone-Obv
        'A man that he$_1$ hates will arrest everyone$_1$.'

- Follows from the structure: higher NP asymmetrically c-commands the lower, obviative NP.

- Any further movements will be A-bar scrambling, which will not affect binding.

2.7 Differential Extraction

As shown above, each position can be targeted differentially by movement processes. More examples:

(35) Wen-il   Mali ali-wiciyew-ti-htic-il?
      who-Obv M.   around-go.with-Recip-3PConj-PartObv
      'Who is Mary and *t* going around together?'   *WH-Q*

(36) Wot   nit skitap [Mali utuhkmin-ti-htit] .
      this.An that man   M.   date-Recip-3PConj
      'This is the man that Mary and *t* are dating each other.'   *RC*

(37) N-kosiciy-a   wot   skitap eli toli-nomiy-uti-yeq   Utoqehki-k.
      1-know.TA-Dir this.An man   C there-see-Recip-2PConj G.L.S.-Loc
      'I know about this man that (you and) *t* saw each other at Grand Lake Stream.' *Raising to Object*

This is definitely movement; it obeys islands:
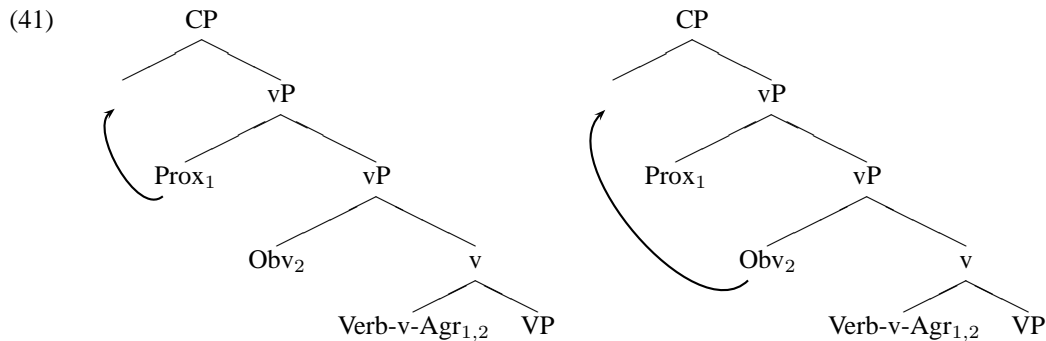
(38) * Wot   nit skitap wisokitohas-i   ['sami   Mali utuhkmin-ti-htit   *t*] .
        this.An that man   heartbroken-1Conj   because M.   date-Recip-3PConj
        'This is the guy who I'm heartbroken because Mary and *t* are dating each other.'

(39) * N-kosiciy-a   Piyel$_1$ eli wisokitohas-iyin   [eli Mali ali-wiciyew-ti-htit   *t*$_1$] .
        1-know.TA-Dir P.   C heartbroken-2Conj C M.   around-go.with-Recip-3PConj
        'I know (about Piyel) that you're heartbroken that Mary and *t* are going around together.'

Many nouns are formed as participle verbs (relative clauses) on this pattern:

(40) nisu-wi-htic-il
      two-be-3PConj-PartObv
      'his/her spouse' (literally, 'the one who$_1$ he/she and *t*$_1$ are a couple')

2.8 Summary
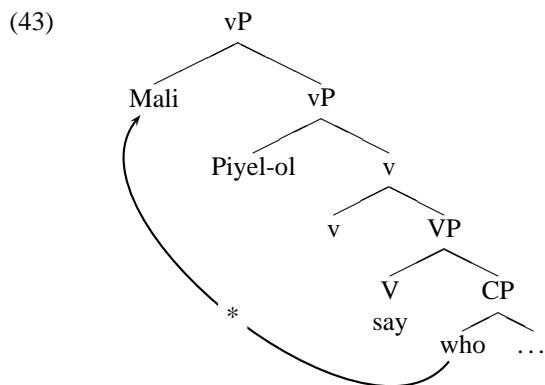
Extraction can target each of these positions individually, although the verb agrees with both of them as a single argument:

(41)

```
          CP                                      CP
         /  \                                    /  \
            vP                                      vP
           /  \                                    /  \
       Prox₁    vP                             Prox₁    vP
               /  \                                    /  \
           Obv₂     v                              Obv₂     v
                   /  \                                    /  \
          Verb-v-Agr₁,₂  VP                      Verb-v-Agr₁,₂  VP
```

3 Successive-Cyclic Movement

- Above we said that generating a second subject in second Spec-vP takes up the object-licensing spot.

- If this is correct, we might expect it to also block successive-cyclic wh-movement, if it is correct that wh-movement targets this position as an intermediate landing site.

- This seems to be correct, though the judgements are not as firm as might be desired:

(42) a. Keqsey Mali itom-uk Piyel-ol [$_{CP}$ wen-il nemiy-a-htic-il] ?
       what   M.   say-3P P.-Obv   who-Obv IC.see-Dir-3PConj-PartObv

       'What did Mary and Piyel say who did they see?' (*wh-scope marking*)

  b. * Wen-il   Mali itom-uk Piyel-ol [$_{CP}$ nemiy-a-htic-il] ?
       who-Obv M.   say-3P P.-Obv   IC.see-Dir-3PConj-PartObv

       'Who did Mary and Piyel say they saw?'

(43)

```
            vP
           /  \
        Mali    vP
               /  \
          Piyel-ol  v
                   /  \
                  v    VP
                      /  \
                     V     CP
                    say   /  \
                        who  …
```

Contrast coordination with *naka*:

(44) Wen-il   itom-uk Mali naka Piyel nemiy-a-htic-il?
     who-Obv say-3P M.   and P.   IC.see-Dir-3PConj-PartObv

     'Who did Mary and Piyel say they saw?'

(Passamaquoddy allows only one wh-phrase to move, and disallows wh-in-situ, even in multiple questions, meaning that only one Spec-vP/CP is available.)

3.1 Wh-Extraction of Object CP

Split coordination does not block wh-extraction of the whole propositional object:

(45)   Keqsey Mali itom-uk Piyel-ol?
         what   M. say-3P P.-Obv
         'What did Mary and Piyel say?'

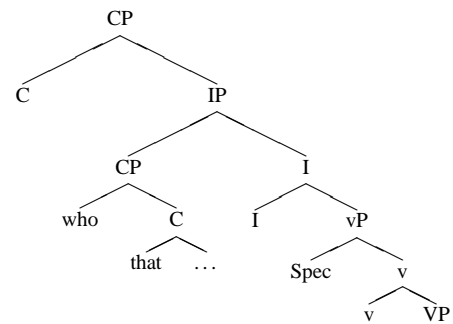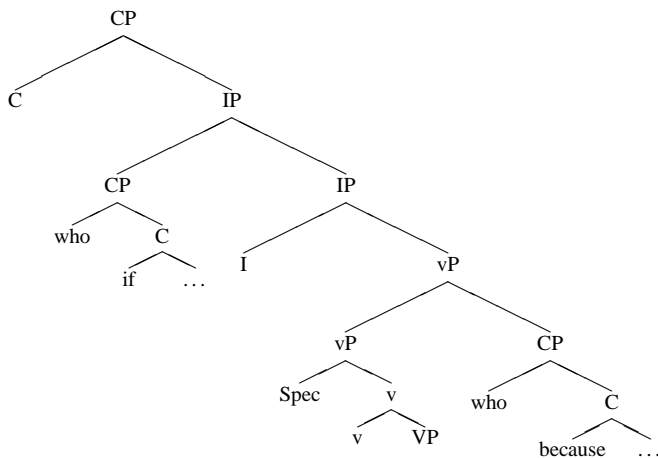(Also wh-scope marking in 42a; see Bruening 2003.)

- It appears that objects that are not licensed by v do not need to move through Spec-vP (verb here intrans.).

- But wh-phrases from lower clauses (also not licensed by v) do.

- So domain of accessibility to C is as in (46), but to v as in (47):

(46) $[_{CP}$ C^0 $[_{IP} \ldots [_{vP}$ Spec v Object $[_{CP}$ Spec C^0 $[_{IP} \ldots]\,]\,]\,]\,]\,]$

(47) $[_{CP}$ C^0 $[_{IP} \ldots [_{vP}$ Spec v Object $[_{CP}$ Spec C^0 $[_{IP} \ldots]\,]\,]\,]\,]\,]$

3.2 Strong vs. Weak Phases

(48)   *Revised Phase Impenetrability Condition:*
        Only elements within the *domain* of H are accessible to H.

(49)   a.   The domain of a strong phase H is the sister of H, excluding the maximal projection of any strong phase H′ dominated by H.
        b.   The domain of a weak phase H is the sister of H, excluding the sister of any phase H′ dominated by H.
        c.   C is a strong phase; v is a weak phase.

- So stuff in lower CP will have to move into the higher clause to be accessible to next C^0;

- v as head of weak phase is what has an extra Spec to enable this.

- Note that this way of stating the PIC automatically accounts for adjunct islands and sentential subject islands; Chomsky's (1998, 1999) PIC did not.

4 Conclusion and Consequences

- Much evidence now that vP can have an extra specifier to license an object and to permit successive-cyclic movement.

- Passamaquoddy can use this position to generate a second subject, interpreted as proposed here.

- But taking up this position blocks other functions: licensing an object, successive-cyclic movement.

Some theoretical consequences:

1. Proposed interpretive rule for multiple specifiers: $\lambda x.f(x) \rightarrow \lambda x.\lambda y.f(\{x,y\})$

2. Revised PIC differentiating CP and vP phases.

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