1 Resultatives and their orders

- **Resultatives**
  
  (1) Al pounded the cutlet flat
  ‘Al made the cutlet flat by pounding’

- **Form**
  
  Single clause, two overt predicates
  
  \( M(\text{means predicate}): \text{pound} \)
  \( R(\text{result predicate}): \text{flat} \)
  
  Neither introduced by a conjunction, complementizer, etc.
  
  \( MR: \) the smallest constituent containing both M and R

- **Meaning**
  
  An event of change, wherein an M event ‘causes’ an R event
  
  (n.b. no morphological signal of this relation)

- **Word order**
  
  Varies in two ways:
  
  1. Position of O
     
     (a) **Discontinuous order**: O between M and R
     
     (2) Al pounded [the cutlet] flat.
     
     (b) **Continuous order**: O not between M and R
     
     (3) Lˇ ao W` ei L.W. z´ apong -le n` a ku` ai r` ou.
     
     ‘Old Wei pounded the meat flat.’ (Mandarin)
     
     Only in VO — In OV languages, order is continuous
2. Order of M and R

(a) R before M

(4) weil er meine Hosen [sauber] [gewaschen] hat
   because he my pants clean washed has
   ‘because he washed my pants clean’ (German)

(5) avaḷ vastram [velu-kke] [ala] -kki.
   she clothes whiten-NPP wash -PAST
   ‘She washed the clothes white.’ (Malayalam)
   (Asher and Kumari 1997: 92)

(b) M before R

(6) keel-in pāl a- [sū] [chia].
   goat-ERG fence 3s- butt at bad
   ‘The goat butted the fence and broke it.’ (Mizo)
   (ex. & tr. Chhangte 1993: 143)

(7) Erí bēlé [sūr] [pāmō] -mi.
   he pot wash clean.CAUS -PAST
   ‘He washed the pot clean.’ (Ijô)
   (ex. & tr. Williamson 1965: 57)

Only in OV — In VO languages, M precedes R

□ Study
VO: English; Igbo, Edo; Ambae, Paamese; Mandarin, Shanghainese; Kayah Li; Vietnamese; Khmer; Thai, Dai . . .

OV: German; Ijô; Japanese; Malayalam, Kannada; Mizo, Yi, Akha, . . .

□ Today
§2 Generalization: Order varies with size of R

§3 Syntax that predicts this: O outside, R either head or phrase

§4 Semantic implication: Outside patient

§6 An atypical case: Yi

2 Observed correlates of order

□ Preview
1. Basic MOR / ORM: R is phrasal

2. Basic MRO / OMR: R is nonphrasal
Terms

- ‘Basic order’ = default
- ‘Nonbasic order’ = special phonological or pragmatic conditions

- ‘Phrasal R’ / ‘Nonphrasal R’
  Can be adverbially modified → Phrasal
  Nonphrasal → Cannot be adverbially modified
  Modification impossible = evidence for nonphrasality

- ‘Verb’ = Can be main predicate, without auxiliary support

2.1 VO languages

2.1.1 Size of R

Generalization

Basic order continuous ⇔ R nonphrasal

(8) tā zá (*hën) píng-le nà kuài ruò
   3s pound (*very) flat -PFV that chunk meat
   ‘He pounded that chunk of meat (very) flat.’ (Mandarin)

(9) Tói giát (?*rất) sách cái quăn
   1s wash (very) clean CLS pants
   ‘I washed (?*very) clean the pants’ (Vietnamese)

Similarly in Igbo, Ambae, ...

Discontinuous order, if possible, is nonbasic

Example: Shanghainese, nonphrasal R

(10) qū 23 sō 53 fūi 23 (*tɔkwε) su 53
    I cook it (*very) crisp
    ‘I cook it very crisp.’ (Shanghainese) (Libin Shen, p.c.)

But discontinuous order possible only with monosyllabic pronouns

(Xu and Tang 1988: 480, B. Huang 1996: 735)
□ Generalization  Basic order discontinuous ⇔ R phrasal

(11)  Al pounded it (extremely) flat.

Edo? Yoruba?

- Many types of adverbs excluded from R  (Stewart 2001: 20-42, Lawal 1993)

(12)  Òzó suá  ògó  #gié!gié dé.
      O.  push bottle (quickly) fall
      ‘Ozo made the bottle fall quickly by pushing.’  ⟨Edo⟩
      (Stewart 2001, gloss AW)

- But not all:  (O.T. Stewart, p.c.)

(13)  Òzó kòkó ̀̀ Adésúwà mòsè  (vbe Iyoba).
      O.  raise A.  be-beautiful (like queen mother)
      ‘Ozo raised Adesuwa to be beautiful like the Queen Mother.’  ⟨Edo⟩  (O.T. Stewart, p.c.)

Continuous order, if possible, is nonbasic

(14)  He pounded extremely flat (*it) / every single cutlet we gave him.

(15)  Tói giàt  rất  sač  cái  quàn  tràng  này
      1s  wash very clean  CLS  pants  white  these
      ‘I washed very clean these white pants’  ⟨Vietnamese⟩

□ Observation  One language may two constructions, both with resultative meaning but differing in the size of R

Paamese  (Vanuatu) and other Oceanic languages  (Crowley 2002)

1.  R bears (non-matrix) TAM inflection ⇔ MOR

(16)  inau n- uas vua̱s he̱- mat
      1s 1s:DIST.FUT- hit pig 3s:DIST.FUT- die
      ‘I will hit the pig to death.’
      (ex. & tr. Crowley 2002: 55)

2.  R uninflected ⇔ MRO

(17)  i- sal vini: -n vua̱s
      3p:DIST.FUT- spear kill  -OBJ  pig
      ‘They will spear the pig to death.’  (ex. & tr. Crowley 2002: 83)
Vietnamese

MOR and MRO both possible as basic orders

– M O R

(18) Tôi giặt cái quần sạch
1s wash CLS pants clean
‘I washed the pants clean’

– M R O

(19) Tôi giặt sạch cái quần
1s wash clean CLS pants
‘I washed clean the pants’

MOR: R is readily modified

– M O mod-R

(20) Tôi giặt cái quần rất sạch
1s wash CLS pants very clean
‘I washed the pants very clean’

MRO w/ modified R: nonbasic; requires ‘weight’ or ‘focus’ on O

– *M mod-R O

(21) ?* Tôi giặt rất sạch cái quần
1s wash very clean CLS pants
*:I washed very clean the pants’

– M mod-R heavy-O

(22) Tôi giặt rất sạch cái quần trắng này
1s wash very clean CLS pants white these
‘I washed very clean these white pants’

Two constructions

1. Phrasal R: discontinuous order basic
   nonbasic continuous order derived by O extraposition

2. Nonphrasal R: continuous order basic

[Compare also Japanese (Washio 1997), where the two resultatives differ both in the size of R and in its syntactic (sub)category.]
2.1.2 Category of R is less informative

□ Observation  

Basic order continuous ⇒ R is a verb

(23) a. Ọkụkọ kpu wa -ra akw’a.
fowl brood split -FACT egg
‘The chicken made the eggs split by brooding.’ ⟨Igbo⟩

b. Akw’a wa -ra awa.
egg split -FACT BVC
‘The egg split.’ ⟨Igbo⟩

□ Response  

Converse not true
Discontinuous order with verbal R:

(24) lum2 loŋ1 pat8 xa6 mai4 xat9 leu4.
wind big blow tree branch snap PFV
‘A strong wind made the branches snap by blowing.’ ⟨Dai⟩
(Yu 1980: 90, trans. from Mandarin gloss _aw)

(25) Ọzó sùá ágó dé.
O. push chair fall
‘Ozo pushed the chair down.’ ⟨Edo⟩ (ex. & tr. Stewart 2001: 13)

2.1.3 Thematic relation to M irrelevant

□ Observation  

Order never depends on whether O has a ‘selected’ thematic relation to M
(see Williams 2004, 2005)

· E.g. Order is continuous in Igbo, regardless:

(26) a. O sọ ja -ra osisi.
3sS poke splayed -FACT wood
‘S/he made the stick splay by poking [with it].’
‘S/he splayed the stick by poking [it].’ ⟨Igbo⟩

b. O sọ ja -ra osisi.
3sS poke -FACT wood
‘S/he poked the stick.’ (not ‘with the stick’) ⟨Igbo⟩
2.2 Correlates of order in OV languages

2.2.1 Size of R

□ Generalization Basic order RM ⇔ R phrasal

(27) weil er meine Hosen (unheimlich) sauber gewaschen hat
because he my pants (uncannily) clean washed has
‘because he washed my pants (uncannily) clean.’ (German)

(28) avaři (nann-aayi) poɖiy-e kutt -um.
she rice (good-ADV) become powder-NPP pound -FUT
‘She will pound the rice quite powdery.’ (Malayalam)

(29) John-wa niku-o (totemo) yawaraka-ku ni -ta.
J.-TOP meat-ACC (very) soft-INFIN boil -PAST
‘John boiled the meat (very) soft.’ (Japanese)

Nonbasic OMR order with phrasal R? – I know of no clear cases

□ Generalization Basic MR order ⇔ R nonphrasal

(30) John-ga Mary-o uti (*korituyoku) korosi -ta.
J.-NOM M.-ACC shoot efficiently kill -PAST
‘John (efficiently) killed Mary by shooting her’

Same in Mizo, Ijo, so far as I know

Nonbasic ORM order with nonphrasal R? – I know of no clear cases

□ Exceptions? See §5 for apparent exceptions in the Yiish languages (S.E. Tibeto-Burman)

2.3 Category of R less informative

□ Observation OMR order ⇒ R is a verb

(31) keel-in pål a- sù chia.
goat-ERG fence 3s- butt at bad
‘The goat butted the fence and broke it.’ (Mizo)

(ex. & tr. Chhangte 1993: 143)
Converse not true: ORM order with verbal R

- In Malayalam and Japanese, R is evidently a *verb* phrase, with the head verb carrying subordinate inflection\(^1\)

**Malayalam**

Verb that heads R is a “*verbal participle*” or “*infinitive*” in -e

(Asher and Kumari 1997: 322; Prabodhachandran Nayar 1972: 40)

\[(33)\]  avaḷ vastram veḷu -kke ala -kki.
  she clothes whiten -NPP wash -PAST
  ‘She washed the clothes white.’ (Asher and Kumari 1997: 92)

\[(34)\]  ii kuppayam veḷu -ttu.
  this dress whiten -PAST
  ‘This dress became white.’ (Asher and Kumari 1997: 456)

\[(35)\]  acchan iri -kke amma mari -ccu.
  father be -NPP mother die -PAST
  ‘Mother died while father was still alive.’ (Asher and Kumari 1997: 82)

**Japanese**

A verb (*‘adjectival verb’*) may head R, in the -ku “*infinitive*”

(Iwasaki 2002)

\[(36)\]  John -wa niku -o yawaraka -ku ni -ta.
  J. -TOP meat -ACC soft -KU boil -PAST
  ‘John boiled the meat soft.’ (ex. & tr. Washio 1997: 9)

\[(37)\]  niku -wa yawaraka -katta.
  meat -TOP soft -PAST
  ‘The meat was soft.’

\[(38)\]  a. niku -wa yawaraka -ku -na -katta.
  meat -TOP soft -INFIN -NEG -PAST
  ‘The meat was not soft.’

  b. niku -wa yawaraka -ku -te ... 
  meat -TOP soft -INFIN -CONJ
  ‘The meat was soft and . . . .’

  J. -TOP ball -ACC soft -INFIN throw -PAST
  ‘John threw the ball gently.’

---

\(^1\) Carstens 2002 aims to explain word order in “serial verb constructions.” She presumes that in resultative SVCs, word order is always MR. But this is true only if one excludes cases where the R verb bears subordinate inflection—and this exclusion must be questioned.
2.4 Reprise

□ Pattern

1. MOR (English, Edo, ...) / ORM (German, Malayalam, ...)
   → Phrasal R

2. MRO (Mandarin, Igbo, ...) / OMR (Mizo, Ijo, ...)
   → Nonphrasal R

3 Account of order/size correlation

3.1 Assumptions

□ VP syntax

(39) Nonphrasal R

(40) Phrasal R

\[ \begin{array}{c}
  v \\
  \quad \text{VP} \\
  \quad O \quad V_{MR} \\
  \quad V_M \quad X \\
  \quad X \quad V_R \\
  \text{CAUSE}
\end{array} \quad \begin{array}{c}
  v \\
  \quad \text{VP} \\
  \quad O \quad V_{MR} \\
  \quad V_M \quad X \\
  \quad X \quad YP_R \\
  \text{CAUSE}
\end{array} \]

1. O is outside MR
   \[ \text{(Dowty 1979, Larson 1991, Hale & Keyser 1993;}
   \text{ contra e.g. Kayne 1985, Hoekstra 1988, Sybesma 1999)} \]

2. M contains no argument positions: just the verb, V_M
   \[ \text{[Evidence: Adverbial modification impossible]} \]
   \[ \text{(contra e.g. Carrier & Randall 1992, Déchaine 1993, Nishiyama 1998)} \]

3. Underlying size of R varies: head or phrase

□ Corollary

When R is a phrase, so is MR: \( \nabla_{MR} \)

When R is a head, so is MR: V_{MR}
   \[ \text{– since it then comprises only zero-level categories}^2 \]

\[ ^2 \text{In RRG terms, MR is then a complex nucleus, formed by nuclear juncture of simpler nuclei.} \]
Verb movement  Least embedded V in VP always raises to v

1. When R is phrasal: $V_M$, the M verb
2. When R is a head: $V_{MR}$, the MR verb
   (not the M verb it embeds, since it is less local to $v$)

Linearization  1. Typical VO languages
   head precedes a phrasal sister [unless sister is Spec or adjunct]
   Typical OV languages:
   head follows a phrasal sister [unless sister is Spec or adjunct]

2. A complex verb $[v \ X [ \text{cause} \ Y ] ]$ is pronounced XY

   **Important**: Here the VO/OV contrast is irrelevant
   $V_M$’s sister is not a phrase
   $V_M$’s sister is not its complement
   MR when both are nonphrasal, whether in VO or OV
   (Compare: S precedes O, whether in VO or OV)

3.2 Consequences

Consequence 1  When R is a phrase:

   (41) VO languages: MOR

```
    v
   /\  \
  /   \   \
 vM  O  \  \\
   \   \\
    \ CAUSE XP
```

10
Consequence 2  When R is a head:

(43) VO languages: MRO

− MOR & ORM ruled out by locality of head movement
  $V_{MR}$ is more local to $v$ than is $V_M$, making excorporation illicit

Notice

1. Continuity of M and R derived from general syntactic locality
   No need to treat each MR combination as a syntactic primitive

2. Same explanation:
   Order of M and R in OV languages
   Position of O in VO languages
3.3 Problem for alternatives

3.3.1 Result Object syntax

□ RO syntax R always occupies its own phrase

\[
\begin{array}{c}
\text{VP} \\
\text{V_M} \quad \text{XP} \\
\text{O} \quad \text{R}
\end{array}
\]


□ Consequences

1. MOR / ORM: given directly from underlying order (though cf. Carstens 2002)

2. MRO / OMR: requires right-adjunction of the R head to the M head

□ Problem 1 What properties force or forbid R-raising?

- No clear answer for all cases (pace e.g. Déchaine 1993, Stewart 2001)

  (Particularly when one language may have constructions of both types!)

□ Problem 2 R phrase is ‘underlyingly’ modifiable → R-raising can’t strand modifiers

- Unattractive stipulation

3.3.2 Similar problems: Overt O outside, covert O inside

□ OMOR Syntax Overt O outside MR, coindexed EC within R

\[
\begin{array}{c}
\text{VP} \\
\text{O_k} \\
\text{V_M} \quad \text{XP} \\
\text{EC_k} \quad \text{R}
\end{array}
\]

Consequences

To derive MRO:

1. Either: Right-adjoin R to M, then raise the resulting complex head
2. Or: Raise the MR phrase as a whole (cp. Carstens 2002)

Problems

1. Stipulate that R-raising can’t strand modifiers (Problem 2 above)
2. Stipulate MR-raising can’t carry modifiers

4 Evidence for semantic structure

Conclusion

‘Outside object syntax’ helps explain word order

\[
\begin{array}{c}
\text{VP} \\
O \quad \text{MR}
\end{array}
\]

(47)

Obervation

Only one semantics requires this syntax (even when O has no ‘selected’ thematic relation to M!)

Outside patient semantics:

- MR is not a predicate of the same event as either M or R³


\[
(48) \quad \llbracket \text{MR} \rrbracket =
\ldots \lambda e_c \exists e_m \exists e_r. R(e_c, e_m, e_r) \wedge \llbracket \text{M} \rrbracket (e_m) \wedge \llbracket \text{R} \rrbracket (e_r) \ldots
\]

- O assigned Pat relation to event of MR


\[
(49) \quad \llbracket \text{pound the cutlet flat} \rrbracket =
\ldots \lambda e_c. \llbracket \text{pound flat} \rrbracket (e_c) \wedge \text{Pat}(e_c, \text{cutlet}) \ldots
\]

- So O must be outside MR, given usual notions of compositionality

³Some evidence: Adverbs applying to MR do not apply either to M or to R. If Al pounded the cutlet flat slowly, it doesn’t follow that the pounding was slow; nor certainly that the being flat was slow.
The more common semantics does not predict the outside object syntax because it relates O only to R and maybe M

\[(50) \quad \text{[Al pound the cutlet flat]}\]

a. \(= [\text{Cause} \circ \text{Become}]\)
\(\langle \text{‘Al pound the cutlet’, ‘the cutlet be flat’} \rangle\)

(Dowty 1972, Parsons 1990, Levin and Rappaport 1995, …)

b. \(= [\text{Ag} \odot [\text{Cause} \circ \text{Become}]]\)
\(\langle \text{‘Al’, ‘(Al) pound the cutlet’, ‘the cutlet be flat’} \rangle\)

(McCawley 1971, Green 1972, Kratzer 2005, …)

**Conclusion**

1. Word order patterns support external patient semantics
2. Thematic relations not all introduced by overt lexical items
   (Carlson 1984, Schein 1993, Kratzer 1996, …)
   …including ‘Patient’
   (contra Kratzer 2003)

### 5 Concluding remarks

1. Order varies with size of R
   - Old observation truer than it seemed, and in both VO and OV languages

2. Simple syntactic account of this, consonant with best semantic for causatives
   - Acceptance has been opposed by theoretical prejudices, most importantly:
     Each predicate occupies its own ‘kernel sentence’

3. Remaining questions:
   - When R and M are both heads, why must both be verbs?
   - Why does size of R vary? (Cp. Why infinitive complement for ‘expect’ in English but not German?)
     I’d rather to treat such variation by ad hoc restriction of the base structures than by ad hoc restrictions on combinatorics or transformations
   - Do the generalizations project? – Need more data
6 An apparent exception: Yi

□ Nosu Yi  
Lolo-Burmese language, OV  

Has what appears to be resultative construction:

MR order
Head of R is a verb

□ Exceptions  
1. R can be modified, and still follow M

(51)  
tshi\(^{33}\)  sa\(^{34}\)  bo\(^{34}\)  go\(^{33}\)  di\(^{33}\)  bo\(^{34}\)  go\(^{33}\)  o\(^{34}\)  
wash  NFINAL  clean  REDUP  clean  PRT  
‘wash [it] very clean’  
(Chen and Wu 1998: 47, trans. from Mandarin aw; for NFINAL ‘nonfinal’ see e.g. Matisoff 1969, 1976; Wheatley 1984, 1985; Thurgood and La Polla 2003)

2. Logical subject of R between M and R

(52)  
tshi\(^{33}\)  ndu\(^{21}\)  sa\(^{21}\)  si\(^{33}\)  du\(^{33}\)  o\(^{34}\)  
3s  beat  NONFINAL  blood  come out  PRT  
‘He beat [him] till blood came out.’  
(Li and Ma 1982: 83, tr. aw)

□ Question  
Does this immediately upset our generalizations?

□ Response 1  
For an OV language, Yi is highly atypical,  
(Dryer 2003; R.J. La Polla p.c.)
in having adverbs after the verb:

(53)  
tshi\(^{33}\)  po\(^{55}\)  ndzi\(^{33}\).  
3s  run  fast  
‘He runs/ran fast.’  (Chen and Wu 1998: 55)

(54)  
nur\(^{33}\)  bo\(^{33}\)  ni\(^{55}\)  ko\(^{33}\)  o\(^{34}\).  
2s  leave  late  too  PRT  
‘You left too late.’  (Chen and Wu 1998: 55)

So Yi does not upset our generalizations immediately,  
since these presuppose the typical linearization pattern
Response 2

Construction may not be a resultative at all

E.g. The putative ‘R’ predicate might be a full clause, in adverbial position

- Compare the Mandarin V-de construction of extent

(55) tā hān -dé wǒmén dōu liǎoxià le yānlèi
3s scream -DE we all fall -PFV tear

‘He screamed so much that we all shed tears’
(ex. L. Li 1963:405, tr. AW)

References
