Why Unergatives Select Themselves a Fake Reflexive

Kyle Wade Grove

Michigan State University

Introduction

Herein, I analyze a construction which Levin and Rappaport-Havov [1995], following Simpson [1983], term 'fake reflexives', and why this construction is licensed with unergative resultatives but not with unaccusative resultatives.

(1)   a.   * Dora shouted hoarse...

          b. Dora shouted herself hoarse...

          c.   * Dora shouted herself
             [Levin and Rappaport-Havov, 1995][p.35].

However, the resultatives of unaccusative verbs neither require nor license fake reflexives.

(2)   a. The river froze solid. LRH [p.39]

          b.   * The river froze itself solid.

Levin and Rappaport-Havov [1995] offer the Direct Object Restriction, given below, as the chief predictor of resultative behavior.

> *Direct Object Restriction*..."a resultative phrase may be predicated of an immediately postverbal NP, but may not be predicated of a subject or of an oblique compliment"[Levin and Rappaport-Havov, 1995][34]

From the DOR, Levin and Rappaport-Havov [1995] argue that the unergative fake reflexive as a 'illegitimate' placeholder generated solely for the purpose of receiving secondary predication. However, I illustrate that the Direct Object Restriction does not apply to all fake reflexives (what I term 'directive fake reflexives') and is epiphenomenal from constraints on causatives on other cases (for what I term 'adjectival' or 'secondary predicative' fake reflexives). Then, I explore an alternative, in which the 'fake' reflexive is not only a legitimate argument, but moreover, an agentive 'actor', in the sense of Kallulli [2006]. As such, the analysis rehabilitates the fake reflexive argument as an important thematic and aspectual

participant, while congruent with current thought in semantics and the Minimalist Program.

Four desiderata and three hypotheses

First, Hornstein [2000], Kayne [2001], Zwart [2002] advocate the reduction of the Binding Principles to the Copy Theory of Movement. Second, if movement is leftward, as is generally believed in the MP, it is incongruent with the account that the external argument of unergatives rightward binds (moves) into secondary predication. Third, the Universal Theta Alignment Hypothesis (UTAH) [Baker, 1988]. The project here is concerned in many cases with whether Agent and Theme are sufficiently grain-sized for morphosemantic theory (short answer: no). In deriving multiple finer-grained features from these θ roles, we will want to maintain the UTAH, if possible. Finally, from lexical semantics: in evaluating causative unergatives, we want to explain any variation in lexical sense, meaning, or valency in a principled fashion. To that end, I have drawn upon the 'root' concept from Distributed Morphology, in an attempt to keep correspondences between roots and verbal heads as stable as possible.

(3) Narrow Syntax
   a. [the horse [vDO raced] PP past the barn].
   b. [v[?] raced [the horse [vDO] PP past the barn]. Head Movement
   c. [the horse [v[?] raced [the horse [vDO] PP past the barn]. COPY
   d. PF–[the horse [v[?] raced [itself [vDO] PP past the barn].

In the derivational sketch above, we utilize one instance of COPY, one instance of Head Movement, and the theory of the VP shell to capture what I term locative fake reflexives. Even this relatively simple syntatic starting point launches us into some much more thorny semantics issues, prompting the following hypothesises.

- **Hypothesis 1**: The appearance of the fake reflexive in a small clause is epiphenomonal from a relationship between initiation and delimitation, and has less to do with secondary predication.

- **Hypothesis 2**: If v_{DO} is in fact the correct light verb in a-c, then 'itself' should be assigned a θ-role of agent (or Actor, to use Kallulli [2006]'s term).

- **Hypothesis 3**: The identity of the upper light verb in c. is v_{CAUSE}, or

VOICE, and it assigns a θ role of Causer.[1]

Fake reflexives and causative unergatives as telic structures

Taken together, hypothesises 2 and 3 argue for a dually-agentive analysis of fake reflexives. From 3, it would seem that fake reflexives are a subtype of causative unergatives, as described by Stevenson and Merlo [1997] and Levin and Rappaport-Havov [1995].

(4)   a. The soldiers marched to the tents. LRH [p.111]

          b. The general marched the soldiers to the tents. LRH [p.111]

(5)   a. The horse jumped over the fence. LRH [p.111]

          b. The rider jumped the horse over the fence. LRH [p.111]

(6)   a. The mouse ran through the maze. LRH [p.111]

          b. The experimenters ran the mouse through the maze. LRH [p.111][2]

Folli and Harley [2006] claim that the Cause and Activity subevents are temperally concomittant, but that "it isn't necessarily the case that the agent's action has to be an instance of the motion described by the verb" [146]. The general is potentially marching in a. above, but could equally be stationairy; in b., the horse is jumping, not the rider, and finally, in c., the mouse is running, not the experimenter. In general, the causative unergative construction exhibits both thematic and aspectual ideosyncracies.

First, the internal argument mostly corresponds to the Dowtyian role of proto-Theme, but possesses a Dowtyian proto-Agent aspect of movement, and in fact, it is repectively, the soldiers, the horse and the mice that are the Marchers, Jumpers and Runners. Herein, I attempt to capture systematic correspondence between variation in θ-role presentation and a particular root (aka verbal alternation), by dividing the Dowtyian proto-Agent criteria among distinct θ roles of Causer and

---

[1]Thanks due to more than a few people for discussions regarding this project, including Marcin Morzycki, John Hale, Michael Putnam, Greg Johnson, Ben Johnson, and Matt Kanefsky. All numbering on examples is mine.

[2]Ritter and Rosen [2000] presents an account of these b. examples, arguing for an analysis of the internal argument as Theme and the external argument as Agent. This thematic description accords to most of the Dowtyian criteria, but at the same time seems problematic, as in the b. examples, above, the general, the experimenters, are relatively Agentive, possessing three of the four Dowty proto-Agentive properties, but crucially, do not perform actions of running or marching; rather, it is their Theme position that corresponds best to the sole argument of unergatives.

Actor. Regarding the Causer argument, LRH citing Cruse [1972] and Reinhart [1991], argue that "the 'cause' argument in such causatives can only be an agent in the true sense, never an instrument or a natural force"[Levin and Rappaport-Havov, 1995]

(7)   a.   * The downpour marched the soldiers to the tents.

        b.   * The tear gas marched the soldiers to the tents.

(8)   a.   * The lightening jumped the horse over the fence.

        b.   * The firecracker jumped the horse over the fence.

        c.   * The whip jumped the horse over the fence.

Congruent with the hypothesis that fake reflexives are causative unergatives, and thus, 'valency-increased' by $VOICE$, weather events and instruments are not eligible External Arguments in the fake reflexive construction, but can appear intransitive reflexive constructions.

(9)   a.   * The geyser gushed itself dry.

        b.   * The volcano erupted itself apart.

        c.   * The doorbell buzzed itself broke.

        d.   * The firecracker exploded itself apart.

(10)   a. The doorbell unstuck itself.

        b. The firecracker/the volcano blew itself apart.

Also, caused unergatives require explicit endpoint [Levin and Rappaport-Havov, 1995], as do fake reflexives[3].

(11)   a. The general marched the soldiers to the tents. [LRH p. 111]

---

[3]Folli and Harley [2006] identify what they claim are atelic path-PP compliments that satisfy the causative manner-of-motion requirements, as indicated below.

(1)   a. John waltzed Matilda around and around the room for hours.

        b. John walked Mary along the river all afternoon.

        c. John ran the dog up and down the path for hours.

        d. John jumped the horse back and forth across the ditch for 30 minutes. [p. 125]

Although the for-an-hour result is often taken to be diagnostic of atelicity, it seems likely here that they are in fact coerced by the for-an-hour PP from a telic reading to an iterative one.

     b. The soldiers marched themselves to the tents.

     c. ?? The general marched the soldiers. [LRH p. 115]

     d.   ? The soldiers marched themselves.

I argue that this relatedness of external argument requirements and endpoint requirements for causative unergatives and fake reflexives reflects telicity prerequisites for causation in $VOICE$. As such, I argue against the notion that fake reflexives exist solely to ensure secondary predication (DOR), but instead for an aspectual explanation, that causation of unergatives requires telos, and the necessary locality of the endpoint and the agentive fake reflexive is conducive to secondary predication via control in some, but crucially, not all fake reflexive structures. As such, I observe that fake reflexives can be divided into three types: path-locative, prepositional, and adjectival fake reflexives resultatives, as shown in the next example.

(12)   a. The Green Lantern raced himself over to the liquor store.

        b.   * The Green Lantern raced himself.

(13)   a. The Green Lantern drank himself to sleep.

        b.   * The Green Lantern drank himself.

(14)   a. The Green Lantern drank himself sick.

        b.   * The Green Lantern drank himself.

Interestingly, Williams [2007] points out that true secondary predication can never position a means adverb after the means predicate.

(15)   a. The Green Lantern raced himself quickly over to the liquor store.

        b. The Green Lantern drank himself quickly to sleep.

        c.   * The Green Lantern drank himself quickly sick.

   d.   * The Green Lantern drank himself.

From this, I contend that secondary predication is not the determinant of fake reflexivity, if this subset of fake reflexives derives from simple v_{DO} verbs with PP-path complements, as in the next example.

(16)   a. The Green Lantern raced himself over to the liquor store.

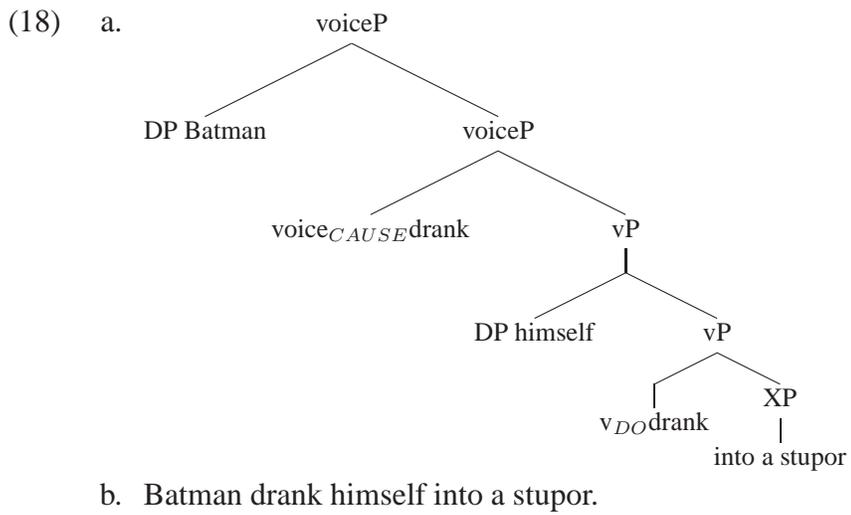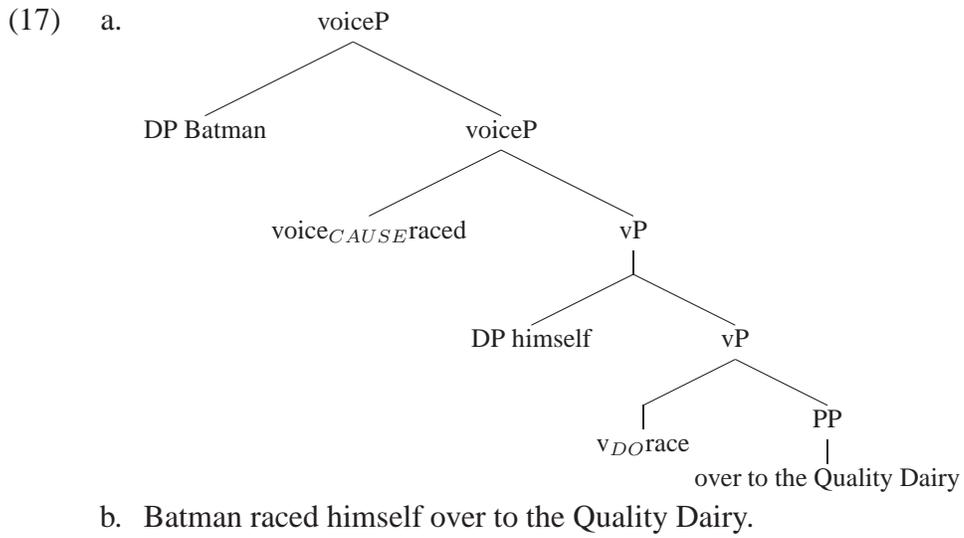   b. The Green Lantern raced over to the liquor store.

By extension, I argue that fake reflexives are licensed only by causativized unergatives. By assuming the reduction of Binding phenomena to Copy Movement, in conjunction with the bifurcated v hypothesis, accounts for the 'fake' of fake reflexives; the reflexives of valence-increased unergatives in fact correspond best to external arguments of standard unergative verbs. Motivating the distinction between the locative fake reflexives and the predicative fake reflexives would seem initially to threaten the analysis, specifically by threatening Hypothesis 2, the notion that secondary predication is insufficient to motivate fake reflexivity. At this point, I return to my argument that causation motivates the fake reflexive, which is in turn able to leverage secondary predication, if it is present, by control.

Analysis

The following structure for the causative unergative renders the observation that although the horse, semantically, should be the agent of the racing event, it would superficially appear to be the internal argument of the verb, and Batman would appear to be the external argument. $VOICE$ incorporates v_{+DO}, allowing for the appearance of two causers with one verb.
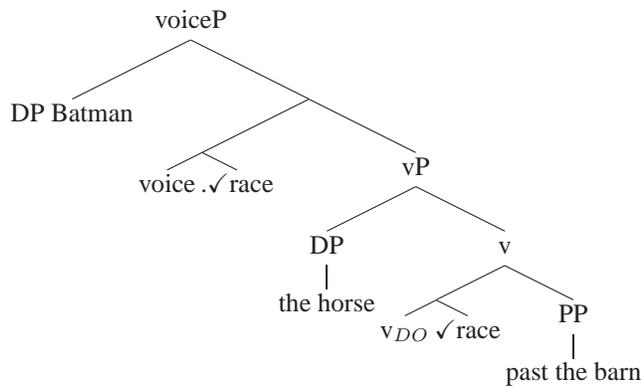
In the following examples, I respectively depict the locative, prepositional, and adjectival fake-reflexive structures.

(17) a.

```
                    voiceP
              ┌───────┴───────┐
         DP Batman         voiceP
                      ┌───────┴───────┐
              voice_CAUSE raced        vP
                                   ┌────┴────┐
                              DP himself      vP
                                         ┌─────┴─────┐
                                    v_DO race         PP
                                                      │
                                          over to the Quality Dairy
```

b. Batman raced himself over to the Quality Dairy.

(18) a.

```
                    voiceP
              ┌───────┴───────┐
         DP Batman         voiceP
                      ┌───────┴───────┐
              voice_CAUSE drank        vP
                                   ┌────┴────┐
                              DP himself      vP
                                         ┌─────┴─────┐
                                    v_DO drank        XP
                                                      │
                                              into a stupor
```

b. Batman drank himself into a stupor.

(19) a.

```
                        VOICE_P
                       /      \
            DP The Flash      VOICE_P
                             /       \
              VOICE_{+CAUSE}danced    vP
                                      |
                               /           \
                        DP himself          vP
                                           /    \
                                          |       XP
                                   v_{+DO}danced  /  \
                                              DP himself  PP
                                                          |
                                                        sick
```
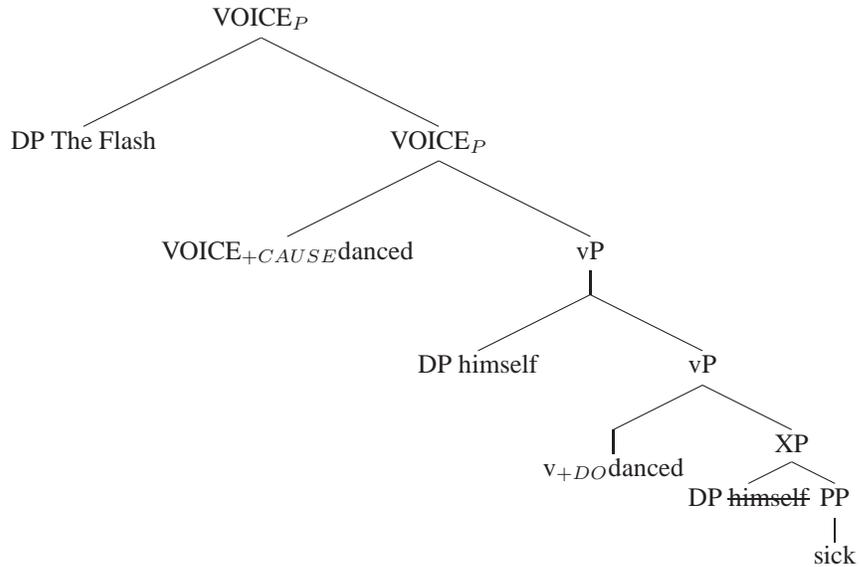
b. The Flash danced himself sick.

Here, I do not argue for secondary predication in locative fake reflexives, but rather, direct event modification by the locative. However, for predicative fake reflexives, I argue for secondary predication by the bare AP, via control. An advantage of the syntactic analysis above is that it explains a parallel between intransitive and transitive resultatives. Generally, only the transitives which do not alternate with unaccusatives can take a resultative small clause. Kratzer [2005] notes that many alternating transitives, particularly unaccusatives, what appears to be a secondary predication is actually adverbial, and the secondary predication account herein straightforwardly follows from Krazter, as the theme 'himself' raises from an impoverished XP for case.

(20) a. The Flash swept the floor.
      b. The Flash swept the floor clean.
(21) a. The Flash baked the cookies.
      b. * The Flash baked the cookies burnt.

If transitive unaccusatives are taken to be delimited, then the observation [Ritter and Rosen, 2000] that double event delimitation is untenable then the lack of resultatives for unaccusatives follows readily. This potentially explains an effect in Volpe [2004]: eat-type unergatives must take an unaffected theme in the resultative.

(22) She ate the bowl/*rice empty [p.13].

If an event cannot be delimited twice, I assume the atelic 21b. structure as a component of resultatives as a whole, with the internal argument controlling into the XP. I take it then, as no accident that the simple causative unergative structure "John raced the horse" and the transitive "John swept the floor" share both telicity and transitivity. The DOR seems upheld, but is epiphenomenal: a structure can be made resultative only if it is atelic and possesses an argument affectable by the Means predicate, at which point the whole event structure of the Means predicate is incorporated into a more complex event along with the Result predicate, as I outline in my semantic analysis.

Adverb evidence

The analysis so far, for caused unergatives, locative fake reflexives, and predicative fake reflexives is doubly caused, and tri-eventive. Typically, the 'almost' test produces ambiguities with a number of readings equal to the number of events, with each reading respective, it has been argued, to the adverb's attachment and subsequent scope over a particular subevent. The following examples apply the 'almost' tests to the sentence in 8a. above, representing continuations consistent with the different readings.

(23) Batman almost raced the horse across the barn...
    a. ...but the Dark Knight decided instead to finish for the day, returning to the Batcave.
    b. ...but the horse refused to budge.
    c. ...but while the horse was galloping, it threw a horseshoe and fell.

The readings above are best understood as discrepancies in sub-event initiation and culminativity: in the first reading, causation never initiates; in the second reading, causation initiates but activity does not; in the third reading, causation and activity each initiate, but never culminate in the event of being across the barn.

The following paradigm shows the 'almost' test applied to unergative fake reflexives, with different continuations indicating the different readings, to be explicated below.

(24) Upon losing the Lantern ring, John Stewart almost drank himself sick....

    a. ...but instead he went right home and went to bed instead.

    b. ...but after hesitating, he went home and went to bed instead.

    c. ...but Wonder Woman came by the saloon and lassoed him in the middle of his beer.

Similar to before, the readings in 8 can be disambiguated by decomposing the initiation and culmination of subsequent sub-events. In the reading in 8a., the causing sub-event does not initiate. In the reading in 8b., the causing sub-event initiates, but the drinking activity does not initiate. In 8c., the drinking activity initiates, but the event of becoming sick does not culminate. If the face interpretation of these results is valid, it would seem then that the 'almost' test is not cross-contaminated by reflexivity, because 'almost' attachment generates ambiguities in culmination and not causation, or put more generally, it is more directly sensitive to the event generated by the functional heads involved, and not sensitive at all to the causative and affected arguments. Folli and Harley [2004] note the following evidence from Higginbotham.

(25)   a. John sat his guest on the floor on purpose.

          b. John sat his guest on the floor slowly.

While the adverb ambiguity evidence, as well as the paradigm above, argue for the trieventive analysis, it only indirectly argues for the agency of the internal argument. A possibility for more direct evidence would be to leverage an agent-oriented adverb with syntactic positioning. As head movement is seen, upon derivational considerations, to be a PF phenomenon [Harley, 2002], head-moved verbs should retain their compositional semantics, and therefore, scope properties.

(26)   a. I baked the cookies deliberately to a crisp.

          b. I marched the soldiers grumpily into the tents.

          c. I marched myself grumpily into the tent.

          d. I marched the soldiers carefully sick.

          e. I marched myself carefully sick.

Lower scope of the adverb does not seem available in the active voice. Another possibility, suggested to me by Marcin Morzycki (personal communication), is to exploit passive-sensitivity of certain agent-oriented adverbs. If the structures

here are dually agentive, agent-oriented adverbs should present ambiguities for the passives.

(27)   a. The soldier was deliberately marched across the field.

        b. Who was deliberate?

        c. The general

        d. ? himself

(28)   a. The soldier was grumpily marched across the field.

        b. Who was grumpy?

        c. The general

        d. himself

For the class of adverbs represented by 'grumpily', such an ambiguity does seem available.

Telicity requirements in causative semantics

Here, I assume that a single Voice head projects a Causer theta-role, and applies Event Identification following Kratzer [1996], and that a single v head projects an Actor θ-role, but that contra Kratzer [1996], this individual is composed through Functional Application[4] . Such an analysis attempts to explain why $VOICE$ must take a change of state predicate, but, contra Folli and Harley [2006], I locate these requirements in the semantics, for two reasons. First, Kratzer [2005] notes the problems inherent in locating a telicity feature in the syntax. Moreover, Folli and Harley [2006]'s postulated syntactic structure seems quite non-local, as heads higher than v require v itself to have a certain XP complement. As such, here I revisit the notion of Event Identification as External Causation [Pylkkanen, 2000], and attempt to explain change-of-state requirements on causation as artifacts of how causatives apply Event Identification. The following is a naive neo-Davidsonian analysis of secondary predicative fake reflexives.

(29)   a. The Flash danced himself sick.

        b. $\exists e_1 \exists e_2 \exists x \exists y \exists s (Flash(x) \wedge Causer(x, e_1) \wedge Cause(e_1, e_2) \wedge Flash(y) \wedge Actor(y, e_2) \wedge Dance(e_2) \wedge Cul(e_2, s) \wedge Theme(y, s) \wedge Sick(s))$

---

[4]Notably, on such an account, the external argument of unergatives remains 'unsevered', and only transitives formed with VOICE (externally-caused alternants of intransitives) have a severed external argument, following to some extent, Pylkkanen [2000], the consequences of which I take up in forthcoming work.
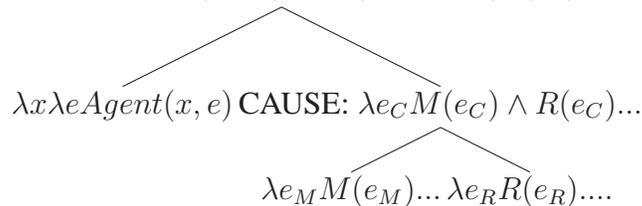
This naive neo-Davidsonian analysis realizes resultatives as decomposed into multiple sub-events, as identified by the event variables e_1, e_2, and s. Williams [2007], however, gives us reason to believe that a decomposition of this type is not entrirely accurate, as indicated by the following adverb evidence.

(30)   a. Ozzy **sang** his throat **hoarse** *by not resting between shows*. [Williams, 2007, p.4]

         b. $\exists e_c \exists e_m \exists e_r K(e_c, e_m, e_r) \wedge sing(...)(e_m) \wedge hoarse(...)(e_r) \wedge Pat(e_c, t) \wedge Ag(e_c, o)...$ [Williams, 2007, p.4]

The adverbial 'by not resting between shows' cannot apply solely to the Singing (e_m) or the Hoarse (e_r) eventualities, but rather, a complex third event derived from them (e_c). Extending Pylkkanen [2000], I propose that Pylkkanen [2000]'s $[\theta, VOICE]$[5] morpheme in Standard English (and Pylkkanen's Type I languages) bundles two instances of Event Identification [Kratzer, 1996], the latter of which requires a result state in the semantics, agnostic to the syntax of control.

The first lambda conjunction, located in CAUS, conjoins the means event and the result event, capturing Williams [2007]'s Outside Role Analysis of resultatives. The latter lambda conjunction is Event Identification for the Causer θ role. The bundling of two lambda conjunction rules into the same morpheme predicts that for Type I languages, Event Identified External Causatives require change of state (but not vice versa).

(31)   a. **Resultative Event Identification** $[\theta, \text{CAUS}]$

         b. $\theta : \lambda x \lambda e_C Agent(x, e_C) \wedge M(e_C... \wedge R(e_C)...)$

$$\lambda x \lambda e Agent(x, e) \ \text{CAUSE:} \ \lambda e_C M(e_C) \wedge R(e_C)...$$

$$\lambda e_M M(e_M)... \ \lambda e_R R(e_R)....$$

This analysis at first appears quite unorthodox, but on an initial view at least it seems defendable that the type of concommitant relationship between the Means and the Result event which Folli and Harley [2006] observe can be captured by conjoining them to a same complex event variable. This should derive not only

[5]For clarity, I term the larger component morphemes as θ and $CAUS$, and the conglomerate morpheme as $VOICE$.

the Williams [2007] observations, but may also address another puzzle: why lexical causatives, at least to my knowledge, cross-linguistically do not seem capable of productively taking transitives derived from unergatives to produce ditransitives.

(32)   a.   * John drank Batman a beer.
          b.   * John walked the Joker a mile.

The ungrammaticality of the following does not immediately follow from traditional Neo-Davidsonian analyses which conjoin and preserve predicates, but seems more congruent with analyses which bind off or conjoin event varaiables.

Conclusion

Throughout, I have analyzed fake reflexives not as a an escape mechanism for the syntactic DOR, but as a subset of causative unergatives. We saw that fake reflexives restrict their external argument to an animate Causer, and that they require endpoint. Both of these phenomena classically hold over causative unergatives as well. In doing so, we explained a certain type of valence-increase and sense-changing mechanism, employing attested Minimalist and semantic tools to simplify the syntactic analysis of some resultatives.

However, the hypotheses here appear to hold, but at the cost of a more curious looking vP shell, a newer set of θ roles (which may not be such a bad thing), and apprarently more powerful PF operations.

Not only that, the idea that "myself" can be an Agent (actor), and moreover, the specifier of v, is bizarre! However, we should actually expect anomalies of precisely this type in the MP; the Minimalist division of labor for movement between independent PF and LF/CI interfaces applied to the Binding Principles in the form of the Copy Theory of Binding in turn predicts the divergence of semantic-syntatic phenomena (θ roles) and syntatic-phonetic aspects (Case).

References

M.C. Baker. Incorporation: A Theorty of Grammatical Function Changing. University Chicago Press, 1988.

D. A. Cruse. A note on english causatives. Linguistic Inquiry, 67(3):522–528, 1972.

R. Folli and H. Harley. Flavors of v: Consuming results in Italian and English. In R. Slabakova and P. Kempchinsky, editors, Aspectual Inquiries, pages 95–120. Kluwer, 2004.

R. Folli and H. Harley. On the licensing of causatives of directed motion: Waltzing matlida all over. Studia Linguistica, 60(2):121–249, 2006.

H. Harley. Why one head is better than two: Head movement and compounding as consequences of merge in bare phrase structure. In Arizona Linguistics Colloquium Series, 2002.

J. Higginbotham. Location and causation. University of Oxford.

N. Hornstein. Move! A Minimalist Theory of Construal. Blackwell, Oxford, 2000.

D. Kallulli. A unified analysis of passives, anticausatives and reflexives. In P. Cabredo Hofherr. O. Bonami, editor, Empirical Issues in Syntax and Semantics, volume 6, pages 201–225, 2006.

R. Kayne. Pronouns and Their Antecedents. Blackwell Series on Generative Syntax. Blackwell Publishers., 2001.

A. Kratzer. Severing the external argument from its verb. In J. Rooryck and L. Zaring, editors, Phrase Structure and the Lexicon., pages 109–137. Dordrecht (Kluwer), 1996.

A. Kratzer. Building resultatives. In C. Maienborn and A. Wöllstein-Leisten, editors, Events in Syntax, Semantics, and Discourse., pages 177–212. Niemeyer, 2005.

B. Levin and M. Rappaport-Havov. Unaccusativity: at the Syntax- Lexical Semantics Interface. MIT Press, 1995.

L. Pylkkanen. Representing causatives. In B. Jackson and T. Matthews, editors, Proceedings of SALTX (Semantics and Linguistic Theory), 2000.

T. Reinhart. Lexical properties of unergativity. In Mid-America Linguistics Conference, 1991.

E. Ritter and S. Rosen. Event Structure and Ergativity. CSLI, 2000.

J. Simpson. Resultatives. In L. Levin, M. Rappaport, and A. Zaenen, editors, Papers in Lexical-Functional Grammar. Indiana University Linguistics Club, 1983.

S. Stevenson and P. Merlo. Lexical structure and parsing complexity. Language and Cognitive Processes, 12, 1997.

M. Volpe. Affected object unergatives. Snippets, (8):12–13, 2004.

A. Williams. Objects in resultatives. Draft. In Review, 2007.

Kyle Wade Grove: grovekyl@msu.edu