Optionally causative manner verbs:
when implied results get entailed

Artemis Alexiadou[*/§], Fabienne Martin[†] & Florian Schäfer[*/†]
[*]Humboldt Universität zu Berlin / [§]Leibniz-ZAS / [†]Universität Stuttgart

1. Introduction[1]

- Some *transitive manner verbs* **defeasibly imply a result state** that obtains when the event described is successful (henceforth **RS$_{suc}$**) (Talmy 1991; Brisson 1994; Rappaport Hovav & Levin 1998; Wittek 2002).

- For *wash* in (1), this implied result state is a **state of being clean(er)**. This result state is '*conceptually associated*' and '*pragmatically favored*', but **not entailed**.

(1)   a. Jean a lavé la voiture.   ↝   The car is clean(er).
          'John washed the car.'
      b. Jean a lavé la voiture,   mais elle n'est pas du tout plus propre qu'avant.
          'John washed the car,   but it is not at all cleaner than before.'

- We call those manner verbs that trigger such an inference "**optionally causative manner verbs**" (**OCMVs**).

- As Talmy (1991) observes, this inference **cannot be a *conventional* implicature**, since it is defeasible; cf. (1b).

- It **cannot be a scalar implicature** obtained through the competition with a stronger form that entails the RS (e.g. *nettoyer* 'clean'), for given that the manner verb would then be the weaker alternative, its use would trigger the implicature that the strongest alternative (and hence the result) is *not* obtained, contrary to what is observed; cf. (1a) (Martin et al. 2017).[2]

- In line with Gyarmathy & Altshuler (2017), we assume this result inference is obtained through *abductive* reasoning.

- Many, but not all of these 'optionally causative manner verbs' (OCMVs) come from particular subclasses of Levin's (1993) class of **verbs of removing** (*wipe*, *scrub*, *sweep*) and **verbs of contact-(by-impact)** (*hit*, *touch*, *scratch*).

- Martin & Schäfer (2014) point out that, **in non-agentive contexts, OCMVs entail rather than imply their RS$_{suc}$.**

(1)   c. **La pluie** a lavé la voiture, **#mais** elle n'est pas du tout plus propre qu'avant.
          'The rain washed the car, but it is not at all cleaner than before!'

- **Goal of this talk**: investigate the division of labor between the root and the event template between implied and entailed RS$_{suc}$ in this alternation.

---

[1] We would like to thank Zsofia Gyarmathy for comments on this work.

[2] Talmy introduces a new (*ad hoc*) kind of defeasible implicatures, namely **'lexicalized implicatures'**, which are neither conventional, nor scalar, but are nevertheless encoded in the lexicon. The problem, of course, is the *ad hoc* character of such a subtype of inferences.

2. OCMVs in non-agentive contexts

2.1 Literal contexts

- Folli & Harley (2005) and Schäfer (2012), a.o., observe that **causer subjects need a result state**. They show for a number of languages that **when compatible with a causer (non-human/non-instrumental) subject, manner verbs strongly require a resultative secondary predicate;** this holds for subject causers but also for non-canonical causers combining with unaccusative verbs such as PP-causers or oblique/dative causers:

(2) a. The sea destroyed the beach.   (result verb)
      b. The groom destroyed the wedding cake.

(3) a. *The sea ate the beach.   (manner verb)
      b. The groom ate the wedding cake.

(4) a. The sea ate *?(away) the beach.   (manner/resultative)
      b. The wind carved *?(away) the beach.

(5) a. Der Ball rollte (über   die Torlinie).   (manner/resultative)
        the ball rolled (across the goal-line)
      b. Der Ball rollte   durch   den Wind *(über   die Torlinie).
        the ball rolled through the   wind (across the goal-line)
        'The ball rolled ??(across the goal-line) from the wind.'
      c. Der Wind rollte den Ball *?(über   die Torlinie).
        the wind rolled the ball   across the goal-line
        'The wind rolled the ball ??(across the goal-line).'

- **This observation carries over to OCMVs** (cf. Martin & Schäfer 2014):

(6) a. Hans wusch   das Auto.   (manner)
        Hans washed the car
      b. Hans wusch   das Auto sauber.   (AP-resultative)
        Hans washed the car   clean
      c. Hans wusch   den Staub vom   Auto.   (PP-resultative)
        John washed the dust   from.the car

(7) a. *Der Regen wusch   das Auto.   (manner)
         the rain   washed the car
      b. Der Regen   wusch   das   Auto sauber.   (AP-resultative)
        the rain   washed the car   clean
      c. Der Regen   wusch   den Staub vom   Auto.   (PP-resultative)
        the rain   washed the dust   from.the car

(8) a. Niklas fegte die Rathaustreppe (sauber).
        Niklas swept the city-hall-stairs clean
      b. Der Wind fegte die Rathaustreppe *(sauber).
        the   wind swept the city-hall-stairs   clean
      c. Niklas/Der Wind fegte die Blätter von   der Rathaustreppe.
        Niklas the   wind swept the leaves from the city-hall-stairs

- **Romance languages lack adjectival and prepositional resultatives** (both strong and weak; e.g. Talmy 1991, 2000, Washio 1997, Mateu 2002, Mateu & Rigau 2010, a.m.o.):

(9) a. *Jean a martelé le métal plat.   b. *J'ai peint le mur rouge.
         'John hammered the metal flat.'   'I painted the wall red.'

- **Nevertheless**, **Romance OCMVs do combine with causer subjects (10).**

(10) La pluie a   lavé   la voiture.
        the rain has washed the car

- Crucially **such bare OCMVs entail rather than imply their RS$_{suc}$ once they combine with a causer subject**: while (1), repeated below, is acceptable, denying the RS$_{suc}$ in (11) is contradictory, cf. (11).

(1) **Jean** a lavé la voiture, **mais** elle n'est pas du tout plus propre qu'avant.
        'John washed the car,   but it is not at all cleaner than before.'

(11) **La pluie** a   lavé   la voiture, **#mais** elle n'est pas du tout plus propre qu'avant.
        'The rain washed the car, but it is not at all cleaner than before!'

- **Side Remark**: a few German speakers accept (7a); however, exactly as in Romance, for these speakers a result state **RS$_{suc}$** (*clean(er)*) is entailed with causer subjects.

- Other French manner verbs showing the same behavior are *balayer* 'sweep', *repasser* 'iron', *attaquer* 'attack', *mordre* 'bite', *râcler* 'scrap, scrub', *gratter* 'scrub, scratch', *chatouiller* 'tickle', *pomper* 'pump', *dire* 'tell', *appeler* 'call', *parler* 'speak' (Haïk 1985), *taquiner* 'tease', *chicaner* 'tease', *guider* 'guide', *cuire* 'cook, burn', *griller* 'grill', *agir* 'act', see appendix 1 for further examples.

(12) a. Pierre **a balayé** la cour, sans résultat.
           'Pierre swept the yard, without any result.'
       b. Le vent **a balayé** la cour, #sans résultat.
           'The wind swept the yard, without any result.'

(13) a. Il **a râclé** / **gratté** le mur mais ce fut sans effet.
           'He scraped the wall, but it had no effect.'
       b. Cette boisson lui **a râclé/gratté** la gorge #mais ce fut sans effet.
           'This drink cleared/rasped away his throat but it had no effect.'

(14) a. Elle **a repassé** ma chemise mais ce fut sans effet.
           'She ironed my skirt but it had no effect.'
       b. La chaleur et l'humidité l'**ont repassée** #mais ce fut sans effet.
           'The heat and humidity ironed [smoothed] it but it had not effect.'

(15) a. Le chien **a mordu** Pierre au bras mais il n'a rien senti.
           'The dog bit Pierre's arm but he didn't feel anything.'
       b. Le froid **a mordu** Pierre au visage #mais il n'a rien senti.
           Lit: 'The cold bit Pierre's face but he didn't feel anything.'
       c. L'acide **a mordu** le métal, #mais ce fut sans effet sur le métal.
           'The acid bit the metal but it had no effect on the metal.'

(16) a. Pierre **a chatouillé** Marie, mais ce fut sans effet.
        'Pierre tickled Marie but it had no effect.'
     b. La poussière lui **a chatouillé** la gorge #mais ce fut sans effet.
        Lit: 'Dust tickled her throat but it had no effect.'

(17) a. Pierre **a pompé** l'eau mais ce fut sans effet.
        'Pierre pumped the water but it had no effect.'
     b. Ça **a pompé** l'eau #mais ce fut sans effet.
        'It sucked the water, but it had no effect.'

(18) a. On **a grillé** les marrons mais ça n'a pas marché du tout, ils étaient trop humides.
        'We grilled the chestnuts but it didn't work at all, there were too humid.'
     b. Le soleil **m'a grillé** les jambes, #mais ce fut sans effet.
        Lit: 'The sun grilled [burnt] my legs, but it had no effect.'

2.2 Figurative context

- Other contexts enforcing a result entailment of OCMVs are **figurative uses**: As an **agentive** and **physical manner** verb, *frapper* 'hit' in (19a) only **implies** that the contact denoted by the verb has an effect on the object, but used as a **causative object experiencer psych-verb** in (18b), *frapper* **entails** a psychological effect.

(19) a. Pierre **l'a   frappée**, mais elle n'a   rien   senti.   *literal*
        Pierre her has hit   but   she not has anything felt
        'Pierre hit her, but she didn't feel anything.'
     b. Cette remarque **l'a   frappée,** #mais ce fut sans effet sur elle.   *figurative*
        this   comment her has hit   but   it was without effect on her
        'This comment hit her, but this didn't trigger any effect on her.'

- Other French manner verbs behaving the same way are *secouer* 'shake', *piquer* 'bite, prick', *serrer* 'press, squeeze", *toucher* 'touch', *heurter* 'hit', *intimider* 'bully'; see appendix 2 for further examples.

(20) a. Pierre **a secoué** Marie (qui dormait), mais ce fut sans effet.   *literal*
        Pierre shaked Marie (who was sleeping) but it had no effect.
     b. Cette nouvelle **a secoué** Marie, #mais ce fut sans effet.   *figurative*
        Lit: this news shaked [shocked] Marie but it had no effect.

(21) a. Pierre **l'a touchée,** mais elle n'a rien senti.   *literal*
        'Pierre touched her, but she didn't feel anything.'
     b. Cette remarque **l'a touchée,** #mais elle n'a rien senti.   *figurative*
        'This comment touched her but she didn't feel anything.'

- (22a, b) provide a German example involving the manner verb *kratzen* 'scratch'. Note that **the RS$_{suc}$ of *kratzen* (a light negative effect) cannot be lexicalized with any AP/PP.** Thus, resultative formation is out and the **RS$_{suc}$ is entailed with the bare verb** in (22b).

(22) a. Ich denke schon, dass Maria ihn kratzte,   aber er spürte sicher   nichts.
        I   think indeed that Mary him scratched   but he felt   certainly nothing
     b. Ich denke schon, dass ihn das kratzte,   #aber er spürte sicher   nichts.
        I   think indeed that him this scratched [bothered] but he felt   certainly nothing

2.3 Evaluation

Q1: Why do non-agentive subjects require a resultative predicate?

  - We use this property of causers as a diagnostic trigger; it shows that manner verbs can turn into result-entailing predicates.
  - Our goal is not to explain this phenomenon (see Martin 2015, 2017 for a proposal.)

Q2: What is the correct analysis of the effect at the level of event structure of OCMVs? Is the result state augmented in presence of a causer or is the result suppressed with an agent?

(23) a. event $\rightarrow$ event + result $\mid$ causer subject   (result augmentation)
     b. event + result $\rightarrow$ event + ~~result~~ $\mid$ agent subject   (result suppression)

=>   **We will show that OCMVs are augmented with a result state as in (23a).**

Note that the case in (23b) exists too: **Defeasible causative verbs** (Martin & Schäfer 2012, 2013, 2017, building on Koenig & Davis 2001).

(24) *Mary/This result encouraged him, (#) but he did not feel encouraged.*

Clear cases of **defeasible causative verbs** are <u>*verbs of caused possession*</u>: *attribuer* 'to allocate, grant', *offrir* 'to offer', *enseigner* 'to teach', *envoyer* 'to send'.

(25) a. Pierre m'a offert une nouvelle vie, mais je ne l'ai pas vécue.
      'Pierre offered a new life to me, but I didn't experience it.'
     b. Ce livre m'a offert une nouvelle vie, #mais je ne l'ai pas vécue.
      'This book offered a new life to me, but I didn't experience it.'

(26) a. Pierre lui a enseigné le russe. Mais évidemment, il n'a rien appris.
      'Pierre taught him Russian. But obviously, he didn't learn anything.'
     b. Ce voyage lui a enseigné le russe. #Mais évidemment, il n'a rien appris.
      'This trip taught him Russian. But obviously, he didn't learn anything.'

These verbs have a bi-eventive event structure, but the result state is in the scope of a modal operator; the evaluation world can be filtered out of the modal base with an agent, but (typically) not with causers:

(27) a. Susan offered Brenda 10 euros.
     b. 'Susan caused Brenda to have 10 euros in all worlds where the goal of her offer is achieved.'
     c. [[x ACT]   [CAUSE [y HAVE z]]]

  - **Morpho-syntactically, defeasible causative verbs qualify as result verbs (23b)** according to a number of standard tests. In particular, they show 'resultative behavior' even with agents with respect to the tests (i-vi) below (see Martin & Schäfer 2013).

  - **OCMVs, on the other hand, qualify as manner verbs** as we will discuss next.

3. Agentive OCMVs are manner verbs

- The following tests show that **agentive OCMVs are mono-eventive manner verbs.** They are what Levin (1999) calls **Non-Core transitive verbs.**

- This is basically established for Levin's (1993) class of removal verbs (*wipe*, *scrub*, *sweep*) and *contact-(by-impact)-*verbs (*hit*, *touch*, *scratch*); see for example L&R-H (1991).

(i) **OCMVs are mono-morphemic**, **sometimes derived from instrumental nouns, but never derived from result nouns of adjectives.** Result verbs are typically poly-morphemic, or zero-derived from result nouns or result adjectives:

OCMVs:	*lav-er*	(Defeasible) causatives:	*en$_P$-courage$_N$-er*
	mord-re		*roug$_A$-ir*
	balay$_N$-er		*a$_P$-baiss$_A$-er*
	pomp$_N$-er		
	râcl-er		

(ii) **OCMVs, allow object drop in non-generic uses,** result verbs do not (e.g. Levin 1999).

(28) Pierre a lavé/balayé/râclé/gratté/repassé/mordu/chatouillé/pompé...
'Pierre washed/swept/scraped/ironed/bit/tickled/pumped...'

(29) *Pierre a encouragé/rougi/abaissé...
'He encouraged/reddened/put down...'

(iii) **OCMVs freely enter all types of resultative formation in Germanic, see section 2.1.** Result verbs, including defeasible causatives, do not enter resultative formation.

(iv) **(some) OCMVs form zero-derived action-nominals,** result verbs do not form action nominals at all; if the latter allow a zero-derived noun, it denotes a (caused) result.

(30) une frappe, une chatouille, une touche   (*action-denoting nouns*)
'a hit, tickle, touch'

(31) le réveil, la casse   (*result-denoting nouns*)
'the waking-up, damage'

(v) **OCMVs do not form nominalizations known to require resultative verbs.**

Roßdeutscher & Kamp (2010) extensively argue that German *ung*-nominalisations can only be formed from bi-eventive, i.e. resultative verbs.

(32) a. Sperr-*ung* (clos-ing)   (result verb)   (33) a. *Tanz-*ung* (danc-ing) (manner verb)
     b. Warn-*ung* (warn-ing)   b. *Ess-*ung* (eat-ing)

While (defeasible) causatives enter *ung*-nominalisations (cf. (34)), OCMVs do not (cf. (35)):

(34) a. die Er-mutig-ung (der   Kinder) (durch den Lehrer/ durch das Ereignis)
         the encouragement of-the children   by   the teacher/ by   the event

(35) *Die Wasch-ung (des Autos) (durch den Jungen/durch den Regen)
       the washing   of the car   by   the boy   by   the rain

(vi) While many (defeasible) causatives are ditransitive (thereby expressing a change of possession), **OCMVs are not ditransitive.**

(vii) **OCMVs do not form anticausatives** even though they allow agent and causer subjects. Result verbs which allow agents and causers as their subject typically do form anticausatives (cf. 37):

(36) a. Jean/La pluie a   lavé   la voiture.
          John/the rain has washed the car
      b. La voiture a   lavé/   s'est lavée (#toute seule).   (*se-passive reading only*)
          the car   has   washed/ SE is washed   by itself

(37) a. Jean/le vent a   ouvert la porte.
          John/the wind has opened the window
      b. La porte s'est ouverte.
          the door SE is opened

(viii) *Contact by impact verbs* (one of the subclasses with many OCMVs) enter the **conative alternation** (Levin & R-H 1991, Levin 1999) while result verbs do not.

(38) a. Il touche (à) un fusil.   (39) a. Il casse (*à) la porte.
          he touches at a gun   He broke at the door
      b. Il frappe (à) la porte.   b. Il rougit (*à) un papier.
          he hits at a door   He reddens at a paper

(ix) While the **adjectival passive of** (a subset of) **result verbs** expresses a *target* state (compatible with *still* when the state is reversible), the **passive** of **OCMVs** expresses a *resultant* state (not compatible with *still*), cf. Parsons 1990.[3]

(40) La voiture est (*toujours) lavée.   (41) La porte est (toujours) cassée.
      The car is (still) washed.   The door is (still) broken.

- Note that OCMVs enter **telic readings**, but crucially, *the telos is not the RS_{suc}*; consequently, the adjunction of a frame *in*-adverbial does not entail the occurrence of this state, see (42/43). Instead, these events are measured out by the object DP (Brisson 1994).

(42) Jean a balayé la cour en 10 minutes. Mais il y a encore de la saleté partout dessus!
      'Jean swept the yard in 10 minutes. But there is still dirt everywhere on it.'

(43) a. John swept the floor in ten minutes and then took off. But there is still dirt all over it!
      b. He washed the car in 5 minutes. But it turned out that it was still dusty

- Finally, the state denoted by the adjectival passive is not the RS_{suc}

(44) Das Auto ist gewaschen, aber es ist nicht sauber.   (adjectival passive)
      the car is washed but it is not clean

---

[3] But see Anagnostopoulou (2015) for some variation between languages in this domain.

4. Bare OCMVs have key properties of result-verbs

Despite the above results, **OCMVs differ from prototypical manner verbs by instantiating some key properties of result verbs.**

4.1 Entailment of a RS$_{suc}$ with a causer subject

(45) La pluie a lavé   la voiture, #mais elle n'est pas du tout plus propre qu'avant.
      the rain has washed the car,   but it   is not at all more clean than before
      'The rain washed the car, but it is not at all cleaner than before!'

4.2 Scope of durative adverbials

- **Reminder**: durative adverbials have either a 'event-related' or 'result-state' reading (Piñón 1999). Under the result-state reading of (46b), the window was open for five minutes before being closed again.

(46) a. Manuela sang for five minutes   (*event-related reading*)
      b. Manuela opened the door for five minutes   (*result-state reading*)

- The result-state reading of durative adverbials requires the VP to have a state argument (Piñón 1999), and is therefore not available with manner verbs.

- **Observation**: the result state reading is available with OCMVs in French and German:

(47) a. Tu as lavé le corridor juste pour une heure. C'était pas la peine.
          'You washed the hall just for one hour.   It was not worth it.'
      b. Ce qu'il a dit ce jour-là m'a touchée pendant des années.
          'What he said on that day touched me for years.'

- **Note** that the result-state reading forces the RS$_{suc}$ to occur even with an agent, which is expected given that the state has to be there for the result-state reading to be licensed:

(48) Il a lavé le corridor juste pour une heure.
      #Mais il n'était pas du tout plus propre qu'avant!
      'He washed the corridor for just one hour. But it wasn't cleaner at all than before!'

4.3 Restitutive **again**

- **Reminder**: 'again' displays different readings with at least a subset of accomplishment verbs; the readings are distinguished by the presuppositions they are associated with (see Dowty 1976, von Stechow 1996, Lechner et al. 2015 a.o.).

- (49) either presupposes that the door was previously opened by John before (repetitive reading) or that the door was in a previous state of being open (restitutive reading).[4]

---

[4] Some authors defend the view that *again* has a third intermediate reading, where the opening event and the result state are repeated (but not the action of the subject's referent), see Martin & Schäfer (2014), Alexiadou et al. (2015) and Lechner et al. (2015) for discussion. We ignore this reading in this work, since it is not relevant for the distinction we aim to make between result-implied activity verbs and result-implied CoS verbs.

(49)   John opened the door again.
         a. repetitive: John has opened the door before.
         b. restitutive: The door had been open before.

- No restitutive reading available with activity/manner verbs as these lack a state component:

(50)   John ran again.   (51)   John read the book again.
         a. Repetitive: John had run before   a. John had read the book before
         b. #Restitutive   b. #Restitutive

- von Stechow (2007) observes a difference between *putzen* 'wash' and *saubern* 'clean':

(52) Franzis putzte das Baby wieder.   (*only repetitive*)
      'Francis washed the baby   again

(53) Franzis säuberte das Baby wieder.   (*repetitive or restitutive*)
      Francis cleaned the baby again'

- These two verbs differ in their event structure: *putzen* is a manner (mono-eventive) verb; *saubern* is a bi-eventive (result) verb, as shown by all tests in section 3, e.g. by the fact that only the latter forms a *-ung* nominalization (Rossdeutscher & Kamp 2010):

(54) Säuberung/ *Putzung
      clean-ung/ groom-ung

=>   The restitutive reading is available only for those accomplishment verbs whose syntax/semantics involve a result state component, like e.g. *open*;

- Data collected by Wittek (2002) suggest that restitutive ***again* is occasionally accepted with German bare OCMVs.**

- Wittek tested this reading with 8 native speakers of German via sentences like (55/56):

(55) Ollie hat Krümel auf den neuen Küchenboden fallen lassen und ihn wieder gefegt.
     Ollie has crumbs at the new   kitchen-floor fall let   and it   again   swept
     'Olli let crumbs fall on the floor and he swept it again.'

(56) Ollie hat sein nagelneues Hemd beschmutzt und es wieder gewaschen.
     Ollie has his brand-new shirt   besmirched and it again   washed
     'Ollie besmirched his brand-new shirt and washed it again.'

Results: 2/8 speakers allow the restitutive *wieder* for *fegen*
            1/8 allowed this reading for *waschen*

"On questioning, the informants explained that they strongly associate the endstate 'clean' with these verbs, and that might be why the restitutive reading is possible" (Wittek 2002)

Wittek's explanations:
- Either some speakers conceive OCMVs as result verbs
- Or the adverbial shifts the meaning of the verb by "strengthening" the status of the RS.

Interim summary:

=> **The state entailment with causer subjects and hte interpretation of durative adverbials suggest that OCMVs can encode a result state.**

Q: **Why is that finding not confirmed by a clear acceptability of restitituve** *again* **applied to these verbs?** See below.

5. OCMVs are still manner verbs when used causatively

- By their duality, OCMVs seem similar to verbs like *cut* or *climb*.

- The verb *climb* is analyzed by Levin and Rappaport Hovav (2013) as encoding **manner as a primary** use, but with a **second result** (direction) use; the two uses are never instantiated simultaneously, thereby respecting **Manner/Result complementarity.**

- However, OCMVs differ from *cut* or *climb* on several respects.

(i) While *cut* and *climb* can form a one-place scalar predicate, OCMVs cannot:

(57) a. La corde s'est coupée (toute seule).
          'The rope cut (by itself).'
      b. Les prix ont grimpé.
          'The prices climbed'

(58) La voiture s'est lavée (#toute seule).   (*only passive reading*)
      'The car washed (by itself).'

(ii) The manner component is not lost when OCMVs are used causatively:

- Certainly, this component is quite abstract as no specific action properties are entailed (one can *wash a car by letting water rain onto it from a hose*).

- However, in contrast with *clean* result verbs, a dirt-removing substance (typically water) must be involved for *wash* in (10): *fluid forces* (that involve such a substance) but not e.g. *wind* (that does not) can *wash the dust off the car*.

(10) La pluie a   lavé   la voiture.
      the rain   has washed the car

- Similarly, *the wind*, but not *the rain*, can *sweep the yard* (cf. (8)).

(iii) The overtly augmented resultative structures in (7b-c) clearly have the root as a manner modifier of v (L&RH 1998).

(7)   b. Der Regen wusch das Auto sauber.   (AP-resultative)
          the rain   washed the car   clean
      c. Der Regen wusch den Staub vom   Auto.   (PP-resultative)
          the rain   washed the dust   from.the car

Side remark: (10) and (7b,c) confirm RH&L's (2010) observation that **manner specification does not necessarily preclude inanimate causer subjects**.

6. Analysis

6.1 Three syntactic (event-template) frames for OCMVs

- On their **literal agentive** use, OCMVs have the simple event structure in (59) where an eventive v-head is modified by √MANNER.

- The subscript RS_{suc} on the root expresses that a result state is associated with the root (via a meaning postulate specifying that a washing event e of x causes a clean(er) state of x in every world w where the w-counterpart of e is successful).

(59)

```
                    vP
                 ___|___
                v       DP
             __|__
   √MANNER↝RSSUC    v
```
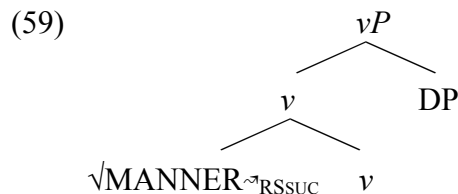
- In Germanic languages, OCMVs can enter overt resultative formation where the simple event template in (59) is augmented with an overt secondary result predicate (e.g. AP or PP) as in (60):[5]

(60)   vP   *(overt resultative formation)*

```
         ___|___
        v       ResultP
      __|__    ___|___
 √MANNER  v  DP      Adj./Prep.
```
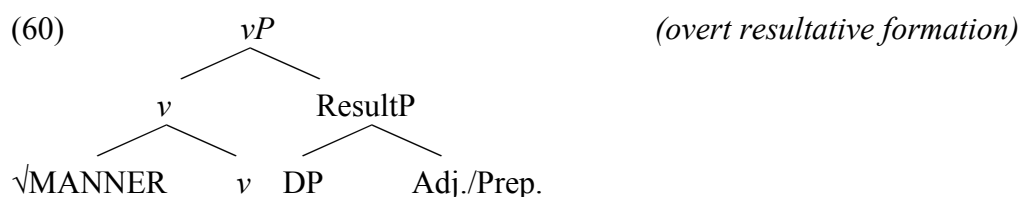
- Note that the overt result predication does not always have to be of the type of the implied result; in (61), neither the mud nor the street is getting clean(er). With an AP, on the other hand, it must. While these data are known in isolation (Green 1972, L&R-H1991, Washio 1997, Wechsler 2005), we know of no explanation of the PP-AP difference.

(61) Der Regen wusch   den Schlamm von der/auf die Straße.
      the rain   washed the   mud   off the on the street

(62) Der Regen wusch   die Straße sauber/*dreckig.[6]
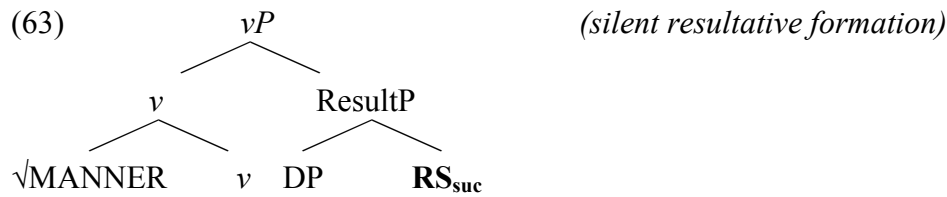   the rain   washed the street clean/dirty

Proposal: *silent resultative formation*

If overt resultative formation is impossible (as in Romance in general, sometimes also in Germanic, recall (22b), where no suitable A or P was available), **OCMVs can built causative structures (with causers but also agents (cf. 48)), by entering** *silent resultative formation*.

---

[5] We use a small-clause structure for exposition; a complex predicate analysis, where the internal argument is introduced in Spec,vP, would be possible, too.

[6] Note that adjectives like *dirty* or *wet* do enter resultatives, *pace* Wechsler (2005).
(i) Das Auto hat uns nass/dreckig gespritzt.
      the car   has uns wet/dirty splashed

(63)   vP   *(silent resultative formation)*

```
(63)              vP                    (silent resultative formation)
               /     \
             v         ResultP
           /   \       /    \
    √MANNER     v    DP     RS_suc
```

- In (63), √MANNER still modifies the eventive v-head which is now augmented with a silent target state RS_{suc}.

- The head of RS is not modified by any lexical material and its property is retrieved through the associated meaning postulate – all what is conveyed by the structure (63) is that **RS is a state caused by a successful √MANNER-event**.

- Our treatment of causative OCMVs is similar to Embick's (2009) analysis of *break* (see also already Anagnostopoulou 2015 for transfer of this idea to *wash*-verbs):

  - The root √*break* shows mixed properties of predicates of events (*The box breaks open*) and predicate of states (*The box is broken*)

  - Embick treats it is a predicate of events which requires a stative complement, either a lexically projected one (*to break open/into pieces*) or a *silent* RS whose identity is determined by the Root (*to break*).

6.2 Advantages

- OCMVs **respect manner/result complementarity**: they **entail and lexicalize manner** (and **entail RS in their causative use)**, but they **never lexicalize a RS property**.

- OCMVs are thus *optionally causative manner verbs* **rather than verbs that lexicalize either manner or result properties**.

- **Object deletion** in non-generic contexts is correctly predicted to be impossible with causer subjects (*The rain washed), since the object is no longer an argument of the root, but rather of the event template (cf. Levin 1999).

(64) a. Aujourd'hui, Pierre/#La pluie a lavé.
        'Today Pierre/the rain washed.'
     b. Cet après-midi Pierre/#Le vent a balayé.
        'This afternoon Pierre/the wind swept.'
     c. Pierre/#l'humidité a repassé.
        'Pierre/humidity ironed.'

- **Result-state reading of durative adverbials** is correctly predicted to be licensed in the augmented use (section 4.2).

- Since the manner component is present in (63), **anticausatives are correctly predicted to be impossible**. (The idea that manner prohibits anticausatives is old but never fully worked out; note that *break* forms anticausatives and involves a kind of manner according to Embick 2009 - we seem to need different types of manner).

- **We predict that only manner verbs describing a process conventionally associated with a specific type of RS_{suc} can enter (63).** This excludes e.g. *hammer*-verbs (as the effect of successful hammering events varies across contexts), cp. (65) vs. (66)

(65) Pierre a lavé quelque chose avec succès.
 'Pierre washed something successfully.'
 ↱ it got clean(er)
 specific result state inferred even in a context where the properties of the theme are largely underspecified.

(66) Pierre a martelé quelque chose #avec succès.
 'Pierre hammered something successfully.'
 no specific result state inferred without a richer context on the properties of the theme

Restitutive again
- Facts: bare OCMVs show at least a dis-preference for the restitutive reading of *again*, both in French and German (recall Wittek's 2002 data on German *wieder*).

- Similar claims are made in Koontz Garboden & Beavers (2016) about English change-of-state verbs such as *break*, *melt*, *crack* where the root cannot be used to lexicalize a simple state.

- **Comment 1**: With change-of-state verbs, the state of affairs is not clear; in German, we get restitutive readings with verbs like *break*, *melt*, *crack*.

- **Comment 2**: For OCMVs, the availability of a restitutive reading should be tested with causer subjects.

- **Suggestion**: The restitutive reading may be hard to get because *again* **prefers to scope at least over a subevent lexicalized by a root, lexicalized subevents being more salient**.

- This **preference is obeyed on both restitutive and repetitive readings** of *again* with verbs with clear result roots and overt resultatives, but **not on the restitutive reading with causative bare OCMVs**.

7. OCMVs and the resultativity parameter

- Romance languages do not license overt resultatives of the type in (60) (e.g. Talmy 2000).

- Folli & Harley (2016) stress that the *v*+ResultP structure (cf. 60) must be available in Romance to derive change-of-state verbs, e.g. *roug-ir* ('redden'). See also Alexiadou, Anagnostopoulou & Schäfer 2015.

- For them, verb-framed languages are special in that "when a change-of-state is described, the resulting state must be encoded in the verb[al root]".

- They derive this by obligatory $Result_0$-to-v_0 movement and a restriction on the morphological complexity of v as involving only one root. **As the RS in (63) is not modified by a root, moving the silent RS_0 to v_0 does not produce morphological**

complexity of/under v.

- Thus, **causative OCMVs** provide **the morpho-syntactic mirror image of deadjectival change-of-state verbs.** While the latter move a lexicalized $Result_0$ to a silent v_0, the former move a silent $Result_0$ to a lexicalized v_0.

References:

Alexiadou, A., Anagnostopoulou, E., & Schäfer, F. (2015). *External arguments in transitivity alternations: A layering approach* (Vol. 55). Oxford Studies in Theoretical Linguistics.

Anagnostopoulou, E. 2015. Exploring roots in their Contexts: instrument verbs, manner verbs and results in adjectival participles. Handout of Roots IV, NYU.

Brisson, C.. 1994. The Licensing of Unexpressed Objects in English Verbs. In *Papers from the 28th Regional Meeting of the Chicago Linguistic Society (CLS), Volume 1: The Main Session*, 90-102.

Dowty, D. (1976). Montague grammar and the lexical decomposition of causative verbs. *Montague Grammar*, 201-246.

Embick, D. (2009). Roots, States, and Stative Passives. Handout, Roots Workshop University of Stuttgart

Folli, R., & Harley, H. (2005). Consuming results in Italian and English: Flavors of v. *Aspectual inquiries*, 95-120.

Folli, F. & Harley, H. (2016). *Against deficiency-based typologies. Manner-alternation parameters in Italian and English.* Romance Languages and Linguistic Theory 10. Selected papers from 'Going Romance' 28.

Green, G. (1972). "Some Observations on the Syntax and Semantics of Instrumental Verbs," CLS 8, 83–97.

Gyarmathy, Z. and D. Altshuler (2017). Non-culmination by abduction. MS.

Koenig, J. P., & Davis, A. (2001). Sublexical modality and the structure of lexical semantic representations. *Linguistics and Philosophy*, *24*(1), 71-124.

Koontz-Garboden, A. & J. Beavers (2016). Change of state and the semantics of roots. in Brendel, C., A. Kaplan, A. Kaplan, M. McCarvel, J. Pynes, and E. Rubin (eds.). Proceedings of the 34th West Coast Conference on Formal Linguistics.

Lechner, W., A. Alexiadou, E. Anagnostopoulou & G. Spathas. (2015). *On deriving the typology of repetition and restitution*, GLOW 2015, Paris, France.

Levin, B. (1993). *English verb classes and alternations: A preliminary investigation.* University of Chicago press.

Levin, B. (1999). Objecthood: An event structure perspective. *Proceedings of CLS*, *35*, 223-247.

Levin, B., & M. Rappaport Hovav 1991. Wiping the slate clean: A lexical semantic exploration. *Cognition*, *41*(1), 123-151.

Levin, B., & M. Rappaport Hovav (2013). Lexicalized meaning and manner/result complementarity. In *Studies in the composition and decomposition of event predicates* (pp. 49-70). Springer Netherlands.

Martin, F. (2015). Explaining the link between agentivity and non-culminating causation. In *Proceedings of Semantics and Linguistic Theory 25* (pp. 246-266).

Martin, F. (2017). Necessary and sufficient conditions in lexical causative verbs. Talk at Linguistic Perspectives on Causation Conference, Jerusalem, 2017.

Martin, F., & Schäfer, F. (2012). The modality of offer and other defeasible causative verbs. In *Proceedings of the 30th West Coast Conference on Formal Linguistics, Somerville: Cascadilla Proceedings Project* (pp. 248-258).

Martin, F., & Schäfer, F. (2013). On the argument structure of verbs with bi-and monoeventive uses. In *Proceedings of NELS* (Vol. 42, pp. 297-308).

Martin, F., & Schäfer, F. (2014). Causation at the syntax-semantics interface. *Causation in Grammatical Structures*, 209-244.

Martin, F., & Schäfer, F. (2017). Sublexical modality in defeasible causative verbs. *Modality across Syntactic Categories*. Oxford University Press, Oxford.

Mateu, J. 2002. Argument structure. Relational construal at the syntax-semantics interface. Bellaterra: Universitat Autònoma de Barcelona dissertation.

Mateu, J. & G. Rigau. 2010. Verb-particle constructions in Romance: a lexical syntactic account. Probus 22(2). 241-269.

Piñón, C. (1999). Durative adverbials for result states. In *Proceedings of the 18th West Coast Conference on Formal Linguistics*.

Rappaport Hovav, M., &B. Levin (1998). Building verb meanings. In *The projection of arguments: Lexical and compositional factors*, 97-134.

Rappaport Hovav, M., & Levin, B. (2010). Reflections on manner/result complementarity. *Syntax, lexical semantics, and event structure. Eds. M. Rappaport Hovav, E. Doron, I. Sichel. OUP*, 21-38.

Roßdeutscher, A. (2010). German *ung*-Nominalisation. An Explanation of Formation and Interpretation in a Root-Based Account. *New Impulses in Word-Formation*, 101-132.

Schäfer, F. (2012). Two types of external argument licensing–the case of causers. *Studia Linguistica*, *66*(2), 128-180.

von Stechow, A. (1996). The different readings of wieder 'again': A structural account. *Journal of semantics*, *13*(2), 87-138.

von Stechow, A. (2007). Syntactic and Lexical Causativization: BECOME and CAUSE again (Handout).

Talmy, L. (1991). Path to realization: A typology of event conflation. In *Annual Meeting of the Berkeley Linguistics Society* (Vol. 17, No. 1, pp. 480-519).

Talmy, L. 2000. Towards a cognitive semantics II. MIT Press

Washio, R. (1997). Resultatives, compositionality and language variation. *Journal of East Asian Linguistics*, *6*(1), 1-49.

Wechsler, S. (2005). Resultatives under the 'Event-Argument Homomorphism Model of Telicity', in N. Erteschik-Shir and T. Rapoport (eds.), The Syntax of Aspect, 255-273.

Wittek, A. (2002). Learning the meaning of change-of-state verbs: A case study of German child language (Vol. 17). Walter de Gruyter.

Appendix 1: More examples of French OCMVs in literal contexts

(1)   a. Ils **ont agi**, mais ce fut sans effet.
            'They acted but it had no effect.'
        b. Ça **a agi,** #mais ce fut sans effet.
            Lit: 'this acted [this had an effect], but it had no effect.'
(2)   a. On **a attaqué** Pierre dans les médias, mais ce fut sans aucun effet.
            'One attacked Pierre in the news, but it had no effect.'
        b. La rouille **a attaqué** le fer, #mais ce fut sans aucun effet.
            'Rust attacked the metal, but it had no effect.'
(3)   a. Il **a râclé** le mur mais ce fut sans effet.
            'He scraped the wall but it had no effect.'
        b. Cette boisson lui **a râclé** la gorge #mais ce fut sans effet.
            'This drink cleared/rasped away his throat.'
(4)   a. Pierre **a gratté** le mur mais ce fut sans effet.
            'Pierre scratched the wall but it had no effect.'

b. Cela **m'a gratté** la gorge #mais ce fut sans effet.
   Lit: 'This scratched my throat but it had no effect.'

(5) a. Pierre **a pompé** l'eau mais ce fut sans effet.
     'Pierre pumped the water but it had no effect.'
   b. Cela **a pompé** l'eau #mais ce fut sans effet.
     'This sucked the water, but it had no effect.'

(6) a. Pierre **m'a dit** que l'hiver était là, mais ça m'étonnerait. (Haïk 1985)
     'Peter told me that winter was there, but it would surprise me.'
   b. toute cette neige/quelque chose **m'a dit/me** disait que l'hiver était là, #mais ça m'étonnerait.
     'All this snow/something told me that winter was there, but it would surprise me.'

(7) a. Ils **ont appelé** à la violence, mais ce fut sans effet.
     'They called for violence, but it had no effect.'
   b. La violence **a appelé** la violence, #mais ce fut sans effet.
     'Violence called for violence, but it had no effect.'

(8) a. Pierre lui **a par**lé, mais ce fut sans effet.
     'Pierre spoke to her, but it had no effect (on her).'
   b. Ca lui **a parlé**, #mais ce fut sans effet.
     'This spoke to her, but it had no effect (on her).'

(9) a. Pierre **l'a taquiné**, mais ce fut sans effet.
     'Peter teased him, but it had no effect.'
   b. Cette idée **l'a taquiné**, #mais ce fut sans effet.
     Lit: 'This idea teased him [he played with this idea], but it had no effect.'

(10) a. Pierre **l'a chicanée**, mais ce fut sans effet (sur elle).
     'Peter teased her, but it had no effect (on her).'
   b. Cette histoire **l'a chicanée**, #mais ce fut sans effet (sur elle).
     Lit: 'This story teased him [annoyed her], but it had no effect (on her).'

(11) a. On **l'a guidée** mais ce fut sans effet.
     'We guided her but it had no effect.'
   b. L'instinct **l'a guidée** #mais ce fut sans effet.
     'The instinct guided her but it had no effect.'

(12) a. Pierre **a cuit** la viande au four, mais ce fut sans effet/ ça n'a pas du tout fonctionné.
     'Peter cooked the meat in the oven, but it had no effect/ it didn't work at all.'
   b. Le soleil lui **a cuit** le dos, #mais ce fut sans effet.
     Lit: 'The sun cooked [burned] his back, but it had no effect.'

Appendix 2: Examples of French OCMVs in figurative contexts

(1) a. Pierre **l'a piquée** avec une aiguille mais elle n'a rien senti.
     'Pierre pricked her with a needle but she didn't feel anything.'
   b. Cette remarque **l'a piquée** #mais elle n'a rien senti.
     'This comment aroused her but she didn't feel anything.'

(2) a. Pierre lui **a serré** la main mais elle n'a rien senti.
     'Pierre pressed (shaked) her hand but she didn't feel anything.'
   b. Cette nouvelle lui **a serré** la gorge #mais elle n'a rien senti.
     Lit: 'This news pressed her throat [squeezed her by the neck] but she didn't feel anything.'

(3) a. Pierre **l'a heurtée** mais elle n'a rien senti.
     'Pierre hit her but she didn't feel anything.'
   b. Cette remarque **l'a heurtée** (#mais elle n'a rien senti).
     'This comment offended her (but she didn't feel anything).'

(4) a. Ils **ont intimidé** les employés, (?) mais ce fut sans effet.
     'They bullied the staff, but it had no effect.'
   b. Cela **a intimidé** les employés, #mais ce fut sans effet.
     'This intimidated the staff, but it had no effect.'