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Agent entailments and the division of labor between functional structure and roots

RESEARCH

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Abstract

An influential proposal about the status of a verb's agent argument maintains they are severed from the verb's argument structure and introduced as external arguments via functional heads in the syntax (Kratzer 1996). Nonetheless, there are various conceptual and empirical arguments against this view (e.g., Dowty 1989; Wechsler 2005; Bale 2007; Müller & Wechsler 2014; Wechsler 2020). In this paper, we build on Bale's (2007) arguments that transitivity plays a role in whether a verb's external argument can be introduced outside the domain of the verb. Specifically, he argues based on sub-lexical modification with *again* that only eventive transitive verbs have their external arguments severed from the verb, and stative transitive and intransitive verbs do not. We present empirical evidence against this macro-classification, showing that particular classes of eventive transitive verbs, namely verbs of killing like *murder, slay, slaughter, massacre*, and *assassinate* in fact do not permit what Bale calls *subjectless (agentless) presuppositions*. Given an understanding of *again*'s presupposition being uniquely determined by the structural constituent it attaches to (Dowty 1979; von Stechow 1996; Beck & Johnson 2004; Bale 2007), this must mean that these verbs cannot have their external arguments severed, contra Bale's generalization. Further we claim that intentionality entailments, which are often taken to be entailments of an Agent thematic role (Dowty 1991; Kratzer 1996), can in fact be dissociated from the syntactic introduction of the agent argument, and that certain verbs can lexically introduce them without directly introducing their agents. This is argued for by examining what we call manner of forced taking verbs like *confiscate, snatch*, and *seize*, which permit agentless presuppositions with *again* but still impose intentionality requirements on their subjects. We provide a compositional semantics for these two classes of verbs capturing these facts, and close with some speculations about the nature of intentionality entailments in regard to Rappaport Hovav & Levin's (2010) MANNER/RESULT COMPLEMENTARITY.

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1 Introduction

Kratzer (1996) proposed that agent arguments of verbs are introduced via a functional head Voice through secondary predication, using semantic composition rules like Event Identification, i.e., they are *external arguments*. Evidence for such a position is the fact that while internal arguments can condition special semantic interpretations of the surface verb, external arguments never do (Marantz 1984). Under these approaches, the agent argument as well as associated entailments like intentionality (Dowty 1991) are assumed to reside in functional structures in the syntax introduced through the functional head Voice. Other approaches, like those in the Distributed Morphology (DM) tradition (Halle & Marantz 1993), suggest that intentionality entailments are introduced by particular 'flavors' of verbalizing little *v* heads like v_{DO}, while the interpretation of the external argument introduced by Voice is conditioned by the choice of *v* (e.g., Embick 2004; Folli & Harley 2005; 2007; 2008; Pylkkänen 2008; Harley 2013; Merchant 2013).

In this paper, we present evidence against the view that all external arguments as well as their associated intentionality entailments can be severed from the verb. We argue that certain classes of transitive eventive verbs, specifically verbs of killing like *murder*, *slay*, *slaughter*, *massacre*, and *assassinate*, introduce their agent arguments and associated intentionality entailments as part of their lexical meaning. The crucial empirical evidence we utilize is repetitive presuppositions with *again*, as discussed in detail by Bale (2007). We show that contra Bale, who argues that all transitive eventive verbs have their agent arguments severed based on the availability of *subjectless presuppositions* (henceforth, *agentless presuppositions*) with *again*, these verbs in fact do not permit agentless presuppositions and require the agent of *again*'s presupposed prior event to be the same agent intentionally carrying out the asserted event.[1] Adopting a standard analysis of *again* as an identity function on predicates of events that introduces a presupposition (e.g., Dowty 1979; von Stechow 1996; Beck & Johnson 2004; Bale 2007), this means that the agent arguments of verbs of killing must not be severed and are directly introduced by the verbs themselves.

We then move on to examine intentionality entailments, which under the approaches previously mentioned have been assumed to be introduced together with the Agent thematic role in Voice, or through functional *v* heads that condition the interpretation of Voice. In particular, we examine what we call manner of forced taking verbs like *confiscate*, *snatch*, and *seize*. The empirical observation is that while these verbs require intentionality to be presupposed with *again*, the actual agent argument need not be the same across presupposition and assertion, i.e., agentless presuppositions are allowed. This must mean that the agent argument can be severed from the verb, but not intentionality requirements. Based on these two classes of verbs, we propose an analysis where agent arguments and intentionality entailments can be introduced by the lexical semantic root in the DM sense for *murder*-type verbs, whereas only intentionality is introduced by the root for *steal*-type verbs. This presents a more fine-grained typology than Bale's (2007) classification, and further contributes to theories of the kinds of semantic entailments verbs can carry as opposed to functional structure.

We proceed as follows. Section 2 provides the basic theoretical backdrop for the claim that agent arguments are introduced externally and also Bale's (2007) arguments that only some kinds of verbs introduce their agent arguments externally, using *again*-modification as a crucial diagnostic. We also review some influential approaches that hold that intentionality entailments are a structural meaning introduced by functional heads within the verbal projection. Section 3 provides the main empirical data regarding the repetitive, agentless presuppositions introduced by *again* with *murder*-type verbs and manner of forced taking verbs, suggesting that these verbs differ in terms of whether they introduce their external arguments and associated intentionality entailments directly. Section 4 lays out the analysis of these two verb classes by providing a compositional syntax and semantics, drawing on specific interpretations of Voice and little *v* heads and where intentionality entailments and the external argument are encoded in the roots themselves. In section 5, we speculate on the nature of intentionality entailments and whether

1 We use the term *agentless presupposition* instead of *subjectless presupposition*, recognizing that subjects need not necessarily be agents as they can be derived subjects interpreted as themes like in passivization. Bale (2007) in fact notes that stative transitive verbs, which typically do not license subjectless presuppositions with *again*, are able to license them when passivized. We discuss this in detail in the next section.

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they are enough to induce manner properties in Rappaport Hovav & Levin's (2010) terms. Section 6 concludes the paper.

2 Severing the external argument

Marantz (1984) observed that internal arguments can and often condition special semantic interpretations of a verb, but external arguments almost never do. The meaning of *kill*, for example, varies based on the internal argument in (1), but not on the external argument in (2).

(1) Internal arguments conditioning special interpretations
- a. kill a cockroach.
- b. kill a conversation.
- c. kill an evening watching TV.
- d. kill a bottle (i.e., empty it).
- e. kill an audience (i.e., wow them).

(2) External arguments do not condition special interpretations
- a. Harry killed DP.
- b. Everyone is always killing DP.
- c. The drunk refused to kill DP.
- d. Silence can certainly kill DP.
- c. Cars kill DP.

Kratzer (1996), taking up Marantz's observation, proposed that external arguments are introduced by an inflectional functional head called Voice via a special semantic composition rule of Event Identification. This is defined formally below in (3), where *e* is the type of individuals, *s* the type of events, and *t* the type of truth values. Voice denotes a function of type $<e,<s,t>>$ that introduces a thematic role (e.g., Agent, Holder etc.) and combines with a VP of type $<s,t>$ via Event Identification. An example semantic derivation is shown in (4) (Kratzer 1996: 122).

(3)
- a. Event Identification:
  $f_{e,st} + g_{st} \rightarrow \lambda x.\lambda e.f(x)(e) \wedge g(e)$
- b. ⟦Voice⟧: $\lambda x.\lambda e.\textsc{agent}(x)(e)$

(4)
- a. $[_{\text{VOICEP}}$ Mary Voice $[_{\text{VP}}$ feed the dog]]
- b. ⟦VP⟧: $\lambda e.\textsc{feed}$(the dog)(e)
- c. ⟦VoiceP⟧: $\lambda e.[\textsc{agent}(\text{mary})(e) \wedge \textsc{feed}(\text{the dog})(e)]$

Under Kratzer's approach, external arguments are not part of the verb's semantic representation. The proposal hence predicts that external arguments will not able to condition the verb's meaning, and Marantz's observation falls out as a result.

While Kratzer's proposal has become widely accepted over the years, it is not without its problems, as various authors have pointed out (e.g., Dowty 1989; Wechsler 2005; Müller & Wechsler 2014; Wechsler 2020). To briefly describe one such problem, severing the external argument does not produce the adequate truth conditions; this was discussed as early as Dowty (1989). Take the intransitive verbs *sing* and *whistle*, which can be given the following Neo-Davidsonian logical forms (Wechsler 2020).

(5)
- a. $\exists e[\textsc{singing}(e) \wedge \textsc{agent}(\textit{john},e)]$
- b. $\exists e[\textsc{whistling}(e) \wedge \textsc{agent}(\textit{john},e)]$

Here, the two agents must clearly have different interpretations: John must be moving his vocal cords for *singing* but not for *whistling*. Yet, if there is no singer nor whistler argument for these verbs, these conditions cannot be stated directly. To capture these facts, one needs additional meaning postulates like the following (Wechsler 2020: 81).

(6) $\forall e \forall x \Box[[\textsc{singing}(e) \wedge \textsc{agent}(x,e)] \rightarrow \textsc{moving.vocal.chords}(x)]$

Yet, as noted by Dowty (1989), Müller & Wechsler (2014), and Wechsler (2020), having meaning postulates like these are equivalent to a system where the externally introduced Agent role is indexing specific arguments of the verb, in particular the individual whose vocal chords

need to be moving.[2] Put another way, it must be that the verb *sing* references a singer argument in order to impose the semantic restrictions of vocal chord movement. In order to capture the fine-grained interpretation of the agent arguments of verbs, they must first make semantic reference to them and hence, should be arguments of the verbs.

2.1 Sub-lexical modification and severing the external argument

Bale (2007), using sub-lexical modification with *again* as a diagnostic, provides a further empirical argument against Kratzer's proposal that *all* external arguments are severed from their verbs. The main observation is that Kratzer's proposal can be shown to hold only for eventive transitive verbs, but not for stative transitive verbs and intransitive verbs. Bale (2007: 451) adopts the standard scope-based view of ambiguities with *again* where *again* is an event modifier of type $<<s,t>,<s,t>>$, taking a predicate of events as its argument and returning it with a presupposition that a previous event of the same type occurred (von Stechow 1995; 1996; Beck & Johnson 2004).[3]

(7) $[\![again]\!]$P is defined iff $\exists e^1 \exists e^2 [e^1 \prec e^2 \prec E \wedge P(e^1) \wedge \neg P(e^2)]$.
When defined, $[\![again]\!]P = P$.

Bale reasons that if Kratzer's proposal to sever the external argument is right, then *again* should be able to attach to VP before combining with Voice, producing an agentless presupposition which can be satisfied by an event of the same type but crucially with a different agent argument. Bale (2007: 464) observes that such a prediction is borne out for non-stative transitive and activity verbs such as *hit* and *kick*, as illustrated in the examples below.

(8) CONTEXT: Seymour's dryer broke. He called **a repairwoman who simply hit the dryer until it started working**. The dryer broke down two days later. So …
a. Seymour hit the dryer again.
b. #Again Seymour hit the dryer.
c. The dryer was hit again.

(9) CONTEXT: **Brendan kicked the soccer ball towards the net**, but it didn't quite make it. So …
a. Anne kicked it again.
b. #Again Anne kicked it.
c. It was kicked again.

The (b) examples are infelicitous in these contexts because *again* necessarily attaches to the VoiceP (or higher) (see also Beck & Johnson 2004), and thus the context needs to include the agent in order to satisfy *again*'s presupposition. In contrast, the (a) and (c) examples are felicitous in these contexts: the (a) examples contain different agents, while the passive (c) examples have no overt agent argument. This shows that there must be a constituent of the right semantic type for *again* to attach that contains no semantic representation of the agent argument. Kratzer's proposal predicts these facts: since *again* can attach to the VP below either the active agent-introducing or passive Voice head, the presupposition need only contain the event denoted by the verb and its internal argument, imposing no requirements on the identity of its agent argument.

Yet, Bale (2007: 469–71) shows that stative transitives like *love* and *hate* as illustrated in (10) and (11), as well as intransitive verbs, as illustrated in (12) and (13), do not permit contexts excluding the subject argument with *again*, regardless of their semantic role. This is unexpected if their external arguments are also introduced outside of VP, as Kratzer's proposal would suggest.

2 This will in fact be the spirit of our analysis when it comes to manner of forced taking verbs, though we will argue that imposing conditions on the external argument need not necessarily mean that the verb must syntactically introduce it.

3 E here refers to the contextually provided time interval which the presupposed events need to precede, usually taken to be speech time. As Bale (2007) notes, it is the time interval rather than the asserted event argument that is relevant to the calculation of *again*'s presupposition, since the presupposition can still hold even when the assertion is false or if it asserts that an event did not occur.

(10) CONTEXT: **Seymour's mother loved Frank** although she was the only one who did. After a while she no longer cared for Frank. However, Seymour became attached to the man, and developed strong feelings for him after his mother's love subsided. So …
a. #Seymour loved Frank again.
b. Frank was loved again.
c. #Again Seymour loved Frank.

(11) CONTEXT: **Seymour's sister hated George**. But she seemed to be the only one who did. After a while George worked his charm on her and the hatred subsided. After a few months, Seymour realized that George's charm was all an act. Underneath, he was pure evil. So …
a. #Seymour hated George again.
b. George was hated again.
c. #Again Seymour hated George.

(12) CONTEXT: Last week, **Jon's wife ran all morning**. Then after she got home, Jon was able to do some exercise. So …
a. #Jon ran again.
b. #Again Jon ran.

(13) CONTEXT: **Seymour's wife was the first person ever to arrive at the new airport**. Then a week later …
a. #Seymour arrived again.
b. #Again Seymour arrived.

The facts in the (a) examples indicate that, in contrast to eventive transitive verbs, there is no constituent that *again* can attach to that excludes the experiencer argument for stative transitive verbs and the agent (unergative) or theme argument (unaccusative) for intransitive verbs. The felicitous passivized (b) examples for stative transitive verbs are explained if passive voice existentially quantifies the experiencer argument of the verb, in which case the contexts would satisfy *again*'s presupposition.[4] Bale thus concludes that not all verb classes have their external argument severed. Instead, he draws the line between eventive transitive verbs and all other verb types; the former have their agent arguments severed and permit agentless presuppositions, while the latter semantically introduce their experiencer, agent (unergative), or theme (unaccusative) arguments directly and disallow such presuppositions. In terms of semantic types, non-stative transitive verbs like *hit* should be of type $<e,<s,t>>$, taking only an internal argument. Stative transitive verbs like *love* are of type $<e,<e,<s,t>>>$, taking both their internal and external argument as semantic arguments. Intransitive verbs are uniformly of type $<e,<s,t>>$, taking their sole internal or external argument as their semantic argument.[5]

(14) a. ⟦hit⟧: λxλe.HIT(x,e)
b. ⟦love⟧: λyλxλe.LOVE(x,y,e)
c. ⟦arrive⟧: λxλe.ARRIVE(x,e)
d. ⟦run⟧: λxλe.RUN(x,e)

2.2 The locus of intentionality entailments

Before moving on to discuss the main empirical observations, we pivot slightly and discuss the nature of intentionality entailments, one of the characteristic properties of agenthood (Dowty 1991). Kratzer (1996) proposed that the Voice projection itself is the locus of agency entailments through the Agent thematic role, which should hence include intentionality that

4 This could be achieved using an approach to the passive like that of Bruening (2013), on which the passive existentially quantifies over an individual argument of an event predicate.

(i) ⟦Pass⟧ = λf.λe.∃x[f(x)(e)]

As Bruening proposes that the passive head existentially closes the argument introduced by Voice, such an analysis could be straightforwardly extended such that the passive head applies to stative transitives verbs after they have combined with their first argument.

5 Bale notes that some transitive verbs do not appear to follow his analysis, e.g., verbs of mental activity such as *think of* or *read*. Bale mostly sets these aside as random variation, as he does not believe there is a better generalization to be made beyond transitive non-stative and intransitive/stative transitive. That said, to the extent that agentive transitive verbs have their agent argument introduced by Voice, Bale does predict that any agentive transitive verb will allow an agentless presupposition, and therefore *kill* and *murder*-type verbs should fall under Bale's broad generalization (with *kill* being analyzed by the very author).

requires the external argument to be an animate entity capable of carrying out an event. Apart from introducing the Agent thematic role, Kratzer proposed that Voice can also introduce a Holder role with non-dynamic, stative verbs. Alexiadou et al. (2015) propose to include an additional $\text{Voice}_{\text{CAUSE}}$ head, argued to capture the non-animate causes that can serve as subjects of causative verbs such as *kill*. Examples like *John killed Tommy* contain a $\text{Voice}_{\text{AGENT}}$, whereas examples such as *Hunger killed Tommy* contain a $\text{Voice}_{\text{CAUSE}}$ head. $\text{Voice}_{\text{CAUSE}}$ introduces an argument "and relates it to the causing event instead of assigning it a role itself", and simply denotes "an identity relation between events rather than a thematic relation" (Pylkkänen 2008; Alexiadou et al. 2015). In these approaches, the locus of intentionality entailments is assumed to be in the Voice head through the kind of thematic role that it introduces.

Alternatively, another possible locus of intentionality as an entailment of agency is the verbalizing little *v* head within DM approaches distinguishing between an acategorial root and categorizing heads like little *v* (e.g., Marantz 1997; Folli & Harley 2005; Pylkkänen 2008). An influential proposal is that of Folli & Harley (2005) (see also Hale & Keyser 1993; 2002; Folli & Harley 2007; 2008), who propose that the verbalizing little *v* head comes in (at least) two different flavors, i.e., v_{DO} and v_{CAUSE}. Folli & Harley propose that v_{DO} requires the external argument to be an animate Agent capable of intentionally carrying out an event and takes a nominal complement that is interpreted as the theme of a doing event. In contrast, v_{CAUSE} selects a result state as its complement and imposes no animacy requirement on the external argument. The motivation for such a distinction comes from an alternation with verbs of consumption involving animacy and the presence of a result state. Folli & Harley (2005: 10) observe that consumption verbs in English generally do not allow inanimate causer subjects as their external arguments. However, the animacy restriction disappears when consumption verbs appear with a particle that indicates a result state.

(15) a. John ate the sandwich.
b. #The sea ate the beach.
c. The sea ate the beach away.

(16) a. The carpenter carved the toy.
b. #The wind carved the beach.
c. The wind carved the beach away.

(17) a. The cowboy chewed the though beef.
b. #The washing machine chewed the laundry.
c. The washing machine chewed up the laundry.

Folli & Harley (2005) propose that the addition of a particle in English signals resultative formation via the projection of a small clause that denotes a result state, with the particle being the head of the small clause. This induces a change in the flavor of verbalizing little *v*, requiring causative semantics of the sort proposed by Kratzer (2005) introduced by v_{CAUSE}. In the consumption reading where the complement of the verb is simply a DP interpreted as an incremental theme, v_{DO} is selected, introducing an agentive doing event that takes a DP complement (Hale & Keyser 1993). As Folli & Harley note, v_{DO} encodes a *doing* event and hence the external argument of v_{DO} must be interpreted as an Agent and be an entity capable of intentionally carrying out actions. v_{CAUSE}, on the other hand, requires causers that initiate a change of state and the external argument can therefore be an inanimate entity, since a state need not necessarily be brought about by an intentional agent.

Note that in Folli & Harley (2005), little *v* does directly introduce the external agent or causer argument, and can be taken as equivalent to Kratzer's Voice head. However, later work, in particular Pylkkänen (2008), Harley (2009), and Harley (2013), made clear arguments within a DM framework that Voice should not be equated with the verbalizing little *v*. If Voice and *v* are kept separate, as these authors argue, we arrive at a tripartite structure of verbs, consisting of a DM-style acategorial root, a verbalizing little *v*, and a Voice head.[6] In such an analysis, one could plausibly dissociate intentionality entailments (located in little *v*) from where the external argument interpreted as Agent or Causer is introduced (Voice head). We shall see the consequences of such a view in the next section, showing that it cannot explain the distribution

6 Kratzer's (1996) VP would hence be translated under DM assumptions as the combination of an acategorial root and a verbalizing little *v* head (as noted by e.g., Pylkkänen 2008).

of agentless presuppositions with the verb classes we are concerned with here. Consequently, we will proceed to argue that while intentionality can be dissociated from the external argument, we differ in that we will argue for intentionality entailments being included within a root's semantics rather than being introduced by functional heads.

3 The distribution of agentless presuppositions

3.1 Agents within *again*'s presupposition

Bale (2007) proposed a clear generalization that only eventive transitive verbs have their external arguments severed, and hence only these verbs should permit agentless presuppositions with *again*. We show here that this particular prediction is incorrect, based on evidence from what we call *murder*-type verbs.[7] These are verbs of killing that explicitly involve some kind of intent or planned action behind the killing, such as *murder*, *assassinate*, and *slay*, etc. Examples are given in (18).

(18) a. Mary murdered Bill.
b. John Wilkes Booth assassinated Abraham Lincoln.
c. Gandalf slew the Balrog.

Under Bale's generalization, *murder*-type verbs are predicted to allow agentless presuppositions, since these are eventive transitive verbs. We note that this not borne out: *murder*-type verbs do not permit agentless presuppositions.[8]

(19) CONTEXT: In a Hollywood slasher movie, **Mike Myers murdered Bill**. Bill was revived by a sorcerer, but after chasing the revived Bill down, …
a. #Freddy murdered Bill again.
b. Mike Meyers murdered Bill again.

(20) CONTEXT: The king of Genovia was visiting a local town. Suddenly, **Bill jumped out of the shadows and assassinated him**. The king's court sorcerer was able to bring the king back from the dead, but emerging from hiding in a fit of rage, …
a. #Mary assassinated the king again.
b. Bill assassinated the king again.

(21) CONTEXT: A great dragon is guarding some gold. **An adventurer came and slayed the dragon**. However, an evil warlock revived the dragon and commanded it to wreak havoc on a nearby town. After hearing the news and rushing to the town, …
a. #A knight slew the dragon again.
b. The adventurer slew the dragon again.

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7 The judgments in the present paper were arrived at from introspection by two of the authors, who are native speakers of English. An anonymous reviewer points out that these contrasts are not as robust in their language, though it is unclear what language the reviewer is referring to. We have not extensively investigated intra-speaker variation in English. We acknowledge that judgements may vary in different languages for the equivalents of these verbs. We do not think such variation, however, invalidates the hypotheses advanced here, since we do not claim that root classes are categorized identically and are embedded in identical syntactic structures across languages and across different speakers. We do note that the first author reports the same introspective judgments in Romance languages such as Spanish and Catalan, which were verified by colleagues who are also native speakers of Spanish and Catalan:

CONTEXT: In a Hollywood slasher movie, **Mike Myers murdered Bill**. Bill was revived by a sorcerer, but unfortunately Freddy Krueger appeared and …

(i) a. #Freddy asesinó a Bill otra vez.
Freddy murder.PFV.3SG DOM Bill another time
'Freddy murdered Bill again.' (Spanish)

b. #En Freddy assassinà en Bill un altre cop.
the Freddy murder.PFV.3SG the Bill a another time
'Freddy murdered Bill again.' (Catalan)

(ii) a. Freddy mató a Bill otra vez.
Freddy kill.PFV.3SG DOM Bill another time
'Freddy killed Bill again.' (Spanish)

b. En Freddy matà en Bill un altre cop.
the Freddy kill.PFV.3SG the Bill a another time
'Freddy killed Bill again.' (Catalan)

8 On a related note, two anonymous reviewers who are native speakers of American English disagree with the judgments here and find that agentless presuppositions are felicitous with *murder*-type verbs. Again, we do not think this necessarily invalidates the hypotheses to be presented, since it is conceivable that for certain speakers, *murder*-type verbs could simply be in the same class as *kill*, which has been shown to permit agentless presuppositions.

In contrast, other verbs that at first blush seem to belong to the same class or at least have similar semantic entailments, e.g., *kill*, are known to systematically allow agentless presuppositions (Bale 2007: 465).

(22) CONTEXT: In a Hollywood monster movie, **Seymour's father killed the zombie**. But, being a Hollywood movie, of course they came back to life. But in the end … Seymour killed the zombie again.

Verbs like *kill* provide evidence in favor of the proposals of both Kratzer (1996) and Bale (2007). Since this class of verbs allows agentless presuppositions, it means that *again* can attach to a constituent excluding the external argument, which according to Kratzer (1996) would be VP before combining with Voice. Verbs like *kill* would also abide by the generalization in Bale (2007), since eventive transitive verbs are predicted to allow agentless presuppositions. Yet, the facts about *murder*-type verbs provide evidence against Bale's generalization, suggesting that even eventive transitive verbs do not constitute a uniform verb class in regard to allowing agentless presuppositions.

Assuming Kratzer's proposal, two possible analytical possibilities follow. Since agentless presuppositions with *kill* involve *again* attaching to VP before combining with Voice, with *murder*-type verbs it must either be the case that for some reason VP is not an available site for *again* to attach and therefore it must attach directly to VoiceP, or it could be that the external argument is introduced within the VP where *again* attaches to, and therefore the external argument in this class of verbs will always fall in the scope of *again*'s presupposition. In this case, Voice might be argued to not be needed for *murder*-type verbs, since the external argument would be introduced internally by the verb. This is the approach Bale (2007) takes for stative transitive verbs like *love* as shown in (14-b). For now, we remain neutral on the analytical options and move on to examine the intentionality requirement *murder*-type verbs impose on their external arguments, and how such a requirement must also fall within the scope of *again*'s presupposition.

3.2 Intentionality within *again*'s presupposition

It is widely known that *murder*-type verbs place a semantic requirement of intentionality on their external arguments, such that only entities capable of having an intent for a result state of *being dead* are permitted (Talmy 1985; Dowty 1991; Van Valin & Wilkins 1996; Folli & Harley 2005; Grano 2017; Ausensi 2019; Ausensi et al. 2020). Consequently, general causes (24), natural forces (25), and instruments (26) are systematically disallowed, since these are not animate entities capable of having intentions. This again contrasts with verbs like *kill* which permit them (23).[9]

(23) a. Floods killed thousands.
b. Cancer killed two million people last year.
c. That weapon killed thousands.

(24) a. #Cancer murdered every man in that hospital.
b. #Pneumonia assassinated every US president.
c. #That magical dust slew the dragon.
d. #A terrible drought slaughtered the inhabitants in that town.
e. #Hunger massacred the civilians.

(25) a. #Floods murdered five US citizens.
b. #Strong winds assassinated the president.
c. #The magical storm slew the dragon.
d. #The earthquake slaughtered all the inhabitants in that town.
e. #The hurricane massacred the civilians.

(26) a. #That weapon murdered my brother.
b. #The poison from that snake assassinated the president.
c. #The magical sword slew the dragon.
d. #The bombs slaughtered all the citizens in that town.
e. #This gun massacred the civilians.

9 See Holisky (1987) and Van Valin & Wilkins (1996) regarding the fact that intentionality is generally derived from context, rather than lexicalized. Namely, as Holisky originally pointed out, human subjects are generally understood as intentional agents if the contrary is not asserted, e.g., *John broke the vase (by accident/but he did not intend to)*.

In addition, the intent of the agent argument in the case of *kill* can be cancelled by means of adverbial phrases or explicitly reinforced in (27), strongly suggesting that it is not a lexical entailment, but a (strong) implicature. In contrast, *murder*-type verbs systematically disallow these modifications in (28) and (29), strongly suggesting that intentionality associated with the external argument is a lexical entailment of these verbs.[10]

(27) a. John killed Tom unintentionally/by accident.
b. John killed Tom intentionally/on purpose.

(28) a. #John murdered Tom unintentionally/by accident.
b. #The wizard slew the ogre unintentionally/by accident.
c. #The sniper assassinated the president unintentionally/by accident.
d. #The dragon massacred the soldiers unintentionally/by accident.
e. #The dragon slaughtered the soldiers unintentionally/by accident.

(29) a. ??John murdered Tom intentionally/on purpose.
b. ??The wizard slew the ogre intentionally/on purpose.
c. ??The sniper assassinated the president intentionally/on purpose.
d. ??The dragon massacred the soldiers intentionally/on purpose.
e. ??The dragon slaughtered the soldiers intentionally/on purpose.

Given Folli & Harley's (2005) proposal of flavors of *v* and subsequent work by Pylkkänen (2008) and Harley (2013), the question that we ask here is where exactly the requirement of intentionality associated with the external argument is introduced with *murder*-type verbs and *kill*. Is it introduced solely by Voice (e.g., Kratzer 1996) or localized in little *v* (e.g., Folli & Harley 2005; Harley 2013)? Repetitive agentless presuppositions with *again* provide an initial clue. In the following contexts, the prior event is specified as an *unintentional killing*. We see that *again*'s presupposition is not satisfied when modifying *murder*-type verbs as shown in the (a) sentences.[11] This contrasts with *kill* in the (b) sentences.

(30) CONTEXT: **A loyal knight was practicing his swordfighting skills with his king and accidentally killed him in the process when he stabbed the king's chest**. The king's wizard was able to revive the king, who sentenced the knight to death. The knight turned against the king, took his sword, and stabbed him in the chest.
a. #The knight assassinated the king again.
b. The knight killed the king again.

(31) CONTEXT: **John killed Frank when he accidentally fired his gun at him**. A sorcerer brought Frank back to life. Afraid of retribution, John shot Frank with his gun and he immediately died.
a. #John murdered Frank again.
b. John killed Frank again.

(32) CONTEXT: **A knight accidentally killed a dragon with a swing of his sword as he was practicing his swordfighting skills**. Feeling bad, he had his magician companion reanimate the dragon. Upon being revived however, the dragon viciously attacked the knight and his companions. The knight swung his sword at the dragon's neck and the dragon died.
a. #The knight slayed the dragon again.
b. The knight killed the dragon again.

(33) CONTEXT: **A group of dragons accidentally killed the soldiers who were training them with their claws**. After the king's sorcerer brought the soldiers back to life, the soldiers attempted to kill the dragons for revenge. The dragons rebelled against the soldiers and attacked them with their claws, slashing the soldiers to death.
a. #The dragons massacred the soldiers again.
b. The dragons killed the soldiers again.

10 The sentences in (28) are, however, perfectly natural if the theme happens to be the wrong entity or entities than the one(s) the agent intended to murder/slay/assassinate/massacre/slaughter, i.e., a mistaken identity reading. We will propose an analysis of these verbs that provides a first attempt at capturing this particular reading.

11 If the previous event was described using the *murder*-type verb itself, then *again*'s presupposition is satisfied so long as the agents of the two events are identical, as already shown in (19)–(21).

(34) CONTEXT: **A group of wizards were practicing magic, but accidentally killed a group of dragons with the spells they were practicing**. After being reanimated by the wizards, the dragons attacked them. The wizards unleashed the spells they were previously practicing on the dragons and they all died.
a. #The wizards slaughtered the group of dragons again.
b. The wizards killed the group of dragons again.

The fact that these contexts above do not license *again* with *murder*-type verbs indicates two things. First, we cannot syntactically decompose *murder*-type verbs into a causing event and a result state of death, where the result state is independently modifiable by *again* like what has been proposed for *kill* (e.g., Harley 2012); if so, we expect the above contexts to license a *restitutive presupposition*, where what is presupposed is a prior state of death (e.g., von Stechow 1996; Beck & Johnson 2004; Bale 2007). *Murder*-type verbs must hence informally and minimally mean *cause to die* independent of any functional structure introducing meanings like causation.

Second, under Bale's (2007) analysis, the lack of agentless presuppositions with *murder*-type verbs as shown in (19)–(21) must mean that the constituent *again* attaches to must contain not just the external argument but also the requirement of intentionality that these verbs impose on them, i.e., informally, at least be *x intentionally causes y to die*.[12] That way, *again*'s presupposition with *murder*-type verbs is only satisfied if the agents across both presupposed and asserted event are the same and both events are carried out intentionally, as shown in (19)-(21) where the previous event is named by the *murder*-type verbs themselves, and not when the previous event is an *accidental killing* as in (30)–(34). Put simply, the observations in this section suggest that for *murder*-type verbs, the verbs must themselves introduce their external arguments and entailments of intentionality. On the other hand, if intentionality and the agent argument can be dissociated from verbs and indeed, from each other, as proposals like Folli & Harley (2005) and Harley (2013) suggest, we might expect cases where *again*'s presupposition can contain intentionality entailments but also permit agentless presuppositions. We will see in the next section with a different class of verbs that this can indeed be the case.

3.3 Agentless presuppositions with intentionality

We saw previously that with *murder*-type verbs, both the agent argument and intentionality entailments must be within *again*'s presupposition. However, one particular class of verbs where intentionality entailments and presence of an external argument within *again*'s presupposition come apart is with what we call manner of forced taking verbs. This class consists of verbs like *confiscate*, *snatch*, and *seize*, where the subject intentionally carries out an action of acquiring an object by force, either for themselves or for some other entity in some manner specified by the lexical meaning of the verb (see Levin 1993). Manner of forced taking verbs resist modification that cancels or reinforces the intent of the subject like *unintentionally*, *by accident*, *intentionally*, and *on purpose*, strongly suggesting that they entail intentionality as with *murder*-type verbs.[13]

(35) a. #Custom agents confiscated her suitcase unintentionally/by accident.
b. #Police officers seized a box of cocaine unintentionally/by accident.
c. #That thief snatched a luxury watch unintentionally/by accident.

12 We highlight here that the meaning of this class of verbs must *minimally* be *x intentionally causes y to die*. As two anonymous reviewers note, there are intuitively other differences between *kill* and *murder*-type verbs apart from intent, such as the manner in which the causing event was carried out (e.g., violent, dramatic, etc.). Hence, one could say that the meaning of this class of verbs should be given an informal description as *x intentionally causes y to die and the causing was X*, where X describes lexical-semantic conditions on how the causing event is carried out that is not specified for *kill*. As one of the two anonymous reviewer notes, it could be the lack of X in describing the previous event with *kill* that explains why *again* is not licensed with *murder*-type verbs in (30)-(34). In response, we have tried to control for this confound as much as possible by specifying that the previous and asserted events are carried out in similar manners and differ only in intent. Nonetheless, we will proceed with the conclusion that with these verbs, *again* must attach to a constituent that includes the external argument and intentionality, where one might reasonably think intentionality includes manner entailments described by *the causing was X*, as another anonymous reviewer points out. We will take this position for now when we use the term *intentionality entailments*. Previous events described only by *accidentally killed* without specifying the manner in which the causing event was carried out hence cannot satisfy *again*'s presupposition with *murder*-type verbs, since it either lacks intentionality and/or entailments like X. The formal analysis we build will attempt to capture this by building the external argument, intentionality, and X into the verb root, while we try to disentangle intentionality and the manner described by X in a later section.

13 Again, as with *murder*-type verbs, modification by *accidentally/by accident* is felicitious if the agent intended to take something by force, but the entity denoted by the theme is not what the agent intended to take.

(36) a. ??Custom agents confiscated her suitcase intentionally/on purpose.
b. ??Police officers seized 100kg of cocaine intentionally/on purpose.
c. ??That thief snatched a luxury watch intentionally/on purpose.

Similar to *murder*-type verbs, it is not possible for *again*'s presupposition to not include intentionality entailments. If we intuitively paraphrase manner of forced taking verbs as *come to possess via intentional and forced taking*, we can construct contexts where the presupposed event is paraphrased as *come to possess by taking without intention/by accident*. In these contexts, *again*'s presupposition with manner of forced taking verbs is not satisfied, whether the agent falls within the scope of *again* or not, i.e., neither having the same agent nor having different agents licenses *again*.

(37) CONTEXT: **The customs agents previously took some bags away from the baggage claim area as they were in the way of other passengers and left them by their office door since there was no space inside. They did not know they contained illegal goods.** A group of criminals secretly took the bags. An hour later, after being informed of the illegal goods in the bags and tracking down the criminals …
a. #The customs agents confiscated the bags again.
b. #The FBI confiscated the bags again.

(38) CONTEXT: **Mary previously unwillingly took John's expensive but faulty watch from his table so she could bring it to the store to get it repaired as he requested**. After John and Mary fell out, John took the watch with him as he left Mary's home. Not wanting to concede the watch to John and running after him, …
a. #Mary snatched the watch again.
b. #Mary's mother snatched the watch again.

(39) CONTEXT: **The police previously took a truck in from the streets since it was blocking the way for other cars and left it outside the station since there was no place to park the truck. They did not know there was cocaine hidden in the truck's undercarriage**. The drug dealers secretly drove the truck away. After being tipped off by informants, chasing down the dealers in the truck, and intercepting them …
a. #The police seized the truck again.
b. #The CIA seized the truck again.

Tellingly, however, manner of forced taking verbs readily allow agentless presuppositions as seen below. All that is required to satisfy *again*'s presupposition is that there was a previous, intentionally carried out event, whether or not that event has the same agent.

(40) CONTEXT: **The FBI had previously *confiscated* a large amount of money from a band of money launderers**. However, they could not prove that the launderers had engaged in illegal money laundering so the money was returned. However, later on, the police found evidence of their illegal laundering and …
The police confiscated the money again.

(41) CONTEXT: **The police *seized* some money from a suspected drug cartel**. However, they could not prove that the money was acquired through illegal means, so they had to return it. However, later on, the FBI uncovered the cartel's illegal activity, so …
The FBI seized the money again.

(42) CONTEXT: Ali was walking with his wallet in his hand. Suddenly, **a thief ran and *snatched* the wallet**. The thief was stopped and Ali's wallet was returned to him. However, right as Ali got his wallet back, Maryam ran up and …
Maryam snatched Ali's wallet again.

These facts suggests two things. First, the fact that intentionality needs to be within *again*'s presupposition when the agent argument is identical across presupposition and assertion in the (a) sentences in (37)–(39) suggests that intentionality entailments must be within the constituent that *again* attaches including the agent argument, on a par with *murder*-type verbs. More telling are the facts regarding agentless presuppositions in (40)–(42). As already established, agentless presuppositions arise because *again* attaches to a constituent excluding the agent, e.g., Kratzer's

(1996) VP, as noted by Bale (2007). However, these contexts still require an intentionally carried out event in order to satisfy *again*'s presupposition. If intentionality entailments are necessarily introduced as part of the entailments of an Agent thematic role introduced in Voice, then we expect that with agentless presuppositions, contexts where the previous event was unintentionally carried out should satisfy *again*'s presupposition with manner of forced taking verbs. These contexts seem impossible as shown in the (b) sentences of (37)–(39) and hence, the conclusion is that intentionality entailments need not necessarily require presence of an agent argument in a single constituent, even if intentionality makes reference to the intentions of an agent. Voice hence cannot introduce the intentionality requirement for manner of forced taking verbs as in Kratzer's proposal.

To sum up, the empirical picture that we need to account for is that *murder*-type verbs require both intentionality entailments and the agent argument to be within *again*'s presupposition, while manner of forced taking verbs require only intentionality entailments to be within the scope of *again*. These facts pose problems for both Kratzer's approach where all entailments of agency are to be introduced by the Agent thematic role in Voice, and also Bale's generalization that these verbs should always permit agentless presuppositions.

4 Analysis

We briefly discussed some accounts that propose that intentionality entailments reside in functional projections in the syntax, e.g., in a Voice head in terms of the kind of thematic role it introduces, or by means of a particular flavor of little *v* like v_{DO}. In this section, we argue that the agent arguments and intentionality entailments for these verbs need to be encoded within the verb, specifically an acategorial root in the DM sense. We then propose a compositional syntax and semantics for *murder*-type verbs and manner of forced taking verbs, drawing on specific interpretations of the Voice and little *v* heads.

4.1 Against structural introduction of agents and intentionality

In a DM-style, flavors of *v* approach, verbalizing *v* heads can introduce different meanings depending on their flavor: agentive v_{DO}, causative v_{CAUSE}, change-of-state v_{BECOME}, and stative v_{BE} (Harley 1995; 2009; Cuervo 2003; Beavers & Koontz-Garboden 2020, *a.o.*). Folli & Harley (2005) suggest that a possible way to account for the differences between *murder*-type verbs and *kill* is in the choice of little *v* heads, i.e., *murder*-type verbs involve v_{DO}, whereas *kill* would involve v_{CAUSE}. This would account for why these two verbs differ in terms of the intentionality entailments they impose on their subjects. Nonetheless, we see that such a view faces both conceptual and empirical issues.

First, note that if we take the difference between v_{CAUSE} and v_{DO} to be whether they syntactically select for a result state constituent, under Folli & Harley's (2005) own proposal *murder*-type verbs *must* in fact select v_{CAUSE} because they semantically encode a result state of *being dead*. Beavers & Koontz-Garboden (2012) develop a battery of result diagnostics by refining the original ones laid out in Rappaport Hovav & Levin (2010) that target result entailments in verbs; *murder*-type verbs pass all these diagnostics and hence should encode a result state roughly paraphrasable as *being dead*.

(43) *Nothing is different about x*
- a. #The knight just murdered the king, but nothing is different about him.
- b. #Sally just slew the dragon, but nothing is different about it.
- c. #The witch just slaughtered the dragons, but nothing is different about them.

(44) *Negated result state*
- a. #The knight just murdered the king, but he is not dead.
- b. #The wizard just slew the dragon, but it is not dead.
- c. #The witch just slaughtered the dragons, but they are not dead.

(45) *Object deletion*
- a. *All last night, John murdered/assassinated/slew.
- b. *All last night, John massacred/slaughtered.

(46) *Unselected objects*
a. *The knight murdered/assassinated/slew his hands bloody.
b. *John massacred/slaughtered his fingers raw.

If *murder*-type verbs must in fact select v_{CAUSE} under Folli & Harley's (2005) analysis, then we lose their explanation of why *murder*-type verbs require their subjects to be agents while *kill* does not. Furthermore, selecting for v_{CAUSE} will also mean we cannot account for sub-lexical modification facts. Kratzer (2005) proposes a semantics for causation as a function from a predicate of states to a predicate of events of type $<<s,t>,<s,t>>$.[14]

(47) a. $[\![v_{\text{CAUSE}}]\!]$: $\lambda P_{<s,t>}.\lambda e.\exists e_s[\text{CAUSE}\ (e,e_s) \wedge P(e_s)]$

Notice that unlike Folli & Harley (2005), the causative operator contains no representation of the external argument. This hence predicts that *murder*-type verbs should permit a presupposition with *again* that excludes the agent argument, contrary to fact. This analysis is even less plausible considering other kinds of causative verbs like *kill* being roughly paraphasable as *cause to die* (e.g., Harley 2012), or *open* roughly paraphrasable as *cause to open* (e.g., Beck & Johnson 2004; Folli & Harley 2005), readily permit agentless presuppositions as demonstrated below.

(48) CONTEXT: In a Hollywood monster movie, **Seymour's father killed the zombie**. But, being a Hollywood movie, of course they came back to life. But in the end …
Seymour killed the zombie again.

(49) CONTEXT: **John previously opened the window to allow some air in**. After a while, he closed the window before leaving the room. Later, Mary walked into the room and wanting some air, she opened the window so …
Mary opened the window again.

Alternatively, we could adopt Kratzer's (1996) view and say that the locus of intentionality is indeed encoded in the Agent thematic role in Voice. However, if the Agent thematic role must be introduced by Voice and Voice combines with *v*P via Event Identification, it should again predict that *murder*-type verbs should permit subjectless presuppositions, regardless of what flavor of little *v* we adopt, since *v*P should be the right semantic type for *again* to attach. In particular, because the Agent thematic role is the locus of intentionality entailments, it should also predict that *again*'s presupposition can exclude these entailments and hence, contexts where a previous event was unintentionally carried out should satisfy it, once again contrary to fact.

We see then that a tripartite verbal structure makes the wrong prediction that agentless presuppositions should always be possible. This is due to the semantics of v_{CAUSE} (Kratzer 2005) and Voice (Kratzer 1996), which should always mean that *v*P is an available attachment site for *again*.

4.2 Agents and intentionality within roots: murder-type roots

We propose instead that the intentionality requirement *murder*-type verbs impose on their external arguments is encoded directly in the root. For concreteness, we continue to adopt a DM architecture and a tripartite structure of verbs as with the authors discussed previously. However, instead of proposing that the agent argument and intentionality entailments are distributed across different parts of the structure and functional heads, we propose that the root of these verbs directly introduce them together with the eventive causation meaning that is assumed to be encoded within v_{CAUSE}. We analyze *murder*-type verb roots, notated using √ROOT following Pesetsky (1995), as a predicate of events that encodes an event of the agent intentionally causing a result state of the theme being dead (adapting from Beavers & Koontz-Garboden 2012); the lexcial entry for the root of the verb *murder* is provided below.[15,16]

14 We assume no ontological difference between events and states, and treat states simply as a subtype of events. We henceforth use the same variable *e* as a variable over both events and states, and point out explicitly when an event variable is one that ranges over states by subscripting it with *s*, i.e., e_s.

15 We depart from Beavers & Koontz-Garboden (2012) and Beavers & Koontz-Garboden (2020) in treating the root as eventive rather than stative. This is partly for readability: an eventive formulation is more transparent than a possible stative formulation. However, we will show a desirable prediction for an eventive instead of a stative representation in what follows.

16 We represent thematic roles as functions from an event to the unique participant of that event (Carlson 1998; Landman 2000; Champollion 2010).

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(50) $[\![\sqrt{\text{MURDER}}]\!]$: $\lambda x.\lambda y.\lambda e[\text{CAUSER}(e) = y \wedge \sqrt{\text{MURDER}}(e) \wedge \text{THEME}(e) = x]$
where $\sqrt{\text{MURDER}}(e) = 1$ iff $\exists e_s[\text{CAUSE}(e,e_s) \wedge \text{DEAD}(e_s) \wedge \text{HOLDER}(e_s) = \text{THEME}(e) \wedge \text{INTEND}(\text{CAUSER}(e))(\exists z,e',e_s'[\text{CAUSE}(e',e_s') \wedge \text{DEAD}(e_s') \wedge \text{HOLDER}(e_s') = z)]$

Two things are worth noting about the lexical entry above. First, we intend for $\sqrt{\text{ROOT}}(e)$ to capture encyclopedic information about the event named by the root, e.g., murdering events must be violent, assassinating events need to target people with social status etc. In other words, the choice of the root determines the particular lexical-semantic entailments of the manner in which the event happens, i.e., the aforementioned anonymous reviewer's *the causing was X*, distinguishing between roots within the same class as well as from verbs like *kill*. In addition, there is a further condition on the event, encoded by the modal INTEND relation contained within the meaning postulate for $\sqrt{\text{ROOT}}(e)$. This relation requires that for all worlds pertaining to the causer's intentions, the causer causes an event that results in an entity's death, though we omit world arguments here for perspicuity.[17] Note further that the entity whose death is intended is existentially quantified, rather than identical to the theme argument of the root. This is intentional: *murder*-type verbs allows modification with *by accident* in contexts of mistaken identity, where the subject mistakenly kills another entity rather than the one they intended to kill (c.f. (28)).[18]

(51) CONTEXT: **John hatches a plan to kill his boss Tim by shooting him with a gun**. One night, he stayed in the office with the lights turned off waiting for Tim to finish a late night at work. Someone walked by, and John jumped out and shoots the person with a gun. However, much to his dismay, John had killed his friend Bill.
John murdered Bill by accident.

The proposed lexical entry for a root like $\sqrt{\text{MURDER}}$ immediately makes several desirable predictions. Recall that *again* is assumed to be of semantic type $<<s,t>,<s,t>>$, requiring a predicate of events as its first argument. Given the lexical entry in (50), *again* can only attach to a *murder*-type verb *after* the verb has taken both its causer and theme arguments to produce a constituent of type $<s,t>$. No subjectless presuppositions are predicted, since the verb would not be of the right semantic type for *again* prior to combining with the causer argument. The causer argument of *murder* must therefore always be in *again*'s presupposition. In addition, because the root itself entails that any event causing the death of the holder argument must be intentionally carried out by the causer, the intentionality requirement will always be contained within *again*'s presupposition, producing the observations illustrated in (30)–(34). To demonstrate, we calculate the presupposition of *again* below, showing that the presupposed prior event contains the causer argument and the root, which encodes all manner entailments and intentionality.

(52) John murdered Bill again
$\exists e^1 \exists e^2[e^1 \prec e^2 \prec E \wedge [\text{CAUSER}(e^1) = \textit{john} \wedge \sqrt{\text{MURDER}}(e) \wedge \text{THEME}(e^1) = \textit{bill}] \wedge \ldots]$

In addition to the original observations about agentless presuppositions and intentionality, the analysis also makes a prediction about the possibility of restitutive presuppositions with *again*. As has been observed with lexical causatives like *open*, analyzed in the decompositional literature as *cause x to be open*, low attachment of *again*, specifically to the result state constituent that is verbalized by v_{CAUSE}, can produce restitutive presuppositions (von Stechow 1996; Beck & Johnson 2004; Bale 2007; Harley 2007; Beavers & Koontz-Garboden 2020, *a.o.*). However, notice now that the lexical entry of $\sqrt{\text{MURDER}}$ contains no syntactically decomposed state of death, as indicated in (50). This predicts that there should be no restitutive presuppositions where there was previously a state of death and the asserted event restored this state. This

17 More precisely, this involves universal quantification over worlds compatible with the intentions of the subject argument.

(i) $\text{INTEND}(w)(x)(P)$ is true iff $\forall w'[\text{INTENTION}\ {}^{x}_{w'}\!\!\rightarrow P(x)(w')]$

We will continue to use the simplified relation INTEND in (50) to keep the lexical entries readable.

18 As an anonymous reviewer points out, the meaning given by the lexical entry in (50) regarding mistaken identity might be too weak. That is, it predicts that the agent could have intended to murder anyone else while murdering the wrong person. But the agent must actually believe the theme that they accidentally murdered is the same entity that they had intended to murder. This suggests that another layer of modality might be involved. Nonetheless, the precise formulation of mistaken identity is strictly speaking, orthogonal to the arguments being made here and we provide (50) as a first attempt at capturing the mistaken identity reading.

prediction is borne out; modification of verbs like *murder* with *again* is not compatible with a restitutive interpretation, as already shown in (19)–(21), where the agents across presupposed and asserted events are different, and in (30)–(34), where the presupposed and asserted events differ only in the presence of intent. If there is an independently available result state of *being dead*, we might expect *again* to be licensed in these contexts by having *again* attach low to that constituent, since the restitutive presupposition produced should be entailed by the context. Since these contexts do not license *again*, there must be no such result state available as predicted by our lexical entry.[19]

Our eventive treatment of √MURDER makes an additional prediction about their interaction with durative *for*-phrases. By way of example, the *for*-phrase in (53) is ambiguous: it may mean that the door was opened over and over for two minutes, or that the door was opened and left in an open state for two minutes. Again, this is possible because *open* is syntactically decomposed into a stative result phrase and an eventive component contributing the caused change of state, and the *for*-phrase can modify both the event and state.

(53) John opened the door for two minutes.

Because our analysis of √MURDER contains no syntactically decomposed result state component, we predict that *for*-phrases should not be interpretable as modifying the state of death. This prediction is borne out: as (54) shows, a state-modifying construal is not possible with the *for*-phrase.

(54) CONTEXT: John murders Bill. **Bill is dead <u>for two minutes</u>**, and is then revived.
#John murdered Bill for two minutes.

What might be the syntax in which √MURDER-type roots are embedded in? Syntactically, since we assume that roots are acategorial in the DM sense, we expect that they should still be verbalized by a *v* head after it has combined with its agent argument, as in the analysis of lexical causatives like *open*. Nonetheless, if we combine it with v_{CAUSE} as in Folli & Harley (2005), it would mistakenly predict agentless presuppositions to always be available as argued extensively in the previous section. Instead, we follow recent proposals suggesting that functional heads like verbalizing little *v* and Voice can be semantically inert in the context of certain roots, i.e., contextual allosemy (Schäfer 2008; Wood 2012; Myler 2014; Wood & Marantz 2017; Merchant 2019). We capture this using a spell out rule within the DM tradition, with the meaning of *v* sensitive to the identity of the root it verbalizes. In the presence of certain roots like √MURDER-type roots, *v* is interpreted as inert, semantically an identity function that simply returns the denotation of its sister unchanged.

(55) $[\![v]\!] \rightarrow \lambda F.F$ / ___ √MURDER-type

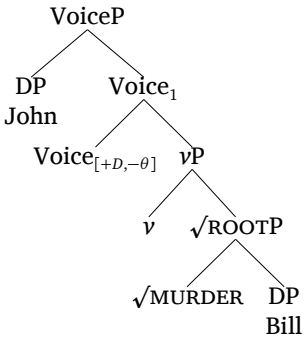
In addition, note that the root itself already introduces the external argument. This might suggest that Voice is no longer necessary. Nevertheless, we will assume together with Schäfer (2008), Myler (2014), Alexiadou et al. (2015), and Wood & Marantz (2017) that Voice is present, and it assigns accusative case regardless of whether it introduces a thematic role. That is, assignment of accusative case is tied to Voice introducing an argument in its specifier rather than its semantic content. There is hence a flavor of Voice that introduces an argument in its specifier position and hence assigns accusative case, but does not assign a thematic role to this argument, i.e., $\text{Voice}_{[+D,-\theta]}$. The argument it introduces is assigned its semantic role by some constituent lower down in the structure, which remains unsaturated until Voice is combined. Semantically, this can again be implemented if $\text{Voice}_{[+D,-\theta]}$ is interpreted as a type-neutral identity function in the context of a *v*P formed with particular kinds of roots, such as √MURDER-type roots (Schäfer 2008; Wood 2012; Myler 2014; Alexiadou et al. 2015; Wood & Marantz 2017).

(56) $[\![\text{VOICE}_{[+D,-\theta]}]\!] \rightarrow \lambda F.F$ / __ $[_{vP}$ *v* √MURDER-type]

19 Beavers & Koontz-Garboden (2012) show that this is also true of other kinds of verbs of killing not considered here, like *drown* and *guillotine*.

Putting everything together, the structure that a √MURDER-type root is embedded in is given below, together with the corresponding semantic interpretations.[20]

(57) John murdered Bill.



(58)
a. ⟦√MURDER⟧: λx.λy.λe[CAUSER(e) = y ∧ √MURDER(e) ∧ THEME(e) = x]
b. ⟦√ROOTP⟧: λy.λe[CAUSER(e) = y ∧ √MURDER(e) ∧ THEME(e) = *bill*]
c. ⟦*v*⟧: λF.F
d. ⟦*v*P⟧: λy.λe[CAUSER(e) = y ∧ √MURDER(e) ∧ THEME(e) = *bill*]
e. ⟦VOICE$_{[+D,-\theta]}$⟧: λF.F
f. ⟦VOICE$_1$⟧: λy.λe[CAUSER(e) = y ∧ √MURDER(e) ∧ THEME(e) = *bill*]
g. ⟦VOICEP⟧: λe[CAUSER(e) = *john* ∧ √MURDER(e) ∧ THEME(e) = *bill*]

Note that under this syntactic analysis, type-theoretic constraints will ensure that *again* can only attach at VoiceP, the constituent where the arguments of the *murder* have been introduced. The attachment site where agentless presuppositions are produced with other transitive eventive verbs as discussed by Bale (2007), namely *v*P, is simply not available.[21]

4.3 Intentionality without agents: manner of forced taking verbs

What of manner of forced taking verbs like *snatch*, *seize*, and *confiscate*? Recall that the key difference between this class and *murder*-type verbs is that they entail intentionality but allow agentless presuppositions. We propose the roots of manner of forced taking verbs, parallel to *murder*-type verbs, will be predicates of events that encode a result state of an object being in the subject's possession. As with *murder*-type verbs, they pass Beavers & Koontz-Garboden's (2012) result diagnostics, with the result state being a change of possession or roughly paraphrasable as *possessing x* (Levin 1993).

(59) *Negated result state*
a. #The custom agents just confiscated her bag, but they didn't get it.
b. #Police officers just seized a box of cocaine, but they didn't get it.
c. #That thief just snatched a luxury watch, but he didn't get it.

(60) *Object deletion*
a. ??All last night, the custom agents confiscated.
b. ??All last night, police officers seized.
c. ??All last night, the thief snatched.

(61) *Unselected objects*
a. *Custom agents confiscated themselves tired.
b. *These police officers seized their hands dirty.
c. *These thieves snatched themselves into prison.

20 As our anonymous reviewers note, this analysis is only necessary if one adopts a tripartite verbal structure under DM assumptions, which we do here. Strictly speaking, one need not adopt these structural assumptions, in which case the denotation in (50) would be the full meaning of a verb like *murder*. Regardless of the syntax, *again* must always have the causer argument in its scope, since it can only attach to the verb after the causer argument has been introduced. Nonetheless, a decompositional analysis along the lines of DM provides an account of agentless presuppositions as well as restitutive presuppositions with *again* and hence, has merits elsewhere (von Stechow 1996; Beck & Johnson 2004; Bale 2007). We adopt the same assumptions and the particular implementations here in order to remain consistent with analyses of those other phenomena.

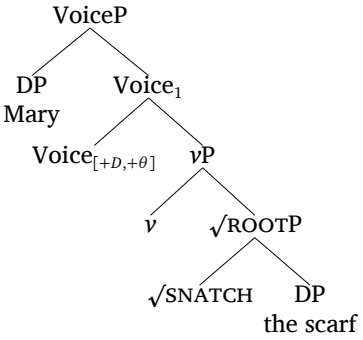
21 Alternatively, as an anonymous reviewer points out, we can have the root introduce all its arguments and have v_{CAUSE} and Voice attach as usual with their usual denotations, and allow the root-introduced causer argument to syntactically move to Voice to saturate the argument position it introduces, akin to what is proposed in frameworks like Ramchand (2008). Attaching to v_{CAUSE} in this analysis would still not produce an agentless presupposition , since there could presumably be a trace of the causer argument within the scope of *again*. For space considerations, we will not explore the motivations and consequences of such a view further.

The lexical entry for the root of *snatch*, for example, is given below, parallel to the lexical entry for the root *murder*. Crucially, they differ in that the root for *snatch* does not introduce its causer argument, though it makes reference to it in the meaning postulate for intentionality, i.e., CAUSER(e).[22] Again, √SNATCH(e) indicates root-specific lexical-semantic entailments regarding how the causing event is carried out.

(62) ⟦√SNATCH⟧: λx.λe[√SNATCH(e) ∧ THEME(e) = x]
where √SNATCH(e) = 1 iff ∃e_s[CAUSE(e,e_s) ∧ HAVE(e_s) ∧ HOLDER(e_s) = CAUSER(e) ∧ THEME(e_s) = THEME(e) ∧ INTEND(CAUSER(e))(∃z,e',e_s'[CAUSER(e') = CAUSER(e) ∧ CAUSE(e',e_s') ∧ HAVE(e_s') ∧ HOLDER(e_s') = CAUSER(e) ∧ THEME(e_s') = z)]

Syntactically, we can implement the difference between *murder*-type verbs and manner of forced taking verbs by allowing Voice with manner of forced taking verbs to introduce both the causer argument and assign it a thematic role i.e., $\text{Voice}_{[+D,+\theta]}$. The full structure and semantic interpretation of *snatch* under these assumptions are given below.[23]

(63) Mary snatched the scarf.



(64) a. ⟦√SNATCH⟧: λx.λe[√SNATCH(e) ∧ THEME(e) = x]
b. ⟦√ROOTP⟧: λe[√SNATCH(e) ∧ THEME(e) = *scarf*]
c. ⟦*v*⟧: λF.F
d. ⟦*v*P⟧: λe[√SNATCH(e) ∧ THEME(e) = *scarf*]
e. ⟦$\text{VOICE}_{[+D,+\theta]}$⟧: λx.λe.CAUSER(e) = x
f. ⟦VOICE_1⟧: λx.λe[CAUSER(e) = x ∧ √SNATCH(e) ∧ THEME(e) = *scarf*]
g. ⟦VOICEP⟧: λe[CAUSER(e) = *mary* ∧ √SNATCH(e) ∧ THEME(e) = *scarf*]

In this structure, both *v*P and √ROOTP are the correct kind of constituent for *again* to attach. In each case, modification by *again* produces the same presupposition at both attachment sites, one that makes reference to the causer of an event but does not require the causer to be the same as the one introduced by Voice. Furthermore, the root itself introduces the intentionality requirement, just as *murder*-type verb roots do. As a result, these verbs entail intentionality as shown in (35)–(36), since no matter where *again* attaches, it will always require a presupposed prior event that must be carried out intentionally, as shown in (37)–(39). We calculate the presupposition of *again* attaching either to RootP or *v*P to demonstrate agentless presuppositions; as shown below, the presupposition never overtly contains the causer argument, even though √SNATCH(e) refers to one via a meaning postulate for intentionality, hence allowing for contexts where the causer argument of the prior event (CAUSER(e^1)) to be different from the asserted event (CAUSER(e)).

(65) Mary snatched the scarf again.
∃e^1∃e^2[$e^1 \prec e^2 \prec$ E ∧ [√SNATCH(e^1) ∧ THEME(e^1) = *scarf*] ∧ …]

22 As noted previously in footnote 2, this is akin to an argument indexing system where the argument introduced by Voice indexes an argument previously introduced by the root, precisely what Wechsler (2020) suggests approaches that sever the external argument need.

23 We assume *v* remains expletive here, given that the root already lexically introduces causation that a functional head like v_{CAUSE} introduces.

5 Intentionality entailments and manner properties

By way of closing, we consider how the analysis proposed above implicates theories of verbal meaning, particularly those that seek to constrain the range of semantic entailments verbs can have. In particular, we consider the influential proposal of Rappaport Hovav & Levin (2010), who propose a MANNER/RESULT COMPLEMENTARITY in which verbs either encode a manner of action or a result state, but never both.

(66) MANNER/RESULT COMPLEMENTARITY: Manner and result meaning components are in complementary distribution; a verb lexicalizes only one.

Rappaport Hovav & Levin (2010) suggest that complementarity falls out from how roots are integrated in an event structure, i.e., manner roots are integrated as modifiers of the so-called ACT predicate in (67-a), whereas result roots as arguments of the so-called BECOME predicate in (67-b); no single root can be inserted into the event structure in two places simultaneously.[24]

(67) a. [x ACT < ROOT >]
b. [[x ACT] CAUSE [y BECOME < ROOT >]]

As Beavers & Koontz-Garboden (2012: 333) point out, MANNER/RESULT COMPLEMENTARITY is actually a twofold claim. First, it constraints 'how much' meaning roots can have and second, it determines how roots are inserted in the event structure (see also Mateu & Acedo-Matellán 2012). In a series of works, Beavers & Koontz-Garboden (2012; 2020) argue using sub-lexical modification with *again* and the obligatory low scope (restitutive) of *re-* prefixation (Dowty 1979; Marantz 2007; Marantz 2007; 2009) that complementarity does not hold at the level of root meanings, and various classes of verbs that do not give rise to purely restitutive presuppositions with *again* and *re-* uniformly pass both manner and result diagnostics developed in Rappaport Hovav & Levin (2010) and Beavers & Koontz-Garboden (2012). Following these works, we can also confirm that the two verb classes examined here, namely *murder*-type verbs and manner of forced taking verbs, in addition to passing result diagnostics as described earlier, also pass the manner diagnostics developed in Beavers & Koontz-Garboden (2012).

First, both verb classes behave like manner verbs in imposing selectional restrictions, in particular intentionality requirements, on their subjects. This was already illustrated previously with intentionality entailments; we repeat the relevant examples here.

(68) *No general causes, natural forces, or instruments*
a. #Cancer murdered every man in that hospital.
b. #Strong winds assassinated the president.
c. #The magical sword slew the dragon.
d. #The bombs slaughtered all the citizens in that town.
e. #This gun massacred the civilians.

(69) *No general causes, natural forces, or instruments*
a. #Strong winds seized this illegal car.
b. #A gust of wind snatched this luxury watch.
c. #Their bare hands confiscated her bag.

Second, Beavers & Koontz-Garboden (2012: 345) argue that if a subject qualifies as an actor, then "it should be impossible to assert that they performed the action specified by the verb and yet didn't move a muscle". *Murder*-type verbs (in contrast with *kill*) and manner of

24 Rappaport Hovav & Levin (2010) do not claim that these event structures correspond directly to syntactic structure, instead locating them in some conceptual-semantic structure. Nonetheless, Beavers & Koontz-Garboden (2020) note that they can be easily translated into syntactic, event-decompositional frameworks such as those of Harley (2005) and Embick (2009), where manner roots are adjoined to little *v* while result roots are complements of little *v* (see also Mateu & Acedo-Matellán 2012).

forced taking verbs generate clear contradictions when a manner of action is denied in the assertion.[25]

(70) a. John killed Tom, his son, but didn't move a muscle — rather, he deliberately did not give consent to his operation on his tumor due to religious beliefs.
b. #John murdered Tom, his son, but didn't move a muscle — rather, he deliberately did not give consent to his operation on his tumor due to religious beliefs.

(71) a. That knight killed the king, but didn't move a muscle — rather, he deliberately refused to defend the king from a vicious dragon.
b. #That knight assassinated the king, but didn't move a muscle — rather, he deliberately refused to defend the king from a vicious dragon.

(72) a. The knight killed the dragon, but didn't move a muscle — rather, he tacitly refused to feed it.
b. #The knight slew the dragon, but didn't move a muscle — rather, he tacitly refused to feed it.

(73) a. The dragon killed all the soldiers, but didn't move a muscle — rather, he let the soldiers jump off the castle walls in panic.
b. #The dragon massacred all the soldiers, but didn't move a muscle — rather, he let the soldiers jump off the castle walls in panic.

(74) a. The soldiers killed all the dragons, but didn't move a muscle — rather, they deliberately let the dragons starve to death.
b. #The soldiers slaughtered all the dragons, but didn't move a muscle — rather, they deliberately let the dragons starve to death.

(75) a. #The custom agents confiscated her bag, but didn't move a muscle — rather, during the confiscation, they stood still, observing it and tacitly refused to stop it.
b. #US police officers seized this illegal car, but didn't move a muscle — rather, during the seizing, they stood still and tacitly refused to stop it.
c. #The train passenger snatched this luxury watch, but didn't move a muscle — rather, during the snatching, she sat on her seat tacitly refusing to alert the inspector.

Finally, because manner verbs involve non-scalar changes that are complex as argued by Rappaport Hovav & Levin (2010), manner verbs should be durative and pass diagnostics for durativity, yielding both *an after* and *during x time reading* with the *take time* diagnostic (Kearns 2000). This is particularly true for *murder*-type verbs and manner of forced taking verbs. Since these encode non-gradable states of death and possession (two-point scales), any durative reading must arise from the fact that they also encode a manner of action. Indeed, durative readings are possible for both of these verb classes.

25 There appears to be some variation amongst speakers about whether it is possible to deny that an action has been performed in the case of *murder*. For example, an anonymous reviewer notes that if a doctor tacitly refuses to treat a patient with the intention of letting the patient die, it can be categorized as a murdering event by some speakers. We do not share this acceptability judgment, but acknowledge that there may be some variation amongst speakers, especially with *murder*. We hypothesize that this is due to its manner being least specified compared to the other *murder*-type verbs, and as a result (perhaps) most susceptible to variation. Other *murder*-type verbs such as *massacre* seem to encode more specific manner entailments about the causing of the result state (e.g., magnitude of killing) and strongly resist the *didn't move a muscle* test, since (as the same reviewer points out) sentences like *John massacred the city by refusing to alert the people about the hurricane* are clearly unacceptable. For these speakers then, it could be that *murder* simply does not belong to the same class as verbs like *massacre*, does not entail manner of action, and hence does not counterexemplify MANNER/RESULT COMPLEMENTARITY. The fact that *murder* still selects for intentional and animate subjects for these speakers follows purely from intentionality entailments and not manner entailments. We note that if this is the case, *murder* for these speakers should also not show durative readings per Beavers & Koontz-Garboden's (2012) final diagnostic. We are unable to confirm this, since we are not speakers who share the *didn't move a muscle* judgment and hence for us, *murder* does counterexemplify MANNER/RESULT COMPLEMENTARITY. It could well be that there are simply two groups of speakers: speakers (like us) who do not accept *didn't move a muscle* with *murder* because it entails manner of action, and speakers who accept this follow up and hence *murder* does not entail manner of action. As the anonymous reviewer concludes, it is a matter of how the verb *murder* is lexicalized, and it is reasonable that different groups of speakers could have lexicalized the verb with different sets of lexical-semantic entailments.

(76) a. It took John 5 minutes to murder Tom.
(*after*/*during* five minutes)
b. It took the CIA spy 5 minutes to assassinate the senator.
(*after*/*during* five minutes)
c. It took the knight 5 minutes to slay the dragon.
(*after*/*during* five minutes)
d. It took Tommy 5 minutes to slaughter the citizens.
(*after*/*during* five minutes)
e. It took Noah 5 minutes to massacre the passersby.
(*after*/*during* five minutes)

(77) a. It took the custom agents 5 minutes to confiscate her bag.
(*after*/*during* five minutes)
b. It took the police officers 5 minutes to seize this illegal car.
(*after*/*during* five minutes)
c. It took the train passenger 5 minutes to snatch this luxury watch.
(*after*/*during* five minutes)

While we have shown that *murder*-type verbs and manner of forced taking verbs both counterexemplify MANNER/RESULT COMPLEMENTARITY as did Beavers & Koontz-Garboden (2012; 2020) for other verb classes, a deeper question remains: *Why* do these verbs show manner properties? As an anonymous reviewer points out, it might be that intentionality entailments themselves are sufficient to induce manner properties, if the semantic content of the INTEND relation in our analysis can be paraphrased as *intend to* ***do something*** *to bring something else about*, where *doing something* entails a manner of action specific to each verb (c.f. another anonymous reviewer's *x intentionally causes y to P and the causing was X*). This is roughly the position we have taken thus far (see again footnote 12). Indeed, this is the intuition articulated by many in the literature on intention reports and causation (see e.g., Culicover & Jackendoff 2005; Grano 2017; Copley 2018), and if true, would answer the question posed above. It is neither our intention to give a full review of the vast literature on causation and intention reports, nor is it strictly our aim in this paper to account for why these verbs show manner properties. Nonetheless, we offer two quick thoughts and a tentative hypothesis on what might be sufficient to induce manner properties in verbs.

First, we note that not all verbs that show mixed manner-result properties are necessarily verbs that must entail intentionality on the part of the subject argument. Take for example the verb of killing *drown*; as Beavers & Koontz-Garboden (2012) demonstrate, *drown* passes all of their manner and result diagnostics and hence qualify as a mixed manner/result verb. Sub-lexical modification with *again* and *re-* also does not produce pure restitutive readings, another property shared with the two classes of verbs examined here (Beavers & Koontz-Garboden 2012: 358). This leads them to propose that the meaning of *drown* also entails an event of causation such that *again* can never produce a purely restitutive presupposition, which we follow in our analysis of *murder*-type verbs and manner of forced taking verbs.

(78) John drowned the zombie again.
MEANS: 'John caused the zombie to be dead by drowning again.'
CANNOT MEAN: 'John caused the zombie to become dead by drowning, but the last time he killed it with a chainsaw.'

Crucially, *drown* shows manner properties *without* needing to entail intentionality. It is hence perfectly possible that an entity is accidentally drowned by another, as shown in the context below. If there is something shared between *murder*-type verbs, manner of forced taking verbs, and *drown* that induces manner properties, it would not seem to be intent on the part of the subject argument.

(79) CONTEXT: Tom and Bill were playing around in a swimming pool, challenging each other to see how long each can hold their breaths. Tom, wanting to outdo Bill, asked Bill to hold his head down in the water. Unfortunately, Bill held Tom's head down for too long and Tom drowned.
Bill **accidentally/unintentionally** drowned Tom.

Second, a cursory examination of the literature on intention reports with verbs like *intend*, which one might expect to share similar semantics with the INTEND relation we postulated for verbs that entail intentionality, also shows that intentions need not necessarily involve *intend to*

do something *to bring about something else*. For example, responding to Culicover & Jackendoff's (2005) claim that *intend* is paraphrasable as *intend to bring about something (by doing something)*, Boeckx et al. (2010) note that the use of the verb *intend* need not entail that something needs to be done (cited in Grano 2017).

(80) Hilary intended for Ben to come to the party, but being lazy and complacent, she **intended to *do nothing*** whatsoever to bring this about.

Grano (2017) hence questions what the exact nature of the kind of causation that is invoked by *intend* is, and whether *bringing about* entails *doing something*. In particular, it seems like the kind of causation involved in intention reports is *indirect causation* and need not involve any kind of action in the intuitive sense. Evidence for this comes from the fact that while the following context can be described by an intention report with *intend* and also *bring about*, it cannot be described by the lexical causative *drown* (adapted from Grano's (2017) (121)).[26]

(81) CONTEXT: Kim and Sandy are on a boat. Sandy accidentally falls overboard and Kim, although perfectly capable of rescuing her, chooses not to.
a. (By doing nothing,) Kim brought it about that Sandy drowned.
b. (By doing nothing,) Kim intended for Sandy to drown/to drown Sandy.
c. #Kim drowned Sandy.

If we take the above two observations seriously, it would seem that intentionality is neither necessary (e.g., *drown*) nor sufficient (does not actually entail *doing something*) to induce entailments of manner of action. What then, we ask, is really crucial in inducing manner entailments? We tentatively follow Grano's (2017) intuition in the contrast between the lexical causative and *intend* and *bring about* that it is the entailment of *direct causation*. For example, one proposal about the difference between lexical causatives, which typically express direct causation, and productive causatives, which do not, comes from Shibatani (1976), who distinguishes between manipulative and directive causation, which can be roughly mapped to direct versus indirect causation.

(82) a. Manipulative causation: often involves non-volitional causee, direct physical manipulation
b. Directive causation: often involves volitional causee, expressed authority

If we understand the CAUSE relation in the analysis of these mixed manner/result verbs as involving manipulative (direct) causation with physical manipulation as does Shibatani (1976), then we might have an intuitive answer as to why all of the verbs discussed by Beavers & Koontz-Garboden (2012) as well as the two verb classes here induce manner properties: they must involve some form of physical manipulation and hence, some *manner* of physical manipulation, c.f. Rappaport Hovav & Levin's (2010) manner as non-scalar change, such as the movement of arms and legs during walking or running. While causation results in a scalar change in the theme along some scalar property, the event of causation, in particular direct causation, is one that invokes non-scalar change and hence, manner properties (see also Ausensi 2020). Put in another informal way, the presence of CAUSE encoding direct causation as in *x causes y to P* opens up the possibility of adding *the causing was X*; hence, intentionality does not in fact induce *the causing was X* and they can in principle, be dissociated. Much remains to be worked out, not least a formal implementation of the difference between manipulative and directive causation, but under this hypothesis, manner properties are induced whenever the CAUSE relation is entailed and not because of intentionality.[27]

6 Conclusion

We argued against severing all external arguments from their verbs in the spirit of Kratzer (1996). We showed that *murder*-type verbs disallow agentless presuppositions, which given a structural scope-based analysis of *again*, means there is no constituent that excludes the agent

26 As shown by the *didn't move a muscle* test in (70)–(75), *murder*-type verbs and manner of forced taking verbs similarly cannot describe such contexts.

27 See as well Lewis (1973) and Kratzer (2005) for other highly influential and formalized views of causation in terms of counterfactuality and causal chains rather than manipulative and directive causation.

argument that *again* can attach to. Crucially, we note as well that these are transitive verbs, which further counterexemplifies Bale's (2007) generalization that all eventive transitive verbs have their external arguments severed. We added a further claim by examining manner of forced taking verbs, namely that intentionality entailments need not necessarily be introduced together with an Agent thematic role. This was based on the observation that manner of forced taking verbs require their subjects to be agents and hence impose intentionality requirements, but still permit agentless presuppositions. We developed a mini-typology of verbs based on how they behave in regards to sub-lexical modification with *again*: *murder*-type verbs which introduce their agent arguments directly and entail intentionality, and manner of forced taking verbs which entail intentionality but do not introduce their agent arguments directly. The consequence is that agent arguments and intentionality entailments are not always severed from the verbs and distributed across different portions of the syntactic structure and functional heads, as syntactic, event-decompositional analyses of verb meanings often assume, and we provided a compositional analysis within the framework of DM to capture these observations. We then considered an influential theory of verb meaning, i.e., MANNER/RESULT COMPLEMENTARITY, and showed that the two verb classes we considered pass not just result but also manner diagnostics. This raised the question of what exactly in the meanings of these verbs is inducing manner properties, and we advanced a tentative hypothesis that it is not the entailment of intentionality but of (direct) causation that leads to these verbs showing manner properties.

Abbreviations

DOM = differential object marking, PFV = perfective.

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References

Alexiadou, Artemis, Elena Anagnostopolou & Florian Schäfer. 2015. *External arguments in transitivity alternations: A layering approach*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199571949.001.0001

Ausensi, Josep. 2019. Agent entailments induce manner properties: Evidence from verbs of killing. In Astrid Van Alem, Mirella De Sisto, Elisabeth J. Kerr & Joanna Wall (eds.), *Proceedings of the 27th Conference of the Student Organization of Linguistics in Europe*, 118–134. Leiden University Centre for Linguistics.

Ausensi, Josep. 2020. Rethinking (in)direct causation: two classes of lexical causative verbs. In Eren Ömer, Asimina Giannoula, Sam Gray, Chi-Dat (Daniel) Lam & Aurora Martínez del Rio (eds.), *Proceedings from the Annual Meeting of the Chicago Linguistic Society* 55. 1–15. Chicago, IL: Chicago Linguistic Society.

Ausensi, Josep, Jianrong Yu & Ryan Walter Smith. 2020. Repetitive presuppositions with *again*: Un-severing the external argument. In Patrick Farrell (ed.), *Proceedings of the Linguistic Society of America*. 5. 83–93. Linguistic Society of America. DOI: https://doi.org/10.3765/plsa.v5i1.4666

Bale, Alan Clinton. 2007. Quantifiers and verb phrases: An exploration of propositional complexity. *Natural Language and Linguistic Theory* 25(3). 447–483. DOI: https://doi.org/10.1007/s11049-007-9019-8

Beavers, John & Andrew Koontz-Garboden. 2012. Manner and result in the roots of verbal meaning. *Linguistic Inquiry* 43(3). 331–369. DOI: https://doi.org/10.1162/LING_a_00093

Beavers, John & Andrew Koontz-Garboden. 2020. *The Roots of Verbal Meaning*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780198855781.001.0001

Beck, Sigrid & Kyle Johnson. 2004. Double objects again. *Linguistic Inquiry* 35(1). 97–123. DOI: https://doi.org/10.1162/002438904322793356

Boeckx, Cedric, Norbert Hornstein & Jairo Nunes. 2010. *Control as movement*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511761997

Bruening, Benjamin. 2013. By phrases in passives and nominals. *Syntax* 16(1). 1–41. DOI: https://doi.org/10.1111/j.1467-9612.2012.00171.x

Carlson, Gregory. 1998. Thematic roles and the individuation of events. In Susan Rothstein (ed.), *Events and grammar*, 35–51. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-011-3969-4_3

Champollion, Lucas. 2010. *Parts of a whole: Distributivity as a bridge between aspect and measurement*: University of Pennsylvania dissertation.

Copley, Bridget. 2018. Dispositional causation. *Glossa: A journal of general linguistics* 3(1). 1–36. DOI: https://doi.org/10.5334/gjgl.507

Cuervo, M. Cristina. 2003. *Datives at large*. Massachusetts Institute of Technology dissertation.

Culicover, Peter W. & Ray Jackendoff. 2005. *Simpler syntax*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199271092.001.0001

Dowty, David. 1979. *Word meaning and montague grammar*. Dordrecht: D. Reidel Publishing. DOI: https://doi.org/10.1007/978-94-009-9473-7

Dowty, David. 1989. On the semantic content of the notion 'thematic role'. In Gennaro Chierchia, Barbara H. Partee & Raymond Turner (eds.), *Properties, types, and meaning. semantic issues*, 69–130. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-009-2723-0_3

Dowty, David. 1991. Thematic proto-roles and argument selection. *Language* 67(3). 574–619. DOI: https://doi.org/10.1353/lan.1991.0021

Embick, David. 2004. On the structure of resultative participles in English. *Linguistic Inquiry* 35(3). 355–392. DOI: https://doi.org/10.1162/0024389041402634

Embick, David. 2009. Roots, states, stative passives (Talk given at the 2009 Roots Workshop, University of Stuttgart).

Folli, Raffaella & Heidi Harley. 2005. Flavors of *v*. In Paula Marie Kempchinsky & Roumyana Slabakova (eds.), *Aspectual inquiries*, 99–120. Dordrecht: Springer. DOI: https://doi.org/10.1007/1-4020-3033-9_5

Folli, Raffaella & Heidi Harley. 2007. Causation, obligation and argument structure: On the nature of little *v*. *Linguistic Inquiry* 38(2). 197–238. DOI: https://doi.org/10.1162/ling.2007.38.2.197

Folli, Raffaella & Heidi Harley. 2008. Teleology and animacy in external arguments. *Lingua* 118. 190–202. DOI: https://doi.org/10.1016/j.lingua.2007.02.004

Grano, Thomas. 2017. The logic of intention reports. *Journal of Semantics* 34. 587–632. DOI: https://doi.org/10.1093/jos/ffx010

Hale, Kenneth & Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In Jay Keyser Samuel & Kenneth Hale (eds.), *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, 53–109. Cambridge: MIT Press.

Hale, Kenneth & Samuel Jay Keyser. 2002. *Prolegomenon to a theory of argument structure*. Cambridge: MIT Press. DOI: https://doi.org/10.7551/mitpress/5634.001.0001

Halle, Morris & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from building* 20. 111–176. Cambridge, MA: MIT Press.

Harley, Heidi. 1995. *Subjects, events, and licensing*: Massachusetts Institute of Technology dissertation.

Harley, Heidi. 2005. How do verbs get their names? Denominal verbs, manner incorporation, and the ontology of verb roots in English. In Nomi Erteschik-Shir & Tova Rapaport (eds.), *The syntax of aspect: Deriving thematic and aspectual interpretation*, 42–64. New York, NY: Oxford University Press. DOI: *https://doi.org/10.1093/acprof:oso/9780199280445.003.0003*

Harley, Heidi. 2009. The morphology of nominalizations and the syntax of vP. In Monika Rathert & Anastasia Giannakidou (eds.), *Quantification, definiteness, and nominalization*, 320–342. Oxford: Oxford University Press.

Harley, Heidi. 2012. Lexical decomposition in modern syntactic theory. In Wolfram Hinzen, Edouard Machery & Markus Werning (eds.), *The oxford handbook of compositionality*, 328–350. Oxford: Oxford University Press.

Harley, Heidi. 2013. External arguments and the Mirror Principle: On the distinctness of Voice and *v*. *Lingua* 125. 34–57. DOI: *https://doi.org/10.1016/j.lingua.2012.09.010*

Holisky, Dee Ann. 1987. The case of the intransitive subject in Tsova-Tush (Batsbi). *Lingua* 71. 103–132. DOI: *https://doi.org/10.1016/0024-3841(87)90069-6*

Kearns, Kate. 2000. *Semantics*. New York: St. Martin's.

Kratzer, Angelika. 1996. Severing the external argument from its verbs. In Laurie Ann Zaring & Johan Rooryck (eds.), *Phrase structure and the lexicon*, 109–137. Dordrecht: Kluwer. DOI: *https://doi.org/10.1007/978-94-015-8617-7_5*

Kratzer, Angelika. 2005. Building resultatives. In Claudia Maienborn & Wöllstein-Leisten (eds.), *Event arguments: Functions and applications*, 177–212. Tübingen: Niemeyer. DOI: *https://doi.org/10.1515/9783110913798.177*

Landman, Fred. 2000. *Events and plurality*. Dordrecht: Kluwer. DOI: *https://doi.org/10.1007/978-94-011-4359-2*

Levin, Beth. 1993. *English verb classes and alternations: A preliminary investigation*. Chicago: University of Chicago Press.

Lewis, David. 1973. Causation. *Journal of Philosophy* 70. 556–567. DOI: *https://doi.org/10.2307/2025310*

Marantz, Alec. 1984. *On the nature of grammatical relations*. Cambridge, MA: MIT Press.

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. In *University of Pennsylvania Working Papers in Linguistics* 4. 201–225. Penn Graduate Linguistics Society.

Marantz, Alec. 2007. Restitutive re-, and the first phase syntax/semantics of the VP (Talk given at the University of Maryland).

Marantz, Alec. 2009. Roots, re-, and affected agents: Can roots pull the agent under little *v* (Talk given at the 2009 Roots Workshop, University of Stuttgart).

Mateu, Jaume & Víctor Acedo-Matellán. 2012. The Manner/Result Complementarity revisited: A syntactic approach. In M. Cristina Cuervo & Yves Roberge (eds.), *The end of argument structure? Syntax and semantics*, 209–228. New York, NY: Academic Press. DOI: *https://doi.org/10.1108/S0092-4563(2012)0000038011*

Merchant, Jason. 2013. Voice and ellipsis. *Linguistic Inquiry* 44(1). 77–108. DOI: *https://doi.org/10.1162/LING_a_00120*

Merchant, Jason. 2019. Roots don't select, categorial heads do: Lexical selection of PPs may vary by category. *The Linguistic Review* 36(3). 325–341. DOI: *https://doi.org/10.1515/tlr-2019-2020*

Müller, Stefan & Stephen Wechsler. 2014. Lexical approaches to argument structure. *Theoretical Linguistics* 40. 1–76. DOI: *https://doi.org/10.1515/tl-2014-0001*

Myler, Neil. 2014. *Building and interpreting possession structures*. New York University dissertation.

Pesetsky, David. 1995. *Zero syntax: Experiencer and cascades*. Cambridge, MA: MIT Press.

Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press. DOI: *https://doi.org/10.7551/mitpress/9780262162548.001.0001*

Ramchand, Gillian. 2008. *Verb meaning and the lexicon*. Cambridge: Cambridge University Press. DOI: *https://doi.org/10.1017/CBO9780511486319*

Rappaport Hovav, Malka & Beth Levin. 2010. Reflections on Manner/Result Complementarity. In Malka Rappaport Hovav, Edit Doron & Ivy Sichel (eds.), *Syntax, lexical semantics, and event structure*, 21–38. Oxford: Oxford University Press. DOI: *https://doi.org/10.1093/acprof:oso/9780199544325.003.0002*

Schäfer, Florian. 2008. The causative alternation. *Language and Linguistics Compass* 3(2). 641–681. DOI: *https://doi.org/10.1111/j.1749-818X.2009.00127.x*

Shibatani, Masayoshi. 1976. The grammar of causative constructions: A conspectus. In Masayoshi Shibatani (ed.), *The grammar of causative constructions*, 1–40. Academic Press. DOI: *https://doi.org/10.1163/9789004368842_002*

Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In Timothy Shopen (ed.), *Language typology and syntactic description III: Grammatical categories and the lexicon*, 57–149. Cambridge: Cambridge University Press.

Van Valin, Robert & David Wilkins. 1996. The case for 'effector': Case roles, agents, and agency revisited. In Masayoshi Shibatani & Sandra Thompson (eds.), *Grammatical constructions: Their form and meaning*, 289–322. Oxford: Oxford University Press.

von Stechow, Arnim. 1995. Lexical decomposition in syntax. In Urse Egli, Peter E. Pause, Christoph Shwarze, Armin von Stechow & Götz Weinold (eds.), *The lexicon in the organization of language*, 81–118. Amsterdam and Philedelphia: John Benjamins. DOI: *https://doi.org/10.1075/cilt.114.05ste*

von Stechow, Arnim. 1996. The different readings of wieder 'again': A structural account. *Journal of Semantics* 13(2). 87–138. DOI: *https://doi.org/10.1093/jos/13.2.87*

Wechsler, Stephen. 2005. What is right and wrong about little *v*. In Mila Dimitrova-Vulchanova & Tor A. Åfarli (eds.), *Grammar and beyond—Essays in honour of Lars Hellan*, 179–195. Oslo: Novus Press.

Wechsler, Stephen. 2020. The role of the lexicon in the syntax-semantics interface. *Annual Review of Linguistics* 6. 67–87. DOI: *https://doi.org/10.1146/annurev-linguistics-011619-030349*

Wood, Jim. 2012. *Icelandic morphosyntax and argument structure*: New York University dissertation.

Wood, Jim & Alec Marantz. 2017. The interpretation of external arguments. In Roberta D'Alessandro, Irene Franco & Ángel J. Gallego (eds.), *The verbal domain*, 255–278. Oxford: Oxford University Press.

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