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A decomposition analysis of Agents

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Agents and Causers are standardly analyzed as external arguments introduced by v or Voice. According to this approach, the two arguments are independent and unrelated. However, evidence from the distribution patterns of various adjuncts (nonarguments) in change-of-state verbs suggests that the verbal structure provided by the standard analysis is not fine-grained enough and requires revision. To address this issue, I propose decomposing the Agent-introducing head (v or Voice) into Voice and Appl. Specifically, I suggest that Voice introduces Causers, while Appl introduces Affectees. Both arguments are atomic and primitive, meaning that they cannot be further divided and are capable of combining with each other to form other types of arguments. I argue that Agents are derived through movement from Spec, ApplP to Spec, VoiceP, and are therefore composite, consisting of both Causers and Affectees. This decomposition analysis offers a new perspective on the Animacy Restriction observed in aspectual *si* constructions and ditransitive alternations. Compared to the standard analysis, it accurately predicts that Agents alternate with Causers and Affectees. Additionally, it naturally extends to unergatives.

1 Introduction

In this paper, I present a novel analysis of the syntactic licensing of Agent external arguments[1] and propose a derivational relationship between Agents, Causers (another type of external arguments), and Affectees (additional arguments introduced by a high Appl, see Pylkkänen 2002). I argue that there is a fundamental difference in the licensing of Causers and Affectees, on the one hand, and Agents, on the other. Specifically, Causers and Affectees are atomic and primitive, whereas Agents are composite and comprised of both Causers and Affectees. Thus, while there are categories dedicated to introducing Causers and Affectees, this is not the case for Agents.

Current theories characterize θ-roles as participants in (sub)events (for a detailed overview, see Levin & Rappaport Hovav 2005). Within this framework, external arguments are commonly linked to the argument position of a causing subevent. They are further classified into specific types based on the volitionality of the argument filling that position. Among these types, Agents are identified as being volitional. This idea is represented in different syntactic forms in the literature. According to Chomsky's (1993; 1995) verbal shell analysis, a transitive verb typically has two verbal projections, one headed by v and the other by V. Agents, like all other types of external arguments (such as Causers), are introduced in Spec, vP and licensed conjointly by the v-VP configuration, as illustrated in (1).

(1)

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            vP
          /    \
      Agent     v′
              /    \
             v      VP
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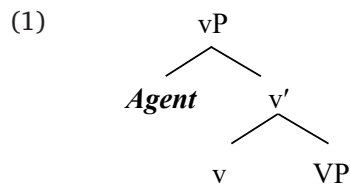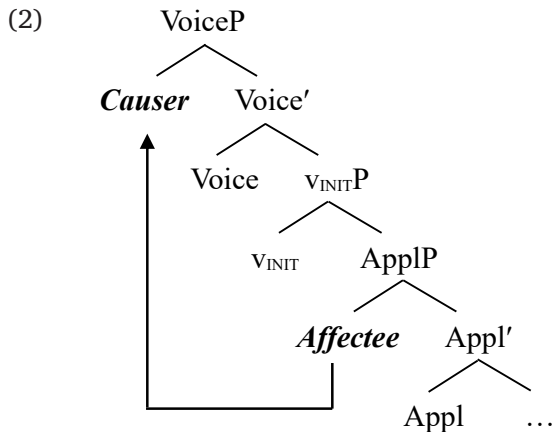
Other researchers distinguish between different flavors of v (Harley 1995; Kratzer 1996; Arad 1998; Cuervo 2003; Folli & Harley 2005; 2007, among others) and postulate a different head for each type of external argument. For example, Folli & Harley (2005) propose that Agents and Causers are introduced by different categories.[2] v_{DO} introduces Agents, and v_{CAUSE} introduces Causers. Like Chomsky's analysis, this approach also posits that Agents are introduced by a specific category and considered atomic and primitive.

The present paper argues that an Agent is simultaneously a Causer and an Affectee. Specifically, Causers and Affectees are introduced in Spec, VoiceP and Spec, ApplP, respectively,

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[1] I use external arguments in the sense of Williams (1981).

[2] But note that Folli & Harley (2005) treat Agents as a type of Causers. As a result, v_{CAUSE} also introduces Agents.

and Agents are derived through movement from Spec, ApplP to Spec, VoiceP. The derivation is shown in (2).

(2)

```
                VoiceP
               /      \
         Causer      Voice′
                     /      \
                 Voice     v_INIT P
                           /      \
                        v_INIT   ApplP
                                /      \
                          Affectee    Appl′
                                      /      \
                                   Appl      …
```

As a result, there is no need to hypothesize a new head to introduce Agents, which makes the current proposal more parsimonious compared to the alternative approaches. Moreover, it will be shown that various instances of argument structure alternations can be created through syntactic operations like causativization and expletivization. These operations enable the addition or removal of Causers or Affectees, resulting in Agents alternating with either Causers or Affectees, which will be argued to favor the proposed analysis.

The paper is organized as follows. In section 2 and 3, I motivate and develop the decomposition analysis of Agents by discussing the distribution patterns of various adjuncts. In section 4, I apply the theory to aspectual *si* constructions (in Italian and Spanish) and ditransitive alternations (in English) to explain the Animacy Restriction observed in these constructions. In section 5, I examine two predictions made by the proposed analysis and discuss the connections between agentivity, Agents, Causers, and Affectees. Moreover, I extend the analysis to unergatives and their alternations with unaccusatives. Finally, section 6 concludes.

2 Adjunct Distribution

In English, change-of-state verbs, such as *break*, display different restrictions on adjunct modification in their active, passive, middle, and inchoative usages. To explore this phenomenon, I will first provide a semantics for various adjuncts, using them as diagnostics for identifying the presence of different heads. Then, I will argue that decomposing v into Voice and v, as originally proposed by Pylkkänen (2002), is not fine-grained enough to account for the adjunct distribution patterns observed in the four usages of *break*. In contrast, the proposed decomposition analysis of Agents will be shown to naturally explain them. Therefore, the following observations will provide evidence for the proposed analysis.

2.1 Basic Data

Adjunct modification is known to be influenced by voice alternations. Various studies have explored *by*-phrases, subject-oriented adverbials, and pure instrument PPs (e.g., Keyser & Roeper 1984; Roeper 1987; Baker et al. 1989; Marelj 2004; Bruening 2013). In addition to these three types, the paper also discusses internal-argument-oriented comitatives. While actives are incompatible with (a) *by*-phrases, they can be modified by (b) subject-oriented adverbials, (c) pure instrument PPs, and (d) internal-argument-oriented comitatives (see (3)). In contrast, passives can be modified by all four types of adjuncts (see (4)). Middles allow all except *by*-phrases and subject-oriented adverbials (see (5)). Finally, inchoatives are restricted to internal-argument-oriented comitatives (see (6)).

(3) *Actives*
    a. *John broke the glass *by Mary*.
    b. John broke the glass *deliberately*.
    c. John broke the glass *with a hammer*.
    d. John broke the glass (along) *with the plates*.

(4) *Passives*
    a. The glass was broken *by John*.
    b. The glass was broken *deliberately*.
    c. The glass was broken *with a hammer*.
    d. The glass was broken (along) *with the plates*.

(5) *Middles*
    a. *Walnuts break easily *by adults*.
    b. *Walnuts break easily *on purpose*.
    c. Walnuts break easily *with a hammer*.
    d. Hearts break easily (along) *with pride*.

(6) *Inchoatives*
    a. *The window broke *by John*.
    b. *The window broke *on purpose*.
    c. *The window broke *with a hammer*.
    d. The window broke (along) *with the plates*.

2.2 Standard Analysis

Let's examine how the patterns in (3–6) can be handled within the standard view of argument structure. Pylkkänen (2002) decomposes v into Voice and v (her Cause) (see also Alexiadou et al. 2006; Harley 2013; Legate 2014, among many others). v introduces the causing subevent, and Voice introduces the external argument. The lexical category V is typically assumed to license

the internal argument in its complement. Consider the sentence *John broke the glass*. Its semantic representation based on the standard analysis is given in (7).

(7)

VoiceP $\lambda e.\exists e'.[breaking(e', the\ glass)\ \&\ CAUSE(e, e')\ \&\ \text{AGENT}(e, John)]$

John Voice′ $\lambda x\lambda e.\exists e'.[breaking(e', the\ glass)\ \&\ CAUSE(e, e')\ \&\ \text{AGENT}(e, x)]$

Voice vP $\lambda e.\exists e'.[breaking(e', the\ glass)\ \&\ CAUSE(e, e')]$

$\lambda x\lambda e.[\text{AGENT}(e, x)]$

v VP $\lambda e.[breaking(e, the\ glass)]$

$\lambda f_{\langle s,t\rangle}\lambda e.\exists e'.[f(e')\ \&\ CAUSE(e, e')]$

broke *the glass*

$\lambda x\lambda e.[breaking(e, x)]$
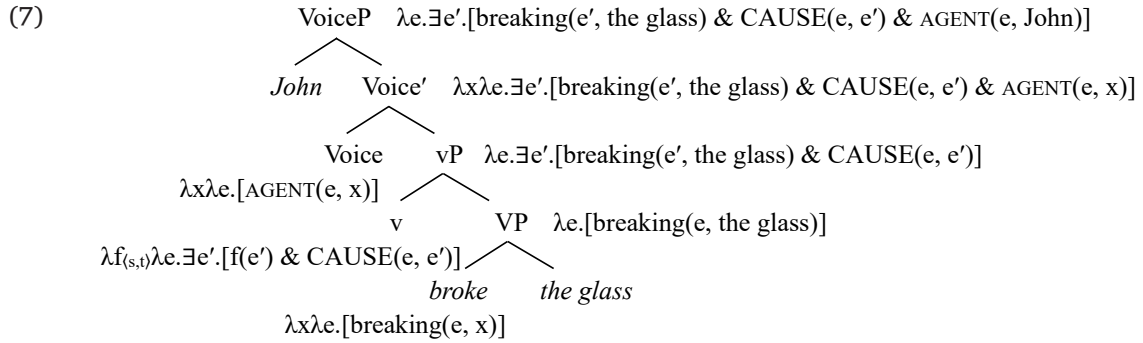
Adjuncts have frequently been used to test the presence of syntactic projections. The underlying logic is that each of a rigidly ordered sequence of heads is responsible for licensing one specific class of adjuncts (e.g., Alexiadou 1997; Cinque 1999). While agreeing with the general idea behind these analyses, I adopt Ernst's (2002) more semantics-oriented approach, which derives most of the constraints on adjunct licensing from lexicosemantic properties and compositional rules. As a result, the one-to-one correspondence between a head and a class of adjuncts is not stipulated as a syntactic constraint but is rather a natural consequence of the semantics. I will now outline common approaches to the semantics of adjuncts and show that the structure in (7) is not sufficient to explain the adjunct distribution patterns in (3–6).

There are two main approaches to analyzing **by-phrases**. Collins (2005) posits that *by* realizes Voice, and that the arguments in *by*-phrases are base-generated in Spec, vP. In contrast, Bruening (2013) argues that *by*-phrases identify the Agent (which he calls Initiator) and are licensed by Voice′. Crucially, both approaches consider a projection of Voice to be the licenser of *by*-phrases. Since Collins' syntactic analysis lacks a clear semantic interpretation, I adopt Bruening's (2013) approach. Thus, *by*-John in (4a) (*The glass was broken by John*) can be represented as (8a) according to Bruening. Combining this with Voice′ through Functional Application yields (8b).

(8) a. $[\![by\ John]\!] = \lambda f_{\langle e,st\rangle}\lambda e.[f(e, John)]$
     b. $[\![by\ John]\!]([\![Voice']\!]) = \lambda e.\exists e'.[breaking(e', the\ glass)\ \&\ CAUSE(e, e')\ \&\ \text{AGENT}(e, John)]$

Subject-oriented adverbials are usually treated as two-place predicates that take an event and an individual (see, e.g., Ernst 2002). For example, in (4b) (*The glass was broken deliberately*), the adverb *deliberately* can be represented as (9a). With the additional lexical restriction that its two arguments must be a causing subevent and an Agent, it can only appear when there is Voice or Voice′, with which it combines through Predicate Conjunction (see Wood 2015: 23), as shown in (9b–c).

(9) a. ⟦deliberately⟧ = λxλe.[Deliberate(e, x)]

  b. ⟦deliberately⟧(⟦Voice⟧) = λxλe.[AGENT(e, x) & Deliberate(e, x)]

  c. ⟦deliberately⟧(⟦Voice′⟧) = λxλe.∃e′.[breaking(e′, the glass) & CAUSE(e, e′) & AGENT(e, x) & Deliberate(e, x)]

Yamada (2010) distinguishes three types of **comitatives**.[3] For now, we are only interested in his Type 2 comitatives (although his Type 3 comitatives will be mentioned in section 3.1). Based on his semantics for Type 2 comitatives, *with the plates* in (4d) (*The glass was broken (along) with the plates*) can be represented as (10a). Depending on whether it combines with Voice′ or V, it can be interpreted as either external-argument-oriented or internal-argument-oriented. In the latter case, *with the plates* can combine with V through Functional Application as in (10b).

(10) a. ⟦with the plates⟧ = λP$_{⟨e,st⟩}$λxλe:VS(the plates)(x)(e).[*P({the plates, x})(e)]
    where VS(x)(y)(e) = 1 iff ∃s.[s < e & s is a state of x and y, each being the other member of a pair]; λPλX.*P(X) = λPλXλe′.∀x.[(x ⊆ Pow(X) & x∈Cov$_1$) → ∃e″∈e′.P(x)(e″)]

  b. ⟦with the plates⟧(⟦V⟧) = λxλe:VS(the plates)(x)(e).[*λxλe.[breaking(e, x)]({the plates, x})(e)]

Franco & Manzini (2017) propose an alternative semantics for comitatives, arguing that *with* represents a zonal inclusion relation (i.e., part-whole/possession relation) between two arguments: either between two individuals or between an event and an individual. When used in comitatives, it represents the latter, roughly meaning that the individual argument of *with* participates in the event argument of this two-place predicate. (11a) presents a semantics consistent with their idea for *with the plates*. Again, depending on whether it combines with Voice′/VoiceP or V/VP, the comitative can have an external-argument-oriented or internal-argument-oriented reading. Thus, the internal-argument-oriented comitative in (4d) can either combine with V through Event Identification (11b) or with VP through Predicate Conjunction (11c).

(11) a. ⟦with the plates⟧ = λe.[With(e, the plates)]

  b. ⟦with the plates⟧(⟦V⟧) = λxλe.[breaking(e, x) & With(e, the plates)]

  c. ⟦with the plates⟧(⟦VP⟧) = λe.[breaking(e, the glass) & With(e, the plates)]

I adopt a hybrid semantics from Yamada (2010) and Franco & Manzini (2017) for *with* (12), which analyzes it as a three-place predicate that takes an event and two individuals, following

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[3] Here are the examples provided by Yamada (2010: 128):

(i) Type 1: Stan collided *with Kyle*.
  Type 2: Stan built a raft *with Kyle*.
  (= "Stan and Kyle built a raft.")
  Type 3: Shelly cooked *with her baby*.
  (= "Shelly cooked and she was with her baby, e.g., carrying her on her back.")

Yamada (2010), while extending Franco & Manzini's (2017) zonal inclusion relation *With*. Crucially, this semantics of *with* ensures that internal-argument-oriented comitatives are licensed by V.

(12) $[\![\text{with}]\!] = \lambda y \lambda x \lambda e.[\text{With}(e, x, y)]$

Pure instrument PPs are the most controversial among the adjuncts discussed here. Bruening (2013) essentially analyzes them as being licensed by Voice′, similar to external-argument-oriented comitatives. *With a hammer* in (4c) (*The glass was broken with a hammer*) has the semantics (13a), which identifies the Agent using the hammer as the Agent of the breaking event. Combining it with Voice′, we get (13b).

(13)   a. $[\![\text{with a hammer}]\!] = \lambda f_{\langle e,st \rangle} \lambda x \lambda e.[f(e, x) \ \& \ \exists e'' \leq e.[\text{using}(e'', \text{a hammer}) \ \& \ \textsc{agent}(e'', x)]]$
        b. $[\![\text{with a hammer}]\!]([\![\text{Voice}']\!]) = \lambda x \lambda e. \exists e'.[\text{breaking}(e', \text{the glass}) \ \& \ \text{CAUSE}(e, e') \ \&$
             $\textsc{agent}(e, x) \ \& \ \exists e'' \leq e.[\text{using}(e'', \text{a hammer}) \ \& \ \textsc{agent}(e'', x)]]$

In contrast, Franco & Manzini (2017) classify pure instrument PPs with comitatives. Essentially, *with a hammer* has the same representation as the comitative in (11a). Assuming that pure instruments correspond to high Appls (Pylkkänen 2002), sandwiched between vP and VP, they argue that pure instrument PPs should also take VPs as their complements. The result of combining them is (14b). However, Franco & Manzini (2017) suggest that a *with*-PP is interpreted as a pure instrument PP only if the individual argument is inanimate, and VP is caused (v is present).

(14)   a. $[\![\text{with a hammer}]\!] = \lambda e.[\text{With}(e, \text{a hammer})]$
        b. $[\![\text{with a hammer}]\!]([\![\text{VP}]\!]) = \lambda e.[\text{breaking}(e, \text{the glass}) \ \& \ \text{With}(e, \text{a hammer})]$

(5) and (6) show that *by*-phrases and subject-oriented adverbials cannot appear in middles or inchoatives, suggesting the absence of Voice′ in these constructions. In contrast, passives allow both *by*-phrases and subject-oriented adverbials (see (4)), indicating the presence of Voice′. Actives allow subject-oriented adverbials but not *by*-phrases (see (3)). Thus, actives project Voice′, and Spec, VoiceP is occupied. This yields a three-way split. However, a further split between middles and inchoatives is dictated by the distribution of pure instrument PPs: while middles permit them, inchoatives do not. Bruening's (2013) semantics for pure instrument PPs (13a) does not explain this. Since pure instrument PPs are licensed by Voice′, they should pattern with subject-oriented adverbials. However, middles suggest the contrary: they are compatible with the former but not with the latter. Franco & Manzini's (2017) semantics for pure instrument PPs (14a) seems to fare better with the data. Under this analysis, pure instrument PPs differ from *by*-phrases and subject-oriented adverbials in not requiring the presence of Voice′ and differ from internal-argument-oriented adverbials in requiring the presence of v. However, according to Franco & Manzini (2017), pure instruments must be manipulated by a volitional being, which

presupposes Spec, VoiceP, eliminating the difference between pure instrument PPs and subject-oriented adverbials. Therefore, the three-layer structure of Voice–v–V is not fine-grained enough to make the needed distinction.

2.3 Decomposition Analysis of Agents

I have demonstrated that the standard analysis is insufficient to explain the structural contrast between middles and inchoatives. To address this issue, I suggest adding a projection, ApplP, to the structure in (7), with Appl′ licensing pure instrument PPs.[4] The proposed structure, with some additional modifications to the one in (7), is as follows. (In this section, I focus on the syntax of the proposed analysis, leaving its semantics for section 2.4, where I will also discuss what is omitted in (15).)

(15)
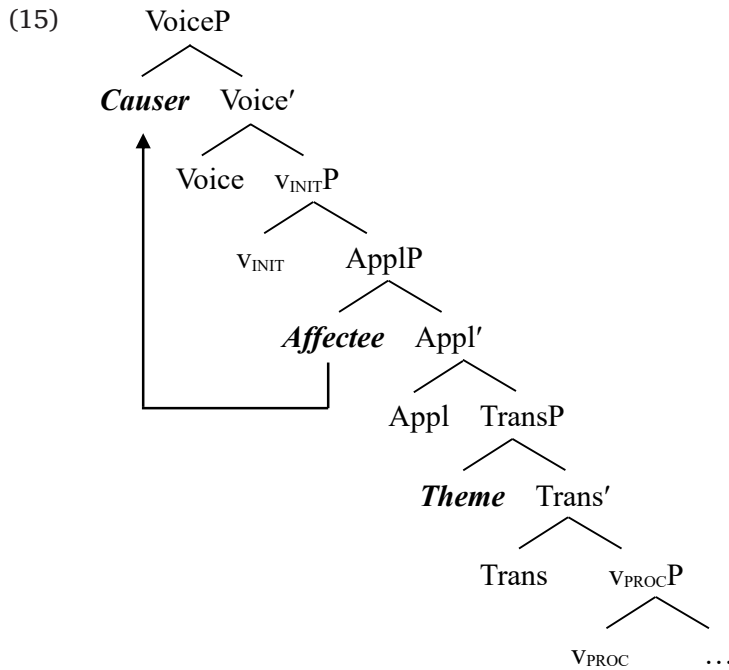
Under the present analysis, only *Causers* are introduced directly as external arguments by Voice. This is different from the standard analysis, which assumes that Voice introduces both Agents and Causers. Appl is added to introduce *Affectees*. Causers and Affectees are atomic and primitive, while Agents are composite and consist of both Causers and Affectees.

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[4] For independent reasons, many researchers have postulated a lower external-argument-introducing head between vP/VoiceP and VP (see, e.g., Travis 1991; Ramchand 2008; Massam 2009; Tollan 2018; Alexiadou & Anagnosto-poulou 2020; Nash 2020). However, only Ramchand (2008) and Nash (2020) posit that the lower external argument can form a composite θ-role with the higher external argument. Notably, neither of them adopts a decomposition analysis of Agents.

I propose that Agents are derived through movement from Spec, ApplP to Spec, VoiceP.[5] This involves movement into a θ-position, which has been extensively argued to be possible in the literature (see, e.g., Bošković 1994; Lasnik 1995; Hornstein 1999). In GB theories, D-structure is the linguistic level where the *Projection Principle* and the *θ-Criterion* apply. These two conditions work synergically to ensure that each θ-position projected by a predicate is filled by an argument at D-structure, making it impossible to move an argument into a θ-position. However, with the elimination of D-structure in the Minimalist Program, movement into θ-positions is no longer prohibited (for empirical arguments that such movement is indeed possible see, e.g., Bošković 1994).[6]

Let's return now to the adjunct distribution patterns in (3–6). In actives, every head in the four-layer structure of Voice–v_{INIT}–Appl–Trans is projected. I argue that pure instrument PPs are licensed by Appl′, as will be further justified in section 3. Since Affectees presuppose Appl′ and are a subpart of Agents, the presence of Agents is sufficient to license pure instrument PPs (see (16a)).

(16)   a.   *Actives:*   [TP John$_i$ T [**VoiceP** **t$_i$** broke$_j$ [$_{v_{INIT}}$P t$_j$ [**ApplP** **t$_i$** t$_j$ [TransP the glass t$_j$

deliberately   with a hammer   with the plates

In both passives and middles, Appl′ is still present, allowing pure instrument PPs to be used in these constructions (see (16b–c)). These PPs modify the implicit arguments in Spec, ApplP, which are represented as *PRO* in the labelled brackets.[7]

(16)   b.   *Passives:*   [TP The glass$_i$ was [**Voice′** broken$_j$ [$_{v_{INIT}}$P t$_j$ [**ApplP** ***PRO$_k$*** t$_j$ [TransP t$_i$ t$_j$

by John/deliberately   with a hammer   with the plates

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[5] As far as I know, the decomposition analysis of Agents was first proposed by Bošković (1997: 49–63), who built on Pesetsky's (1992) observation that *wager*-class verbs all take Agent subjects. Bošković proposed this analysis to account for why *wager*-class verbs do not allow ECM. Other studies, such as Lundin (2003) and Sigurðsson & Wood (2021), have made similar proposals. However, none of these studies have included Affectees as a subpart of Agents in their analyses.

[6] A reviewer suggests the bundling analysis proposed by Pylkkänen (2002) as an alternative to the movement analysis. This analysis posits that Voice and v can be bundled together to form a complex head. Extending this analysis to our case, Voice, v_{INIT}, and Appl can also be bundled together. Folli & Harley's (2005) v_{DO} resembles such a head (with their v_{CAUSE} being seen as the bundling of Voice and v_{INIT}). Another reviewer suggests two additional alternatives. First, an argument could be merged in Spec, VoiceP, binding a silent element in Spec, ApplP. Second, Voice could combine with Appl′ (instead of v_{INIT}P), with the Causer and the Affectee θ-role saturated by the same DP merged in Spec, VoiceP (e.g., Tyler 2023). Acknowledging the plausibility of these alternatives, I cannot pursue them further here.

[7] I assume the implicit arguments in passives and middles to be *PRO*, following Roeper (1987) and Stroik (1992). However, the specific type of implicit arguments is not crucial for the current analysis, and it could also be represented as *pro* (as in Hoekstra & Roberts 1993; Borer 1998). For an overview of implicit arguments, see Bhatt & Pancheva (2006), Landau (2010), and Williams (2015).

    c.   *Middles:*   [$_{TP}$ Walnuts$_i$/Hearts$_i$ T [$_{v_{INIT}P}$ break$_j$ [$_{\textbf{ApplP}}$ **PRO**$_k$ t$_j$ [$_{TransP}$ t$_i$ t$_j$ easily

    | with a hammer | | with pride |

In inchoatives, neither VoiceP nor ApplP is projected, hence the incompatibility with *by*-phrases, subject-oriented adverbials, and pure instrument PPs, as shown in (16d).

(16)   d.   *Inchoatives:* [$_{TP}$ The window$_i$ T [$_{TransP}$ t$_i$ broke

    | with the plates |

The difference in adjunct distribution between middles and inchoatives can then be attributed to the presence or absence of Appl′. Middles project Appl′, allowing pure instrument PPs, while inchoatives do not project Appl′ and are therefore incompatible with pure instrument PPs.

One could try to deal with this paradigm under the standard analysis by postulating a defective Voice′. This would involve assuming that Voice′ licenses both subject-oriented adverbials and pure instrument PPs, but its defective counterpart only licenses pure instrument PPs. If we stipulate that middles project the defective Voice′, but inchoatives do not, we could capture the adjunct distribution difference between middles and inchoatives. However, this approach would introduce new machinery into the system, namely the defective Voice′, whereas the proposed analysis does not—Appl is independently needed. Moreover, semantically speaking, it is unclear what it would mean for Voice′ to be defective and what would prevent a defective Voice′ from licensing subject-oriented adverbials. Licensing pure instruments by two different heads also leads to a less unified analysis, as it requires postulating two distinct mechanisms for licensing the same class of adjuncts. In contrast, the proposed analysis establishes a one-to-one correspondence between each head and each class of adjuncts, providing a straightforward account of the adjunct distribution patterns in change-of-state verbs without encountering the issues faced by the alternative approaches. Therefore, the proposed analysis should be preferred.

2.4 Semantics of the Proposed Analysis

The structure proposed in (15) is built on Ramchand's (2008) *first phase syntax,* which breaks down an event into three subevents: *initiation, process,* and *result.* For the purposes of this discussion, I focus on the first two types, omitting the *result* subevent, which is largely irrelevant.[8] *Initiation* refers to a state, while *process* indicates an internal change. Since *initiation* causally implicates *process, initiation* is interpreted as a causing subevent, while *process* is interpreted as

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[8] What is omitted in the structure in (15) includes projections related to the *result* subevent and projections that introduce scalar structures, such as PPs that denote Paths (see Ramchand 2008 for a detailed discussion).

a caused subevent. Each of these subevents heads a projection, as shown in (17). Ramchand's theory defines θ-roles as participants in different subevents. DP_2 is the participant in the *process* and bears the Theme θ-role (her *undergoer*). DP_1 is the participant in the *initiation* and bears the Causer θ-role (her *initiator*). Both the Theme and the Causer are primitive.

(17) $[_{initP}$ DP$_1$ *init* $[_{procP}$ DP$_2$ *proc* …]]

The structure in (15) differs from Ramchand's in two main aspects. First, unlike Ramchand's system where subevents and their participants are introduced simultaneously by *init* and *proc*, the proposed structure, following Pylkkänen (2002) and others, introduces them with two different heads: v_{INIT} introduces the *initiation* subevent, and Voice introduces its participant Causer, while v_{PROC} introduces the *process* subevent, and Trans introduces its (most prominent) participant Theme.[9,10] The merit of postulating two independent heads is that it allows for certain adjuncts to be licensed by a subevent, rather than by an argument introducer (e.g., cause PPs discussed in fn. 9).

Second, whereas Ramchand's theory posits only one argument introducer for *process*, the proposed structure has two argument introducers for it (Trans and Appl). In addition to the two primitive θ-roles Causer and Theme, I suggest that Affectee is also a primitive θ-role, defined as the secondary Theme, namely the second participant in the *process* subevent. This θ-role minimally differs from the Theme in being less prominent. This difference is illustrated by the Italian example in (18). 'The father' is a Theme and is directly involved in the dying event, hence a core participant. 'Maria' is an Affectee and is less directly involved in the dying event because she is only negatively affected by the event but is not a core participant in it. As a less prominent participant, an Affectee is only licensed in the presence of a Theme and can always be omitted (see (18b)).[11] Further semantic properties of Affectee will be discussed in section 5.3.

(18)   a.   A Maria è morto il   padre.
              to Maria is died   the father
              'Maria's father died on her.'

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[9] Different from Alexiadou et al. (2006), who analyze cause PPs such as *from the heat* in *The ice cream melted from the heat* as being licensed by v_{INIT} (their CAUS), I suggest that they modify the *process* subevent and are licensed by v_{PROC}, as it is more natural to say that the ice-cream-melting event happened because of the heat, rather than the event that caused the ice-cream-melting event happened because of the heat.

[10] I separate the Theme introducer Trans from V, following Borer (1994), Jelinek (1998), Ramchand (1997; 1998), among others, so that all θ-roles can be assigned in a specifier position, and the relationship between θ-roles and subevents can be made more transparent.
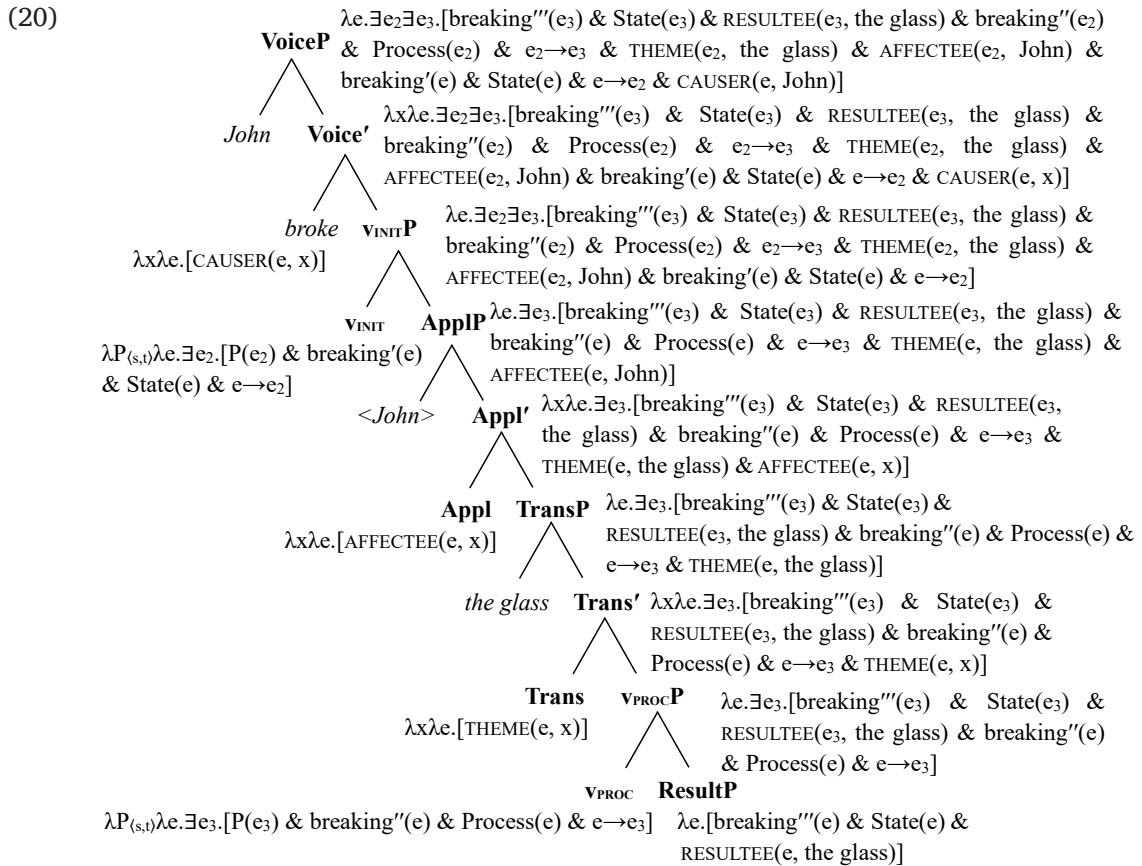
[11] This restriction comes from the assumption that a less prominent argument cannot exist without the more prominent argument also existing.

b. Il   padre è   morto.
   the father is died
   'The father died.'

I summarize the definitions of Causer, Affectee, Theme, and Agent in (19).

(19) a. *Causer* is the sole participant in the *initiation* subevent.
      b. *Affectee* is the second most prominent participant in the *process* subevent.
      c. *Theme* is the most prominent participant in the *process* subevent.
      d. *Agent* is the combination of *Causer* and *Affectee*.

To provide a more tangible illustration of this discussion, I present a sample derivation of the sentence *John broke the glass* below. → stands for the relation of causal implication. The predicate *breaking* is decomposed into *breaking′*, *breaking″*, and *breaking‴* and modifies the sum of e, e_2, and e_3. *Resultee* is the participant in the *result* subevent. The free variable e in the representation of VoiceP stands for the *initiation* subevent and will be existentially closed at a higher position. e_2 and e_3 stand for the *process* and *result,* respectively.

(20)

VoiceP $\lambda e.\exists e_2 \exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e_2) \& \text{Process}(e_2) \& e_2 \rightarrow e_3 \& \text{THEME}(e_2, \text{the glass}) \& \text{AFFECTEE}(e_2, \text{John}) \& \text{breaking}'(e) \& \text{State}(e) \& e \rightarrow e_2 \& \text{CAUSER}(e, \text{John})]$

John **Voice′** $\lambda x \lambda e.\exists e_2 \exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e_2) \& \text{Process}(e_2) \& e_2 \rightarrow e_3 \& \text{THEME}(e_2, \text{the glass}) \& \text{AFFECTEE}(e_2, \text{John}) \& \text{breaking}'(e) \& \text{State}(e) \& e \rightarrow e_2 \& \text{CAUSER}(e, x)]$

broke **V$_{\text{INIT}}$P** $\lambda e.\exists e_2 \exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e_2) \& \text{Process}(e_2) \& e_2 \rightarrow e_3 \& \text{THEME}(e_2, \text{the glass}) \& \text{AFFECTEE}(e_2, \text{John}) \& \text{breaking}'(e) \& \text{State}(e) \& e \rightarrow e_2]$
$\lambda x \lambda e.[\text{CAUSER}(e, x)]$

V$_{\text{INIT}}$ ApplP $\lambda e.\exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3 \& \text{THEME}(e, \text{the glass}) \& \text{AFFECTEE}(e, \text{John})]$
$\lambda P_{\langle s,t \rangle} \lambda e.\exists e_2.[P(e_2) \& \text{breaking}'(e) \& \text{State}(e) \& e \rightarrow e_2]$

<John> **Appl′** $\lambda x \lambda e.\exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3 \& \text{THEME}(e, \text{the glass}) \& \text{AFFECTEE}(e, x)]$

Appl TransP $\lambda e.\exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3 \& \text{THEME}(e, \text{the glass})]$
$\lambda x \lambda e.[\text{AFFECTEE}(e, x)]$

the glass **Trans′** $\lambda x \lambda e.\exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3 \& \text{THEME}(e, x)]$

Trans V$_{\text{PROC}}$P $\lambda e.\exists e_3.[\text{breaking}'''(e_3) \& \text{State}(e_3) \& \text{RESULTEE}(e_3, \text{the glass}) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3]$
$\lambda x \lambda e.[\text{THEME}(e, x)]$

V$_{\text{PROC}}$ ResultP
$\lambda P_{\langle s,t \rangle} \lambda e.\exists e_3.[P(e_3) \& \text{breaking}''(e) \& \text{Process}(e) \& e \rightarrow e_3]$ $\lambda e.[\text{breaking}'''(e) \& \text{State}(e) \& \text{RESULTEE}(e, \text{the glass})]$

Under the proposed semantics, *by*-phrases and subject-oriented adverbials are licensed by Voice′ as before (21a–b) (but note that under the proposed analysis, *by*-phrases saturate the Causer rather than the Agent argument); internal-argument-oriented comitatives are licensed by Trans′, the counterpart of V (21c); pure instrument PPs are basically Affectee-oriented comitatives (I explicitly argue for this in section 3) and are licensed by Appl′ (21d).

(21) a. $\llbracket$by John$\rrbracket$($\llbracket$Voice′$\rrbracket$) = $\lambda e.\exists e_2\exists e_3.$[breaking‴$(e_3)$ & State(e_3) & RESULTEE$(e_3$, the glass) & breaking″(e_2) & Process(e_2) & $e_2{\rightarrow}e_3$ & THEME$(e_2$, the glass) & AFFECTEE$(e_2$, John) & breaking′(e) & State(e) & $e{\rightarrow}e_2$ & CAUSER$(e$, **John**)]

b. $\llbracket$deliberately$\rrbracket$($\llbracket$Voice′$\rrbracket$) = $\lambda x\lambda e.\exists e_2\exists e_3.$[breaking‴$(e_3)$ & State(e_3) & RESULTEE$(e_3$, the glass) & breaking″(e_2) & Process(e_2) & $e_2{\rightarrow}e_3$ & THEME$(e_2$, the glass) & AFFECTEE$(e_2$, John) & breaking′(e) & State(e) & $e{\rightarrow}e_2$ & CAUSER(e, x) & **Deliberate(e, x)**]

c. $\llbracket$with the plates$\rrbracket$($\llbracket$Tran′$\rrbracket$) = $\lambda x\lambda e.\exists e_3.$[breaking‴$(e_3)$ & State(e_3) & RESULTEE$(e_3$, the glass) & With$(e_3$, the glass, the plates) & breaking″(e) & Process(e) & $e{\rightarrow}e_3$ & THEME(e, x) & **With(e, x, the plates)**][12]

d. $\llbracket$with a hammer$\rrbracket$($\llbracket$Appl′$\rrbracket$) = $\lambda x\lambda e.\exists e_3.$[breaking‴$(e_3)$ & State(e_3) & RESULTEE$(e_3$, the glass) & breaking″(e) & Process(e) & $e{\rightarrow}e_3$ & THEME$(e$, the glass) & AFFECTEE(e, x) & **With(e, x, a hammer)**]

3 Comitatives and Pure Instruments

In this section, I will discuss the relationship between comitatives and pure instruments. Specifically, I will argue that pure instruments are a special type of comitatives. I will then point out issues surrounding the licensing of pure instruments that the standard analysis faces and demonstrate that these issues do not arise under the decomposition analysis of Agents. This will further bolster support for the proposed analysis. Finally, I will provide evidence to substantiate the claim that the head divorced from Voice is Appl.

3.1 Comitatives

Comitatives establish a relation of accompaniment between two participants in a subevent (Stolz et al. 2006: 17–18). They come in various types depending on the arguments they modify. I will illustrate three types of comitatives using examples from double object constructions. The external-argument-oriented comitative is exemplified in (22a), where the most salient reading is "I and a social worker gave poor John some food." Here, the comitative *with a social worker* modifies the external argument *I*. The applied-argument-oriented comitative is exemplified in (22b), which can be interpreted as "I gave poor John and other homeless people some food."

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[12] A complication I did not discuss in the text is that the internal argument could either be Theme or Theme + Resultee in the proposed analysis. In the latter case, I assume that a comitative PP first combines with Result′ and then Trans′, with only the higher copy of the comitative PP being pronounced.

The comitative *with other homeless people* modifies the applied argument *poor John*. Finally, (22c) demonstrates another instance of internal-argument-oriented comitatives. The comitative *with a bottle of water* modifies the internal argument *some food*. (22c) entails that "I gave poor John some food and a bottle of water."

(22)   a.   <u>I</u> gave poor John some food *with a social worker.*
          b.   I gave <u>poor John</u> some food *with other homeless people.*
          c.   I gave poor John <u>some food</u> *with a bottle of water.*

The above indicates that comitatives possess the property that when the argument contained in a comitative is conjoined with the argument it modifies, the resultant sentence is entailed by the original one. In other words, comitatives are linked to (i.e., have the potential to bear) the θ-roles of the arguments they modify.

However, sentences like (23a) complicate this picture. This is because (23a) is ambiguous and can either mean "Pat and Chris built a sand castle together" (a case of Yamada's Type 2 comitatives) or "only Pat did the building and Chris was just a bystander" (a case of Yamada's Type 3 comitatives). The first reading entails (23b), but the second does not. This indicates that the comitative *with Chris,* in the second reading of (23a), cannot be linked to the θ-role of the external argument. Therefore, a question arises as to which θ-role it is linked to. There is no simple answer to this question under the standard approach to argument structure discussed in section 2.2.

(23)   a.   Pat built a sand castle *with Chris.*
          b.   Pat and Chris built a sand castle.

In contrast, the decomposition analysis of Agents does not face this issue. Since the subject *Pat* is an Agent, it has two sub-arguments: a Causer and an Affectee. If the comitative *with Chris* modifies both the Causer and the Affectee, as in (24a), we get the "Chris as a co-builder" reading, and (23a) entails (23b). If the comitative only modifies the Affectee, as in (24b), only the "Chris as a bystander" reading is available, and (23a) does not entail (23b). Therefore, (23a) provides a potential argument for the decomposition analysis of Agents.

(24)   a. $[_{TP}$ Pat$_i$ T $[_{\textbf{VoiceP}}$ **t**$_i$ built$_j$ $[_{v_{INIT}P}$ t$_j$ $[_{\textbf{ApplP}}$ **t**$_i$ t$_j$ $[_{TransP}$ a sand castle t$_j$

                     | with Chris | | <with Chris> |

          b. $[_{TP}$ Pat$_i$ T $[_{\textbf{VoiceP}}$ **t**$_i$ built$_j$ $[_{v_{INIT}P}$ t$_j$ $[_{\textbf{ApplP}}$ **t**$_i$ t$_j$ $[_{TransP}$ a sand castle t$_j$

                                        | with Chris |

The semantics of (24a–b) and their entailments are given below, where $\oplus$ stands for the sum operation.

(25) a. $\exists e_1 \exists e_2.$[building″(e_2) & Process(e_2) & THEME$(e_2,$ a sand castle) & AFFECTEE$(e_2,$ Pat) & **With$(e_2,$ Pat, Chris)** & building′(e_1) & State(e_1) & $e_1 \rightarrow e_2$ & CAUSER$(e_1,$ Pat) & **With$(e_1,$ Pat, Chris)]** $\rightarrow$
$\exists e_1 \exists e_2.$[building″(e_2) & Process(e_2) & THEME$(e_2,$ a sand castle) & **AFFECTEE$(e_2,$ Pat$\oplus$Chris)** & building′(e_1) & State(e_1) & $e_1 \rightarrow e_2$ & **CAUSER$(e_1,$ Pat$\oplus$Chris)]**

   b. $\exists e_1 \exists e_2.$[building″(e_2) & Process(e_2) & THEME$(e_2,$ a sand castle) & AFFECTEE$(e_2,$ Pat) & **With$(e_2,$ Pat, Chris)** & building′(e_1) & State(e_1) & $e_1 \rightarrow e_2$ & CAUSER$(e_1,$ Pat)] $\rightarrow$
$\exists e_1 \exists e_2.$[building″(e_2) & Process(e_2) & THEME$(e_2,$ a sand castle) & **AFFECTEE$(e_2,$ Pat$\oplus$Chris)** & building′(e_1) & State(e_1) & $e_1 \rightarrow e_2$ & CAUSER$(e_1,$ Pat)]

3.2 Pure Instruments

I now turn to pure instruments, which correspond to Kamp & Rossdeutscher's (1994) concept of *Instruments*, as opposed to their *Instrument Causers*. Pure instruments are devices that are designed for a specific task and must be manipulated by a volitional being. They can be viewed as a special type of comitatives, given that crosslinguistically, accompaniment is often expressed by morphological markers related to instruments (see, e.g., Lakoff & Johnson 1980; Luraghi 2001). In fact, Franco & Manzini (2017) treat comitatives and instruments as two contextual interpretations of the same thing, as *with* in both cases expresses a zonal inclusion relation between an event and an individual.

Assuming pure instruments are a type of comitatives, we can expect them to exhibit the same entailment pattern as comitatives, which provides a way to determine which θ-role pure instruments are linked to. In (26), the verb *eat* takes an Agent subject. However, when we conjoin the pure instrument *the fork* and the Agent subject *John*, the resultant sentence (26b) is semantically deviant and is not entailed by (26a). This suggests that pure instruments cannot be linked to the Agent θ-role.

(26) a. John ate the potato *with the fork*.
    b. #John and the fork ate the potato.

In (27), the verb *break* takes a Causer subject. The modifier *falling* forces the instrument subject into a Causer reading. The infelicity of (27a) suggests that Causers alone do not license pure instrument PPs. Furthermore, conjoining the Causer subject and the pure instrument is also semantically deviant (27b), which further confirms that pure instruments cannot be linked to the Causer θ-role either. The failure of entailment observed in (26) and (27) is similar to the case in (23).

(27) a. #The falling hammer broke the window *with the axe*.
    b. #The falling hammer and the axe broke the window.

Under the standard analysis, it is unclear how pure instrument PPs, which cannot be linked to the Agent θ-role, can modify the Agent subject in (26a) and (3c) and be allowed in (4c) and (5c), where no overt external argument is present.

(3)   c.   John broke the glass *with a hammer*.
(4)   c.   The glass was broken *with a hammer*.
(5)   c.   Walnuts break easily *with a hammer*.

The proposed analysis addresses this issue as follows. Since pure instruments are a type of comitatives, they also specify a relation between an event and an individual (cf. (12) and (21d)). I propose that pure instrument PPs can only modify Affectees and are licensed by Appl'. In (3c), the pure instrument PP modifies the Affectee sub-argument of the Agent subject *John* (see (28a)). In (4c) and (5c), although no Agent is overtly present, an implicit Affectee is introduced in Spec, ApplP. As a result, pure instruments PPs are still allowed in these sentences (see (28b) and (28c)). In summary, under the proposed analysis, a *with*-PP is interpreted as a pure instrument PP only if it modifies an Affectee, the argument within it is manipulable by a volitional being, and v_{INIT} is present.

(28)   a.   [$_{TP}$ John$_i$ T [$_{VoiceP}$ t$_i$ broke$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ **t$_i$** t$_j$ [$_{TransP}$ the glass t$_j$

                                                               with a hammer

        b.   [$_{TP}$ The glass$_i$ was [$_{Voice'}$ broken$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ ***PRO$_k$*** t$_j$ [$_{TransP}$ t$_i$ t$_j$

                                                               with a hammer

        c.   [$_{TP}$ Walnuts$_i$ T   [$_{v_{INIT}P}$ break$_j$ [$_{ApplP}$ ***PRO$_k$*** t$_j$ [$_{TransP}$ t$_i$ t$_j$ easily

                                                               with a hammer

3.3 Why Appl?

Why did we discuss pure instrument PPs at all if they are a type of comitatives? The answer is that pure instrument PPs have much stricter interpretations than comitatives. While a pure instrument PP can only modify the argument introduced by the newly added head in (15), comitatives can modify any arguments. Thus, only pure instrument PPs can serve as a reliable test for the presence of the head in question. So far, we have assumed the head to be Appl, but we have yet to address why this would be so. In this section, I will provide evidence that Appl licenses pure instrument PPs, which supports the claim that Appl is the head divorced from Voice.

One piece of evidence to this effect comes from middles. These constructions are typically assumed to take implicit arguments (see, e.g., Stroik 1992; Hoekstra & Roberts 1993). However, the implicit arguments of middles cannot be Agents, as middles do not allow agentive adverbs such as *deliberately* (29a) or rationale clauses (29b).

(29) a. *This bureaucrat bribes *deliberately*.
 b. *This bureaucrat bribes easily [*PRO to avoid the draft*].

(Baker et al. 1989: 221–222)

Stroik (1992) observes that middles can introduce an additional argument overtly through *for*-phrases (see (30)). Hoekstra & Roberts (1993) analyze such arguments as Experiencers, the most common flavor of Affectees (see Bowers 2010). Based on this observation, it seems plausible to assume that the implicit arguments in middles are Affectees. It follows that Appl, which introduces Affectees, is projected in middles.

(30) a. That book read quickly *for Mary*.
 b. No Latin text translates easily *for Bill*.

(Stroik 1992: 131)

In contrast, inchoatives have no implicit arguments, which means they don't project Appl. Therefore, the different ability of middles and inchoatives to license pure instrument PPs can be attributed to the presence or absence of Appl. This supports the hypothesis that Appl′ licenses pure instrument PPs and Appl should be equated with the newly added head discussed previously.

Further evidence comes from Korean inchoatives. Kim (2011b) notes that Korean has two types of inchoatives: *zero inchoatives* and *I-inchoatives*.[13] Zero inchoatives do not allow *by*-phrases and pure instrument PPs (see (31)), while *I*-inchoatives permit pure instrument PPs but not *by*-phrases (see (32)).

(31) *Korean zero inchoatives*
 a. *elum-i   Inho-eyuyhay nok-ass-ta   *by*-phrase
    ice-NOM Inho-by   melt-PST-DEC
    Literally: 'The ice melted by Inho.'

 b. *elum-i   motakpwul-lo nok-ass-ta   pure instrument PP
    ice-NOM bonfire-with   melt-PST-DEC
    Literally: 'The ice melted with the bonfire.'

(Kim 2011b: 101–103)

(32) *Korean I-inchoatives*
 a. *haswukwu-ka Inho-eyuyhay mak-**hi**-ess-ta   *by*-phrase
    drainage-NOM Inho-by   block-**I**-PST-DEC
    Literally: 'The drainage blocked by Inho.'

---

[13] Whether a verb appears in the zero inchoative or *I*-inchoative is lexically determined. For example, the verb 'melt' can appear in the zero inchoative but not in the *I*-inchoative (Kim 2011b: 100).

b. haswukwu-ka ssuleyki-lo mak-**hi**-ess-ta   pure instrument PP
    drainage-NOM garbage-with block-**I**-PST-DEC
    Literally: 'The drainage blocked with garbage.'

(Kim 2011b: 101–103)

Interestingly, the morpheme *-I* in Korean also appears in morphological causatives (see (33)). According to Kim (2011b: 115), *-I* is the morphological realization of (high) Appl, which introduces the causee 'child' and assigns the inherent dative Case to it.[14]

(33)   *Morphological Causative*
      emma-ka   ai-eykey   chayk-lul   ilk-**hi**-ess-ta
      mother-NOM   child-DAT   book-ACC   read-**I**-PST-DEC
      'Mother made the child read the book.'

(Kim 2011a: 488)

If Kim's analysis is on the right track, then the minimal contrast in compatibility with pure instrument PPs between zero inchoatives and *I*-inchoatives can be easily captured by linking the *-I* morpheme with Appl. When *-I* is absent, as in zero inchoatives, there is no Appl (or Appl′)

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[14] Kim (2011a,b) adopts Pylkkänen's (2002) distinction between high and low Appl. My Appl roughly corresponds to her high Appl. There is evidence for the claim that the *-I* morpheme in Korean morphological causatives realizes Appl. Kinyarwanda shows syncretism between causative and applicative morphology, leading Maranz (1993) and Kim (2011b: 41) to suggest that causatives and applicatives may share the same structures. This syncretism is also well-attested crosslinguistically, as observed by McDonnell (2013) and Franco (2019) in languages such as Javanese, P'orhépecha, and Indonesian. In addition to the verbal domain, Kim (2011b: 38–42) notes that syncretism also occurs between causees and instruments (a typical type of applied arguments) in the nominal domain in Niuean and Korean. Both types of syncretism are observed in P'orhépecha (see (i)), where CAUS and APPL are both marked as *-ra*, and causees and instruments are both marked with the oblique Case *-ni*. Based on these observations, the *-I* morpheme in Korean morphological causatives plausibly realizes Appl.

(i)   a.   María   xwá-**ra**-s-Ø-ti   Xwánu-**ni**   tsíri
        Maria   bring-**CAUS**-PRF-PRS-3IND   Juan-**OBL**   corn
        'Maria made Juan bring some corn.'

     b.   xí   tsúntsu-**ni**   xwá-**ra**-s-ka-ni   itsî
        1SG   pot-**OBL**   bring-**APPL**-PRF-PRS-1/2IND-SG.SBJ   water
        'I brought some water in a pot.'

(Capistrán Garza 2015: 145, 184)

Also note that animacy may be the key factor that distinguishes causees from instruments. In Korean, animate and inanimate causees are marked differently: the former with *-eykey* and the latter with *-ey*. Crucially, *-ey* is homophonous with the static instrument marker. In some cases, causees can also be marked with the active instrument marker *–(u)lo* (Kim 2011b: 38). This suggests that instruments and causees may only differ in their animacy and that instruments may even be inanimate causees. A similar analysis has been proposed for Italian *faire-infinitif* causatives in Franco (2019). For an explanation of why causees pattern with instruments, see Jerro (2017). Thus, the assumption that causatives involve an instrumental applicative, and that *-I* is its morphological realization, seems well-supported.

projected, and pure instrument PPs are not allowed (see (34a)). In contrast, when *-I* is present, as in *I*-inchoatives, Appl (as well as Appl′) is projected, and pure instrument PPs are permitted (see (34b)).

(34) a. *Zero Inchoatives:* [$_{TP}$ the ice$_i$ T [$_{TransP}$ t$_i$ melted

  $\boxed{\text{*with the bonfire}}$

  b. *I-Inchoatives*: [$_{TP}$ the drainage$_i$ T [$_{AppIP}$ ***PRO$_k$*** blocked$_j$-***I*** [$_{TransP}$ t$_i$ t$_j$

  $\boxed{\text{with garbage}}$

4 Explaining Animacy Restriction

In this section, I will show that the decomposition analysis of Agents provides a fresh perspective on the Animacy Restriction attested in aspectual *si* constructions (in Italian and Spanish) and ditransitive alternations (in English).[15] These phenomena instantiate cases where the two sub-arguments of Agents are clearly dissociated. In aspectual *si* constructions (in Italian and Spanish), the Affectee sub-arguments are expletivized, thereby leaving the Causers as the only sub-arguments syntactically active. In double object constructions (in English), Causers and Affectees are realized by two separate arguments. These observations imply that there must be some derivational relationship between Agents, Causers, and Affectees, which further supports the proposed analysis.

4.1 Aspectual *Si* Constructions

Aspectual *si* constructions typically involve consumption verbs and exhibit an Animacy Restriction on their subjects. (35) is an example from Italian, with translations and bold emphasis added by me. The verb *mangiare* 'eat' can take an animate subject like 'the groom' (see (35a)). However, when it takes an inanimate subject like 'the sea,' as in (35b), the sentence is semantically infelicitous. However, Folli & Harley (2005) observe that the deviance of (35b) can be remedied by adding a reflexive particle, referred to as aspectual *si* in the literature, as in (35c). The question then arises: how does this repair the unacceptability of (35b)?

(35) a. Lo sposo ha mangiato la torta nunziale.
    the groom has eaten   the cake nuptial
    'The groom ate the wedding cake.'

---

[15] Due to the complexity of the two constructions, it is impossible to do justice to them in such a short section. Thus, I will only touch on some aspects that are relevant to the current discussion and demonstrate how the proposed analysis unifies the account of the Animacy Restriction in both constructions.

b. #Il   mare ha   mangiato la   spiaggia.
   the sea   has eaten   the beach
   #'The sea ate the beach.'

c. Il   mare **si**   è mangiato la   spiaggia.
   the sea   REFL is eaten   the beach
   'The sea ate away the beach.'

(Folli & Harley 2005: 95–96)

I assume with Folli & Harley (2005) that consumption verbs require Agent subjects. Under the decomposition analysis, Agents are composed of Causers and Affectees. I posit that the Animacy Restriction is placed on the Affectee sub-arguments of consumption verbs, meaning that these verbs necessitate animate Affectees. As a result, Agents with Affectees as their sub-arguments must also be animate, as illustrated in (36a). Schäfer (2008) proposes that reflexive particles can function as expletive arguments, in the sense that they have no thematic interpretation and reduce the valency of a predicate (also see Wood 2015). That is, they serve only as structure holders without contributing semantic content. I argue that aspectual *si* has exactly the same function and is inserted in Spec, ApplP. Since it expletivizes Affectees, the Animacy Restriction on them is nullified. Consequently, the remained sub-arguments comprise only Causers, which need not be animate, as shown in (36b).[16]

(36)   a.   [$_{TP}$ **the groom$_i$** has   [$_{VoiceP}$ **t$_i$** eaten$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ **t$_i$**   t$_j$ [$_{TransP}$ the cake nuptial t$_j$

                                    Causer   Affectee: [+animate]

       b.   [$_{TP}$ the sea$_i$ ***si***=is   [$_{VoiceP}$ t$_i$ eaten$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ **<si>**[17]   t$_j$ [$_{TransP}$ the beach t$_j$

                                    Causer   Affectee: [+animate]

In support of analyzing aspectual *si* as an expletive in Spec, ApplP, I present evidence from MacDonald (2016), who observes that aspectual *si* (*se* in Spanish) syntactically parallels indirect object reflexives. Since indirect objects are commonly analyzed as applied arguments (see, e.g., Marantz 1993; Bruening 2010), it follows that aspectual *si* is also an applied argument (i.e., an Affectee).[18]

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[16] The base-generated and landing positions of the past participle and the auxiliary verb are not relevant to the current discussion. I do not take a definitive stance on their positions and provide only a tentative derivation for them.

[17] Instead of a movement analysis of *si*, we could also assume that *si* is base-generated in a position adjoined to T and linked to a *pro* in Spec, ApplP, as suggested by MacDonald (2016).

[18] Indirect objects are often analyzed as low applied arguments (e.g., Pylkkänen 2002), which could weaken the claim that aspectual *si* occupies the specifier of a high ApplP. However, the distinction between high Appl and low Appl has been questioned, with some arguing that Appl is always high (see, e.g., Bowers 2010: 129–132; Georgala 2012). In this paper, I adopt the latter view.

In Spanish *leísta* dialects, the dative preposition *a* is used to mark animate direct objects (see (37a)). When a pronominal form is used to refer to an animate direct object, it must be realized as *le* (which is homophonous with dative *le*) instead of *lo* (the accusative counterpart) (see (37b)).

(37)   a.   Vi   a   Juan.
           I.saw   DOM   Juan
           'I saw Juan.'

       b.   Le/*Lo   vi.
           him.DO   I.saw
           'I saw him.'

<div align="right">(MacDonald 2016: 19)</div>

Leísta Spanish does not allow *le* to co-occur with a dative indirect object clitic. (38) shows that the combination *me le* 'me.IO him.DO' is marked as ungrammatical. However, this violation can be resolved by replacing *le* with *lo*, a process known as the *le→lo* repair.

(38)   Me   *le/lo   recomendaron.
       me.IO   him.DO   recommended
       'They recommended him to me.'

<div align="right">(MacDonald 2016: 20)</div>

It is noteworthy that both aspectual *se* and indirect object reflexives induce ungrammaticality when combined with *le*. In (39a), *se* is an indirect object reflexive, and the animate direct object can only be expressed as *lo* rather than *le*. In (39b), *se* is aspectual, but the same morphological constraint is observed. Crucially, when the reflexive particle *se* refers to a direct object, as in (39c), no problem arises. In other words, the morphological constraint is violated only when *se* is an Affectee, not when it is a Theme. Thus, (39) suggests that aspectual *se* resides in Spec, ApplP.[19]

(39)   a.   María   **se**   lo/*le   asignó.
           María   REFL.IO   him.DO   assigned
           'María assigned him to herself.'

       b.   La   tierra   **se**   lo/*le   ha   tragado.
           the   earth   REFL   him.DO   has   swallowed
           'The earth has swallowed him up.'

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[19] MacDonald (2016) gives two additional arguments for analyzing aspectual *se* as an applied argument. First, both aspectual *se* and indirect object reflexives are underspecified for animacy. Second, they both show different paradigms when they agree with arguments with different φ-features.

c. **Se**   le   regaló.
   REFL.DO him.IO gifted
   'She gave herself to him.'

(MacDonald 2016: 24–26)

   I have argued that consumption verbs impose an Animacy Restriction on Affectees. That the same restriction is found with Agent subjects of consumption verbs indicates that Affectees are a sub-part of Agents, supporting the current decomposition analysis of Agents. In the following section, I will show that ditransitive alternations (in English) exhibit a similar Animacy Restriction, which can be easily accounted for under the proposed analysis.

4.2 Ditransitive Alternations

In English, many ditransitive verbs alternate between double object constructions (DOCs) and prepositional dative constructions (PDCs). These constructions display interesting contrasts in the Animacy Restriction (see, e.g., Green 1974; Oehrle 1976). In DOCs, the subjects can be inanimate, as in (40a), but the indirect objects must be animate, as seen in (41a) in contrast to (41c), while in PDCs, the subjects must be animate, as seen in (40b) in contrast to (40c), but the objects of the preposition can be inanimate, as in (41b).[20] The arguments in bold indicate the source of ungrammaticality.

(40)   a.   This book gave me some ideas.
        b. #**This book** gave some ideas to me.
        c.   John gave some ideas to me.

(41)   a. #The advertiser gave **the car** a flyer.
        b.   The advertiser gave a flyer to the car.
        c.   The advertiser gave John a flyer.

(adapted from Harley & Jung 2015: 704)

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[20] Harley & Jung (2015) argue that *alienable* possession requires the possessor to be animate, as exemplified in (41a,c). However, *inalienable* possession imposes no animacy requirement on the possessor, as shown in (i): the possessor can either be animate like *John* in (ia) or inanimate like *the house* in (ib). In fact, as noted by Holmberg et al. (2019), inalienable possession does not even allow the inanimate possessor to be expressed as the object of *to*, as shown in (ic). This suggests that animacy may not be the exact concept at play here, but an explanation of this complication is beyond the scope of this discussion.

(i)   a.   His mother gave John his blue eyes.
      b.   The painter gave the house a new coat of paint.
      c. #The painter gave a new coat of paint to the house.

(adapted from Harley & Jung 2015: 705)

However, note that the judgment of (40) and (41) is subject to individual variation.

I suggest that the DOC (40a) and the PDC (41b) have the structures in (42). In the DOC in (42a), the subject is a Causer and is introduced by Voice, the indirect object is an Affectee in Spec, ApplP, and the direct object is a Theme in Spec, TransP. In the PDC in (42b), the subject is an Agent, which, according to the decomposition analysis of Agents, is derived by moving from Spec, ApplP to Spec, VoiceP. The direct object is a Theme in Spec, TransP, while the object of the preposition is introduced by P in its specifier.[21] (I assume that a preposition like *to* is a morphological marker on the argument in the specifier of a covert P head.)

(42) a. *DOC*: *This book gave me some ideas.*

[$_\text{VoiceP}$ **this book**$_i$ gave$_j$ [$_{v_\text{INIT}P}$ t$_j$ [$_\text{ApplP}$ **me** t$_j$ [$_\text{TransP}$ some ideas t$_j$

Causer: [±animate]   Affectee: [+animate]

b. *PDC*: *The advertiser gave a flyer to the car.*

[$_\text{VoiceP}$ **the advertiser**$_i$ gave$_j$ [$_{v_\text{INIT}P}$ t$_j$ [$_\text{ApplP}$ **t**$_i$ t$_j$ [$_\text{TransP}$ a flyer t$_j$ [$_\text{PP}$ to the car P

Causer: [+animate]   Affectee: [+animate]

I suggest that the Animacy Restriction applies to Affectees in both DOCs and PDCs, akin to the restriction imposed by consumption verbs in aspectual *si* constructions. In DOCs, the Causer subjects can be either animate or not, while the Affectee indirect objects must be animate. In PDCs, the Agent subjects encompass both Causers and Affectees, and thus inherit the Animacy Restriction from Affectees. Notably, objects of *to* are insensitive to animacy. This explains the contrast in the Animacy Restriction in these two constructions.[22] Ditransitive alternations show that Causers and Affectees can be expressed either as a single argument via movement, as in PDCs, or as two separate (non-coindexed) arguments, as in DOCs, a possibility offered by the decomposition analysis of Agents.

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[21] A reviewer points out that this analysis, conjoined with the claim in section 3.2 concerning pure instrument PPs, entails that pure instrument PPs, if present in DOCs, should only modify the Affectee and not the Causer, contrary to the example in (i) (the fork is used by Kim, not Mary). They question why this is so.

(i)   Kim opened Mary a bottle with a fork.

One possibility is that DOCs have two structures: in one, the subject is a Causer; in the other, the subject is an Agent (assuming multiple Appls to be possible in English, see Nie 2022 for more languages that allow this). The verb *open* may only have the latter structure. Then it follows that *Kim* in (i) is an Agent. However, another reviewer asks why, if Appl recursion is possible, the sentence *Mary sent Bob Bill a letter*, where *Bob* is a Recipient and *Bill* is a Beneficiary, is ungrammatical. I suggest that this sentence is ruled out due to the lack of Case for one of the applied arguments.

[22] Folli & Harley (2007) observe that Italian *faire-infinitif* (FI) causatives and *faire-par* (FP) causatives exhibit a similar Animacy Restriction. In FI causatives, the subjects can be animate or inanimate, but the dative causees must be animate. In FP causatives, the subjects must be animate, but the causees introduced by *da* 'by' are not constrained by animacy. The analysis of ditransitive alternations can be directly applied to the FI/FP causatives to account for their Animacy Restriction pattern.

Aspectual *si* constructions and ditransitive alternations exhibit complex Animacy Restriction patterns. The standard analysis of Agents requires different structures and imposes the restriction on different arguments for each pattern. In contrast, the decomposition analysis of Agents enables this restriction to apply consistently to Affectees, allowing a unified explanation of this restriction in these seemingly unrelated constructions.

5 Two Predictions

As previously discussed, the standard analysis posits no inherent relationship between Agents, Causers, and Affectees, which are introduced by distinct heads. In contrast, the present analysis treats Causers and Affectees as sub-arguments of Agents, allowing for alternations between the two and Agents. I have shown that in aspectual *si* constructions (in Italian and Spanish), only Causers are semantically active, alternating with Agents, while Affectees are expletivized. In this section, I will discuss constructions where Affectees alternate with Agents. This occurs in two subcases. First, when a two-place predicate selects an Agent subject, the Causer can be *expletivized*, resulting in the Affectee becoming the subject. Second, when a two-place predicate selects an Affectee subject, a Causer can be added through *causativization*. In section 5.1, I will show that both subcases are attested. In section 5.2, I will highlight another difference in predictions made by the standard analysis and the decomposition analysis regarding restrictions on causativizing predicates that take Agent subjects. In section 5.3, I will explore the syntactic encoding of agentivity. Finally, in section 5.4, I will extend the proposed analysis to unergatives.

5.1 Agent-Affectee Alternations

Agents alternate with Affectees mainly through *expletivization* or *causativization*. Let's start with the subcase of expletivization. For example, in Spanish, transitive sentences typically follow the Nom-Acc alignment, where the predicate agrees with the nominative subject, as shown in (43a). However, *unintentional causer constructions*, exemplified by (43b), follow the Dat-Nom alignment, with the predicate agreeing with the nominative argument (see, e.g., Cuervo 2003; Kallulli 2006; Schäfer 2008; Wood 2013). This pattern is semantically distinguished from the ordinary case by the level of *agentivity*. Specifically, (43a) is more agentive than (43b), as evidenced by the incompatibility of (43b) with agentive adverbials like *on purpose* and rationale phrases.

(43) a. El tintorero quemó los pantalones de Carolina
          the dry-cleaner burnt.SG the trousers   of Carolina
          (a propósito/para vengarse).[23]
          (on purpose/to take revenge)
          'The dry-cleaner burnt Carolina's trousers (on purpose/to take revenge).'

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[23] The agentive adverbial and the rationale phrase in (43a) are added by me.

b. Al   tintorero   **se**   le   quemaron los pantalones de Carolina
to.the dry-cleaner REFL her.DAT burnt.PL   the trousers   of Carolina
(*a propósito/*para vengarse).
(*on purpose/*to take revenge)
'The dry-cleaner (accidentally) burnt Carolina's trousers (*on purpose/*to take revenge).'

(Cuervo 2003: 186–187)

I propose that the nominative argument 'the dry-cleaner' in (43a) is an Agent, while the dative argument 'to the dry-cleaner' in (43b) is an Affectee, following Cuervo (2003). Additionally, I argue that the reflexive particle *se* is another instance of an expletive argument (cf. section 4.1). However, in this case, it is inserted in Spec, VoiceP. In other words, (43b) is derived from (43a) by expletivizing the Causer. The two sentences can be represented as follows:

(44)   a.   [$_{VoiceP}$ the dry-cleaner$_i$ burnt$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ t$_i$ t$_j$ [$_{TransP}$ the trousers of C. t$_j$

          Causer   Affectee

      b.   [$_{VoiceP}$ *se*   burnt$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ to the dry-cleaner$_i$ t$_j$ [$_{TransP}$ the trousers of C. t$_j$

          Causer   Affectee

(45) presents a similar phenomenon in Georgian. (45a) is an ordinary agentive sentence, while (45b) is an *involuntary state construction* (see, e.g., Kallulli 2006; Rivero 2009). They display the same Nom-Acc and Dat-Nom Case alignment alternation and sensitivity to agentivity observed in (43).

(45)   a.   vano   q'ovel dġe lekseb-s   c'er-s[24]
             Vano.NOM every day poems-ACC write-3SG
             'Vano writes poems every day.'

      b.   vano-s   lekseb-i   e-c'er-**in**-eb-a
             Vano-DAT poems-NOM VAM-write-**NACT**-TS-3SG
             'Vano feels like writing poems.'

(Nash 2020: 368)

What is worth noting here is the use of the non-active morpheme *-in* in (45b), which Nash (2020) argues to be a deagentivizer. I suggest that the morpheme *-in* expresses an expletive head, which deactivates the thematic property of Voice, namely its ability to introduce an

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[24] This example is mine. Note that in Georgian, both the dative and accusative Cases are marked by *-s*.

argument. The analysis of (45) thus parallels that of (43). For comparison, I provide the structural representation of (45b) below.[25]

(46)   [$_{VoiceP}$ Ø write$_j$-***in*** [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ Vano-DAT$_i$ t$_j$ [$_{TransP}$ poems t$_j$
            Causer   Affectee

   Let's now turn to the phenomenon of causativization, which is the mirror image of expletivization. An example of this is the Samoan ergative-middle alternations (Tollan 2018). (47a) involves a Polynesian middle verb,[26] which is formally transitive, but does not follow the canonical Ergative-Absolutive (Erg-Abs) pattern. Instead, it exhibits Absolutive-*i*-Case[27] (Abs-*i*-Case) alignment, which is associated with low agentivity. However, when the ergative suffix -*C(i)a* is added to a middle verb, as in (47b), the Case alignment shifts to the Erg-Abs frame, and the semantics of the verb also changes from low agentivity to high agentivity.[28]

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[25] As noted by a reviewer, the proposed analysis predicts that pure instrument PPs should generally be able to appear in constructions with Affectees. This is confirmed by the Spanish unintentional causer constructions (i).

(i)   Al   tintorero   **se**   le   quemaron los pantalones de Carolina con   la   secadora de pelo.
        to.the dry-cleaner REFL her.DAT burnt.PL   the trousers   of Carolina with the hairdryer
        'The dry-cleaner (accidentally) burnt Carolina's trousers with the hairdryer.'

However, Schäfer (2008) reports that German unintentional causer constructions are incompatible with pure instrument PPs (ii).

(ii)   Dem   Peter ist die   Vase (*mit   dem Hammer) zerbrochen
       the.DAT Peter is   the.NOM vase (*with the   hammer) broken

                                                  (Schäfer 2008: 100)

I follow Franco & Manzini's (2017) suggestion that *with*-PPs are interpreted as pure instruments only if VP is caused, namely when v$_{INIT}$ is present. I treat this requirement as a felicity condition. Then, Spanish and German unintentional causer constructions differ in the presence of v$_{INIT}$: it is present in Spanish but absent in German.

   A further complication comes from Georgian involuntary state constructions, which are incompatible with subject-oriented adverbials but marginally acceptable with pure instrument PPs (Léa Nash, p.c.). I leave this issue open for future research.

(iii)   vano-s   lekseb-i   e-c'er-**in**-eb-a   *ganzrax/?(?)pankr-it.
       Vano-DAT poems-NOM VAM-write-**NACT**-TS-3SG   *intentionally/?(?)pencil-INSTR
       'Vano feels like writing poems *intentionally/?(?)with a pencil.'

[26] Note that Polynesian middle verbs have nothing to do with the middle constructions.

[27] The *i*-Case functions as an oblique or prepositional marker in Samoan and in Polynesian languages more generally. Tollan (2018) notes that it can also serve as a structural accusative marker in Polynesian languages with accusative alignment, such as Māori and Hawaiian. While Tollan argues that *i* in Samoan is also an accusative marker, I will refrain from labeling *i* as accusative in order to remain as theory-neutral as possible.

[28] In the terminology of Tollan (2018), the subject of (47a) is described as a *proto-low Agent*, which only initiates or experiences the event, while the subject of (47b) is characterized as a *proto-high Agent*, which triggers an effect upon the Theme, brings about a change in state, is effortful and volitional, and concludes the event.

(47) a. *Middle*

Na fesili [le leoleo]   [i   le   tamāloa].
PST ask   DET police.ABS *i-Case* DET man
'The police asked the man.'

b. *Derived Erg-Abs*

Na fesili**gia** [**e**   le   leoleo] [le   tamāloa].
PST grope.**ES ERG** DET police   DET man.ABS
'The police questioned the man.'

(Tollan 2018: 26)

I assume that the absolutive argument in (47a) is an Affectee, while the ergative argument of (47b) is an Agent. The suffix *-C(i)a* can be analyzed as the realization of Voice (or Voice plus v_{INIT}), introducing a Causer. Therefore, I treat (47b) as the result of adding Voice (or the complex [Voice, v_{INIT}]) to the structure of (47a). The subject of (47b) is both a Causer and an Affectee (i.e., an Agent). Assuming that *-C(i)a* realizes Voice, the structures of (47a) and (47b) can be represented as below.

(48) a.   [$_{v_{INIT}P}$ ask$_j$ [$_{ApplP}$ the police$_i$ t$_j$ [$_{TransP}$ the man t$_j$

Affectee

b. [$_{VoiceP}$ the police$_i$ ask$_j$-***C(i)a*** [$_{v_{INIT}P}$ t$_j$ [$_{ApplP}$ t$_i$ t$_j$ [$_{TransP}$ the man t$_j$

Causer   Affectee

Similar alternations involving causativization are also found in Tatar, which employs the causative morpheme *-t* to increase volitionality of a predicate (Kittilä 2009). This meaning shift is associated with changes in argument coding. Specifically, a sentence shows the Dat-Nom alignment with the unintentional reading (49a) and the Nom-Acc alignment with the volitional reading (49b). The analysis of (49) parallels that of (47).

(49) a. marat-ka   samat yčyra-dy.
Marat-DAT Samat meet-PST
'Marat met Samat (accidentally).'

b. marat samat-ny   yčyra-**t**-ty.
Marat Samat-ACC meet-**CAUS**-PST
'Marat met Samat (deliberately).'

(Lyutikova & Bonch-Osmolovskaya 2002: 4, cited in Kittilä 2009: 81)

The above discussion demonstrates that Agent-Affectee alternations are widely attested. There are two subcases: in the first one, Agents become Affectees when Causers are expletivized; in the second, Affectees become Agents when Causers are added through causativization. This

suggests a derivational relationship between Agents, Causers, and Affectees. This is exactly what the decomposition analysis of Agents predicts, but not the standard analysis. The present analysis is thus preferable.

5.2 Causativizing Agentive Predicates

The two analyses under consideration also make different predictions regarding causativizing agentive predicates, which are predicates with Agent subjects. Nie (2022) identifies two types of causatives: *bi-eventive* causatives and *mono-eventive* causatives.[29] In bi-eventive causatives, a causing event[30] e is added to another event e'. The two events stand in a cause relation. The participant α introduced by the causing event e is understood as the causer,[31] while the participant β introduced by the caused event e' is understood as the causee (see (50a)). I use θ to denote whatever θ-role β bears, which may vary depending on whether the causative construction is bi-eventive or mono-eventive. In mono-eventive causatives, both the causer α and the causee β are participants of the event e (see (50b)). Crucially, Nie (2022) proposes that Causer (her Cause) and θ must be unrelated since it is not allowed for one event to take two Causers, as illustrated in (50c).[32]

(50) a. CAUSE(e, e') & AGENT(e, α) & θ(e', β)
      b. CAUSER(e, α) & θ(e, β)
      c. *CAUSER(e, α) & CAUSER(e, β)

Tollan (2018) observes that the Samoan causative prefix *fa'a* cannot be added to Erg-Abs predicates, which are highly agentive and take Agent subjects (see (51)). This observation suggests that neither (50a) nor (50b) applies to *fa'a* causatives. The fact that (50a) is not applicable implies that this prefix does not introduce another event. However, why cannot (50b) represent the semantics of (51b), making it grammatical?

(51) a. *Erg-Abs*
          Sā   sasa [e   le   teine] [le   maile].
          PST hit   ERG DET girl   DET dog.ABS
          'The girl hit the dog.'

---

[29] Nie's distinction between bi-eventive and mono-eventive causatives slightly differs from how these terms are used in the literature (e.g., Martin & Schäfer 2013), where causees are not involved.

[30] A causing event refers to a whole event rather than just a subevent. Note that v_{INIT} introduces the *initiation* subevent, often associated with a causative interpretation, rather than a causing event.

[31] Note that "causer" is written with a lowercase "c" to distinguish it from the θ-role Causer.

[32] Adapting to the present framework, the illegitimacy of (50c) arises from two scenarios: *CAUSER(e_1, α), & CAUSER(e_1, β) or *CAUSER(e_1, α) & CAUSER(e_n, β). In the first case, two different Causers are associated with the same *initiation* subevent e_1. In the second case, two different subevents introduce Causers, which is impossible because no subevents other than *initiation* introduce Causers.

b. *Causative*

*Sā **fa'a**-sasa [e le tamāloa] [le teine] [i le maile].
PST **CAUS**-hit ERG DET man   DET girl.ABS *i-Case* DET dog
Intended: 'The man made the girl hit the dog.'

(Tollan 2018: 29)

The standard analysis assumes that Causers and Agents are unrelated, making (50b) a possible representation of (51b) if θ in (50b) stands for Agent. It is then expected that causitivizing agentive predicates should be possible, contrary to fact. In contrast, the decomposition analysis posits that Agents include Causers as their sub-arguments. As a result, the semantic representation of (51b) under this analysis would lead to the clearly banned scenario in (50c), where one event has two Causers (see (52)).

(52)   *CAUSER(e, the man) & CAUSER(e, the girl) & AFFECTEE(e, the girl)

Interestingly, Tollan (2018) observes that *fa'a* can nevertheless be added to middle verbs (see (53)).

(53)   a. *Middle*

E mana'o [le teine] [i le masi].
PRS want   DET girl.ABS *i-Case* DET cookie
'The girl wants the cookie.'

b. *Causative*

Sā **fa'a**-mana'o [e le tama] [le teine] [i le masi].
PST **CAUS**-want ERG DET boy   DET girl.ABS *i-Case* DET cookie
'The boy made the girl want the cookie.'

(Tollan 2018: 27, 28)

Recall from section 5.1 that middle verbs are low in agentivity and have been argued to take Affectee subjects. (53b) then has the partial semantic representation in (54), which instantiates (50b). The contrast between (51b) and (53b) can thus be straightforwardly accounted for by the decomposition analysis, in contrast to the standard analysis.

(54)   CAUSER(e, the boy) & AFFECTEE(e, the girl)

Georgian morphological causatives exhibit a similar pattern to Samoan. The causative affix *-a* does not allow direct embedding of agentive predicates (Nash 2020). However, unlike Samoan, Georgian allows causativizing agentive predicates by deagentivizing them with the *-in* affix, which, as argued before, expletivizes the Voice of the embedded agentive verbs. Moreover, the Case alignment of the embedded structures is reminiscent of lowly agentive predicates, with causees in dative and objects in nominative. I argue that the causee 'the girl' in (55) is an Affectee rather than an Agent.

(55) keti-m   gogo-s   k'at'a   č'k'vianurad/ganzrax/siamovneb-it
      Keti-ERG girl-DAT cat.NOM intelligently/intentionally/pleasure-INSTR
      da=**a**-mal-v-**in**-a.
      PREV=**VAM**-hide-TS-**NACT**-AOR.3SG
      'Keti made the girl hide the cat intelligently/intentionally/with pleasure.'

(Nash 2020: 364)

The three adverbials used in (55) are not ambiguous regarding the scope. (55) can only mean "Keti did this intelligently/intentionally/with pleasure, but not the girl." This indicates that Georgian morphological causatives are mono-eventive and do not distinguish between causing events and caused events. If Causers and Agents were two independent arguments, as assumed in the standard analysis, we would expect the causative affix -*a* to attach directly to agentive predicates, but this is not the case. Therefore, the fact that agentive predicates must be deagentivized whenever causativized strongly argues for the proposed analysis. Since mono-eventive causatives do not allow the stacking of Causers, the embedded agentive predicates cannot retain their Agent arguments, which include Causer sub-arguments. Through deagentivization, Voice becomes semantically null, and Agents, losing their Causer sub-arguments, are turned into Affectees, which are possible according to (50b). The decomposition analysis thus makes more accurate predictions regarding restrictions on causativizing agentive predicates. Also note that Samoan and Georgian morphological causatives instantiate additional cases where Causers and Affectees are expressed by two separate (non-coindexed) arguments, just like DOCs in English.

5.3 Agentivity

As briefly discussed in section 5.1, agentivity plays a crucial role in determining Agent-Affectee alternations. Agent subject constructions (43a, 45a, 47b, 49b) were argued to be more agentive than their Affectee subject counterparts (43b, 45b, 47a, 49a). This section will explore the syntactic encoding of agentivity and its connections with Agents, Causers, and Affectees.

There is evidence that Affectee subject constructions exhibit low agentivity. *Oblique subject constructions* (OSCs), such as *unintentional causer constructions* and *involuntary state constructions*, have been analyzed as having Affectee subjects (e.g., Cuervo 2003). These constructions share the property of low agentivity. Drawing on Old Norse-Icelandic, Latin, Ancient Greek, Old Russian, and old Lithuanian, Barðdal et al. (2012) classify OSCs into two major groups: *experience-based* predicates and *happenstance* predicates. The former group subsumes verbs of emotion, bodily states, cognition, attitudes, and perception, while the latter includes verbs of gain, success, happening, hindrance, ontological states, and speaking. In addition, there are three types that do not fit in either group and are listed individually: verbs of modality (obligation), evidentiality, and possessives. All the predicates that take oblique subjects express low volitionality and lack of control, indicating low agentivity.

The difference in the degree of agentivity between Agent subject constructions and Affectee subject constructions can be explained as follows. The former includes an additional head, Voice (or the complex [Voice, v_{INIT}]), which is absent in the latter. It is thus plausible to attribute the source of agentivity to Voice (or [Voice, v_{INIT}]). As a result, Agents signal high agentivity. Affectees and Themes, on the other hand, signal low agentivity.

The low agentivity of Affectees and Themes gives an account of their diverse interpretations. Affectees can be interpreted as broadly as instruments, locations, experiencers, beneficiaries, goals, sources, etc. Themes can also be interpreted with these roles, but classifying their other interpretations is often challenging. For example, an *eatee* and a *hitee* share little in common except being highly affected by the events. In fact, any non-agentive argument can function as an Affectee or Theme. Defining Affectees and Themes as participants in the *process* subevent avoids associating a specific meaning with either θ-role, explaining their wide range of interpretations.

It should be noted that a few studies have also argued for the existence of two external argument introducers, one being highly agentive and the other lowly agentive. For instance, Kim (2011b) proposes that Voice is highly agentive, while high Appl right below Voice is lowly agentive. Massam (2009) and Tollan (2018) suggest that the external argument of transitive verbs is introduced by Voice, while the sole argument of unergatives is introduced by a lower v (at least in Niuean and Samoan). Tollan (2018) further suggests that the specifiers of the two heads differ with respect to agentivity, with Spec, VoiceP reserved for a highly agentive argument (her proto-high Agent) and Spec, vP for a lowly agentive argument (her proto-low Agent). Kim's Voice and high Appl, and Tollan's Voice and v, correspond to Voice and Appl as defined here.[33]

5.4 Unergatives

Massam (2009) and Tollan (2018) argue that the sole argument of unergatives in Niuean and Samoan is lowly agentive and is introduced by v, which corresponds to Appl as defined here. However, the sole argument of unergatives in Germanic and Romance languages does not seem
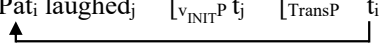
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[33] Alexiadou & Anagnostopoulou (2020) also argue that Voice and v introduce two types of external arguments: Agents and Causers. I align their work with the analyses of Massam (2009) and Tollan (2018) and briefly compare them here with the proposed analysis. Both this line of research and the current analysis posit two external argument positions, but they differ in the types of θ-roles assigned and whether these θ-roles are composite or not, which has significant consequences. First, v in the former type of analyses serves completely different functions in transitives and middles. In transitives, v is interpreted as a causing subevent introducer. However, in middles, v is analyzed as a combination of a causing subevent introducer and a proto-low Agent or Causer introducer. From the perspective of the current analysis, v in both transitives and middles is a combination of v_{INIT} and Appl. Second, under the former type of analyses, the licensing of pure instrument PPs is not uniform in transitives and middles. In transitives, pure instrument PPs would be licensed by Voice′, while in middles, they would be licensed by v′. Under the proposed analysis, they are uniformly licensed by Appl′. Third, as these analyses do not posit an inherent relationship between Agents, Causers, and Affectees, it seems unexpected that Agents alternate with Causers and Affectees, a phenomenon widely attested, as discussed in the present paper.

to differ in agentivity from the external argument of transitives and is typically analyzed as an Agent. It is often assumed that all unergatives have an internal argument, whether overt or implicit (e.g., Hale & Keyser 1993). Under this analysis of unergatives, the external argument of unergatives (X in (56a)) is introduced in Spec, VoiceP, while their implicit internal argument (Y in (56a)) is introduced in the complement of V. This analysis can be easily adapted into the proposed theory (see (56b)): the sole argument of unergatives is first introduced in Spec, ApplP and then moves to Spec, VoiceP, while the implicit internal argument is generated in Spec, TransP.

(56) a. [$_{VoiceP}$ **X** Voice [$_{vP}$ v   [$_{VP}$ V   **Y**

     b. [$_{VoiceP}$ **X$_i$** Voice [$_{v_{INIT}P}$ v$_{INIT}$ [$_{ApplP}$ **t$_i$** Appl [$_{TransP}$ **Y** Trans

However, the assumption of an implicit internal argument for unergatives is controversial. For instance, Preminger (2012) argues against the existence of implicit objects in Basque unergatives. This poses a problem for the proposed analysis. Since Agents take Affectees as one of their sub-arguments, and Affectees, being secondary Themes, presuppose the presence of a Theme, how can we capture the intuition that the sole argument of unergatives is an Agent without assuming an implicit internal argument (i.e., a Theme)?

I suggest that the sole argument of unergatives is also composite but is made up of a Causer and a Theme rather than a Causer and an Affectee. Given that Affectees and Themes are both participants in the *process* and only differ in their prominence, as discussed in section 2.4, it is expected that the combination of a Causer and a Theme also results in an Agent reading. Consequently, unergatives and causativized unaccusatives have the same structure (see (57)), but differ in how their arguments are realized. In unergatives, the Causer and the Theme are realized by a single argument, whereas in causativized unaccusatives, they are realized by two separate arguments.

(57) a. *Unergative*: *Pat laughed.*
         [$_{VoiceP}$ Pat$_i$ laughed$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{TransP}$ t$_i$ t$_j$

            Causer   Theme

      b. *Causativized Unaccusative*: *The sun melted the butter.*
         [$_{VoiceP}$ the sun melted$_j$ [$_{v_{INIT}P}$ t$_j$ [$_{TransP}$ the butter t$_j$
            Causer   Theme

Certain intransitive verbs show mixed properties regarding unaccusativity tests. They can behave like unergatives on certain occasions and like unaccusatives on others. This

phenomenon is known as unergative/unaccusative alternations. One commonly used test for unaccusativity is auxiliary selection (see, e.g., Burzio 1986). In Italian, unergatives select the auxiliary *avere* 'have,' while unaccusatives select the auxiliary *essere* 'be.' When a predicate is atelic and takes a locative PP and a *for X time* adverbial, as in (58a), it behaves like an unergative. On the other hand, when a predicate is telic and takes a directed motion PP and an *in X time* adverbial, as in (58b), it behaves like an unaccusative (see, e.g., Levin & Rappaport Hovav 1995; Sorace 2000).

(58) a. Maria **ha** corso nel   parco per/*in un'ora.
          Maria **has** run   in.the park for/*in an hour
          'Maria ran in the park for/*in an hour.'

      b. Maria **è** corsa a   casa   *per/in un'ora.
          Maria **is** run   to house *for/in an hour
          'Maria ran home *for/in an hour.'

Commonly assumed analyses of unergatives and unaccusatives would represent them as in (59) (depending on the theory, VP in (59a) may or may not project). Since the two structures in (59) have nothing overlapping, the standard analysis has difficulty in capturing the alternation in (58).

(59) a. *Unergatives*:   [$_{VoiceP}$ **X** Voice [$_{v_{INIT}P}$ v$_{INIT}$ [$_{VP}$ V   **Y**
      b. *Unaccusatives*:   [$_{VP}$ V   **X**

The proposed analysis represents unergatives and unaccusatives as in (60). The structure in (60b) is a subpart of (60a). When the Causer (together with v$_{INIT}$) is expletivized,[34] the resultant structure is identical to that of an unaccusative. This expletivization operation has been employed to account for aspectual *si* constructions (in section 4.1) and Agent-Affectee alternations (in section 5.1) and does not introduce any new machinery to the theory. The decomposition analysis thus gives a rather simple account of the unergative/unaccusative alternations and unifies them with the two other types of argument structure alternations discussed before.

(60) a. *Unergatives*:   [$_{VoiceP}$ **X$_i$** Voice [$_{v_{INIT}P}$ v$_{INIT}$ [$_{TransP}$ **t$_i$** Trans

      b. *Unaccusatives*:   [$_{TransP}$ **X** Trans

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[34] Expletivizing v$_{INIT}$ may not seem appropriate, since v$_{INIT}$ is not an argument introducer. Here, I treat expletivization as a more general operation that renders a syntactic element semantically null.

Further evidence for analyzing the sole argument of unergatives as Causer + Theme comes from causativized unergatives. The proposed theory predicts that when an unergative is causativized, the Causer argument should be dropped, leaving the Theme as the only argument. This mirrors the behavior of a transitive verb's Agent argument, which becomes an Affectee when causativized, as discussed for Georgian in section 5.2. This is indeed borne out in languages such as Hebrew, Hindi-Urdu, Turkish, and Sason Arabic, as discussed in Arad (1998) and Neu (2023). Due to space constraints, I provide just one argument. In Hindi-Urdu, reduced relatives require the presence of an internal argument (specifically a Theme + Resultee). While reduced relatives cannot be formed directly from unergatives (61a), they can be formed from causativized unergatives (61b). I suggest that in (61b), not only is the Causer argument removed, stranding the Theme argument, but a Resultee is also added.[35,36]

(61) a. *__dauṛ__-aa   laṛkaa
          run-PFV.M.SG boy
          Intended: 'the run boy'

      b. [Ravi-dwaaraa **dauṛ-aa**-yaa gayaa]   laṛkaa
          Ravi-by   run-CAUS-PFV PASS.PFV boy
          'the boy run by Ravi' (i.e., the boy chased by Ravi)

(Bhatt & Embick 2017: 124)

6 Conclusion

In this paper, I have followed current theories in defining θ-roles as participants in different subevents. Specifically, in the system argued for here, the Causer θ-role is identified as the

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[35] Akkuş & Paparounas (2024) propose that the sole argument of Turkish verbal reflexives originates as an internal argument and then moves to the external argument position, which is supported by its mixed properties of both internal and external arguments. A reviewer asks why the sole argument of unergatives, if it is Causer + Theme, does not also exhibit internal argument properties. I suggest that their internal argumenthood tests (whether a predicate can be stative-passivized with the participle *-Ik* or *-mIş*, or license resultatives) are sensitive to Theme + Resultee rather than just Theme, as indicated by the fact that these constructions all imply a change of state. Under the proposed analysis, the sole argument of Turkish verbal reflexives is actually Causer + Theme + Resultee.

[36] A reviewer inquires about the source of restrictions on possible θ-role composition and argument movement. I suggest that the proposed analysis imposes three types of restrictions. First, the semantics of θ-roles. Since Affectees are secondary Themes, and both Affectees and Themes are participants in the *process* subevent, there is no composite θ-role Affectee + Theme. This rules out Theme-to-Affectee-to-Causer movement, such as *_John sent_, which is doubly excluded by its inherently infelicitous meaning (John sent himself to himself). Second, movement. Movement must observe minimality, which disallows movement from Spec, TransP to Spec, VoiceP while skipping Spec, ApplP. Third, the lexicon. The impossibility of *_Mary ran John_ can be explained by the lexical entry *run* requiring its Causer and Theme arguments to be coreferential. Interestingly, with the help of certain syntactic operations, unergatives do alternate with transitives. For example, it has been widely observed (e.g., Levin & Rappaport Hovav 1995) that when a directed motion PP or a resultative is added, unergatives alternate with transitives (*John ran the dog to the park*, *John ran himself tired*). While the proposed analysis could say that *John* is the Causer and *the dog* or *himself* is the Theme, analyses that treat unergatives as intransitives that take non-composite Agents need to introduce additional mechanisms to explain these alternations.

participant in the *initiation* subevent, while the Affectee and the Theme θ-roles are identified as participants in the *process* subevent, with the Affectee being less prominent than the Theme. These three θ-roles are considered atomic and primitive, while the Agent is not, as it is the combination of the Causer and the Affectee. Syntactically, I have proposed that Causers and Affectees are introduced in Spec, VoiceP and Spec, ApplP, respectively. Agents are then derived through movement from Spec, ApplP to Spec, VoiceP.

The proposed decomposition analysis of Agents and the standard approach are largely interchangeable. The standard approach has two essential properties: first, it distinguishes between Agents and Causers as two different types of external arguments, and second, it employs two different flavors of v or Voice to introduce Agents and Causers. The decomposition analysis captures these properties as follows. Since Agents are the combination of Causers and Affectees, they are also effectively distinguished from Causers under the decomposition analysis. As for the second property, the decomposition analysis treats the Agent-introducing head as the Causer-introducing head adjoined by Appl. There is then a clear correspondence between the two analyses. Consequently, the analysis argued for here covers almost the same range of data as the standard approach, but with greater economy, because it does not introduce any new machinery to the system (Appl is independently needed), unlike the standard approach, which assumes at least two flavors of v or Voice.

I have, however, shown that the proposed analysis is empirically superior to the standard approach. The crucial difference between the two lies in the assumption regarding the complexity of the Agent-introducing head. While the standard approach assumes that it is primitive and simplex, the current analysis proposes that it is complex and has an additional Appl layer. Adjunct distribution patterns in change-of-state verbs suggest that there is a head that should be divorced from the Agent-introducing head (i.e., Voice). Data regarding comitative PPs and pure instrument PPs further support this proposal and argue for analyzing the head that is divorced from Voice as Appl.

The decomposition analysis makes several predictions that have been shown to be borne out. First, the analysis predicts that Causers and Affectees can be realized by two separate arguments in some cases. This is attested in DOCs in English and morphological causatives in Samoan and Georgian. Second, the proposed analysis posits a derivational relationship between Agents, Causers, and Affectees. We thus expect to see Agent-Causer alternations and Agent-Affectee alternations. The former is exemplified by aspectual *si* constructions in Italian and Spanish, while the latter is instantiated by Case alignment alternations in Spanish, Georgian, Samoan, and Tatar. Third, the proposed analysis predicts it to be impossible to causativize agentive predicates in mono-eventive causatives. This prediction was confirmed by data from Samoan and Georgian. The latter two cases are unexpected under the standard approach.

What is also important is that the proposed analysis provides a simple and unified explanation for many constructions. The discussion of aspectual *si* constructions, Agent-Affectee alternations, and unergative/unaccusative alternations is particularly revealing in this respect. The standard approach requires postulating two unrelated structures for each pair of these alternants. In contrast, the proposed analysis allows one alternant to be derived from the other through expletivization or causativization.

The proposed theory has far-reaching consequences for various mechanisms, such as UTAH, Case assignment, and agreement. However, due to the scope of this paper, whose goal was to provide a fresh perspective on Agents, Causers, Affectees, and θ-roles in general, I am unable to delve into these topics here. Nevertheless, they provide promising avenues for future research.

Abbreviations

ABS = absolutive; ACC = accusative; AOR = aorist; APPL = applicative; CAUS = causative; DAT = dative; DEC = declarative; DET = definite/indefinite determiner; DO = direct object; DOM = differential object marker; ERG = ergative; ES = ergative suffix; IND = indicative; INSTR = instrumental; IO = indirect object; M = masculine; NACT = non-active voice; NOM = nominative; OBL = oblique; PASS = passive; PFV = perfective; PREV = perfectivizing preverb; PRF = perfect; PRS = present; PST = past; REFL = reflexive; SBJ = subject; SG = singular; TS = thematic suffix; VAM = voice-applicative marker.

Acknowledgements

Competing interests

The author has no competing interests to declare.

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