

Affected Experiencers

Solveig Bosse · Benjamin Bruening ·
Masahiro Yamada

Received: 28 August 2009 / Accepted: 14 July 2012
© The Author(s) 2012. This article is published with open access at Springerlink.com

Abstract Numerous languages permit an NP that is not selected by the verb to be added to a clause, with several different possible interpretations. We divide such *non-selected arguments* into possessor, benefactive, attitude holder, and affected experiencer categories, on the basis of syntactic and semantic differences between them. We propose a formal analysis of the affected experiencer construction. In our account, a syntactic head Aff(ect) introduces the experiencer argument, and adds a conventional implicature to the effect that any event of the type denoted by its syntactic sister is the source of the experiencer's psychological experience. Hence, our proposal involves two tiers of meaning: the at-issue meaning of the sentence, and some not-at-issue meaning (an implicature). A syntactic head can introduce material on both tiers. Additionally, we allow two parameters of variation: (i) the height of the attachment of Aff, and (ii) how much of the semantics is at-issue and how much is an implicature. We show that these two parameters account for the attested variation across our sample of languages, as well as the significant commonalities among them. Our analysis also accounts for significant differences between affected experiencers and the other types of non-selected arguments, and we also note a generalization to the effect that purely not-at-issue non-selected arguments can only be weak or clitic pronouns.

Keywords Affected experiencers · Affected datives · Non-lexical datives · Adversity passives · Event semantics · Implicatures · Clitics

S. Bosse
East Carolina University, Greenville, USA
e-mail: bosses@ecu.edu

B. Bruening
University of Delaware, Newark, USA
e-mail: bruening@udel.edu

M. Yamada (✉)
JSPS and Kyoto University, Kyoto, Japan
e-mail: myamada@ling.bun.kyoto-u.ac.jp

1 Introduction

Numerous unrelated languages from disparate geographical regions allow an NP that is not selected by the main predicate to be added to a clause, with various different semantic interpretations. We have identified four such interpretations for *non-selected arguments*, which will be illustrated below: an external possessor construction, where the additional argument is interpreted as the possessor of one of the other NPs in the sentence (most typically the direct object); a benefactive construction, where the additional NP benefits in some way from the verbal event; what we will call an *attitude holder* construction; and what we will call an *affected experiencer* interpretation. We propose a formal analysis of the affected experiencer construction, illustrated by the following examples. German, Albanian, Japanese, and Hebrew all permit a non-selected NP to be added to a clause, with the interpretation that NP is somehow psychologically affected by the event described by the verb phrase:¹

- (1) a. Alex zerbrach Chris Bens Vase. *German*
 Alex broke Chris.Dat Ben's vase
 'Alex broke Ben's vase on Chris.'
 = Alex broke Ben's vase, and this matters to Chris.
- b. Agim-i i-a theu vazon e Ben-it
 Agim-Nom 3S.Dat-3S.Acc broke vase.Acc AD Ben-Gen
Dritan-it. *Albanian*
 Dritan-Dat
 'Agim broke Ben's vase on Dritan.'
 = Agim broke Ben's vase, and this matters to Dritan.
- c. Sachi-ga Masa-ni Aiko-no kabin-o kowas-are-ta. *Japanese*
 Sachi-Nom Masa-by Aiko-Gen vase-Acc break-Aff-Past
 'Masa broke Aiko's vase on Sachi.'
 = Masa broke Aiko's vase, and this matters to Sachi.
- d. Hem kol ha-zman mitxatnim li. *Hebrew*
 they all the-time marry to-me
 'They are getting married on me all the time (and it bothers me).'
 (Borer and Grodzinsky 1986, ex. (9a))

The additional argument is indicated in the examples above by underlining, and we attempt to give some sense of its meaning in the English translation with the preposition *on*. (The additional argument also typically receives dative case, but not always, as in Japanese where it is nominative; see below.)

Non-selected arguments in general, and affected experiencers in particular, have always fit rather uncomfortably into most generative theories. On the one hand, they are not selected arguments of main verbs, but on the other hand, they appear not to be

¹The gloss "AD" in Albanian examples refers to "adjectival determiner." Albanian examples come from fieldwork with an Albanian speaker residing in the United States. German examples come from Solveig Bosse and Japanese examples from Masahiro Yamada, unless otherwise indicated.

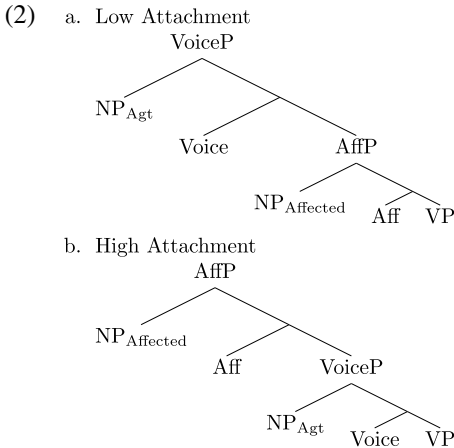
adjuncts, either (on the basis of case, morphological form, sometimes A-movement, and extraction). While there is a substantial body of literature addressing them in many different languages (see the references below), it is clear that, for the most part, this literature does not really know what to do with them. For instance, Authier and Reed (1992) propose a syntactic account of affected experiencers in French (what they call “affected datives”), but they have nothing to say about their semantics. Similarly, Borer and Grodzinsky (1986) describe properties of Hebrew affected experiencers (which they call “ethical datives”), but again offer no account of them. Pylkkänen (2008) distinguishes two types of non-selected arguments (which she calls “applied arguments”), “high” and “low,” and provides an explicit syntax and semantics for each, but this division is much too coarse: All four of the non-selected arguments that we discuss here pass her diagnostics for being high, but they have very different properties. (Only the benefactive type is amenable to her analysis.) The goal of this paper is to offer a formal analysis of both the syntax and the semantics of affected experiencers in particular, and non-selected arguments in general, although we concentrate on affected experiencers. (We do not address Pylkkänen’s “low” applicatives at all.)

First, we show in Sect. 2 that the affected experiencer type of non-selected argument must be distinguished from the other types of non-selected arguments listed above: so-called “possessor raising,” or (as we will call it) the “external possessor construction” (e.g., Stockwell et al. 1973; Alexiadou 2003); a benefactive construction; and an attitude holder construction (referred to in some languages, such as German, as an “ethical dative”). We show that the affected experiencer construction differs from all of these in several defining properties: First, it differs from benefactive and possessor constructions in contributing not-at-issue meaning; second, it differs from external possessor constructions in that possession is not necessary and the internal argument of the verb may have a different possessor, as in most of the examples above; third, affected experiencer constructions differ from both benefactive and external possessor constructions in that the additional NP must be sentient and aware (hence our use of the term *experiencer* in the name *affected experiencer*); and fourth, they differ from attitude holders in their semantics, and (in some languages) by contributing to the at-issue meaning of the sentence. We illustrate all of these properties in Sect. 2, where we distinguish affected experiencer constructions from other types of non-selected argument constructions, and lay out the properties that our analysis will explain.

Section 3 gives the details of the analysis that we propose for affected experiencer constructions. We propose that the NP is introduced by a syntactic head, Aff(ect), that merges above the lexical verb. This head introduces an experiencing event in addition to the verbal event, and also projects an NP in its specifier that is the experiencer of that event. In addition, it introduces a conventional implicature that says that any event that is of the type denoted by its sister would be the source of the experiencer’s psychological experiencing event. In our analysis, then, (1a) can be roughly paraphrased as: “There was an event prior to the utterance time in which Alex broke Ben’s vase, and there was also an experiencing event where Chris was the experiencer.” There is also a conventional implicature that says that any breaking of Ben’s

vase would be the source of Chris's experience. We present arguments below for treating the semantics of Aff as part at-issue, part implicature.²

We further propose two parameters of variation associated with the head Aff: First, it may attach either between VP and the head that introduces the external argument, Voice (low attachment), or above Voice (high attachment), as in the trees in (2).



Second, in some languages only part of the Affect head's meaning is a conventional implicature, while the rest is at-issue meaning; but in other languages, its entire contribution may be an implicature. The two different denotations we allow for the Affect head are shown in (3), with the conventional implicature following the colon:

- (3) Semantics
- Experiencer in the at-issue semantics

$$[[\mathbf{Aff}_1]] = \lambda P_{vt}. \lambda x. \lambda e. P(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(x)(e')) : \forall e''(P(e'') \rightarrow \text{Source}(e'')(e')) \in D_{\langle vt, evt \rangle}$$
 - Experiencer in the implicature

$$[[\mathbf{Aff}_2]] = \lambda P_{vt}. \lambda x. \lambda e. P(e) : \exists e'(\text{exper}(e') \ \& \ \text{Exp}(x)(e')) \ \& \ \forall e''(P(e'') \rightarrow \text{Source}(e'')(e')) \in D_{\langle vt, evt \rangle}$$

In the latter type of language (exemplified by Hebrew and French in Sect. 4), the affected experiencer does not contribute to the at-issue meaning of the sentence at all. This has syntactic consequences, as in these languages the experiencer may only be a weak or clitic pronoun. We identify a cross-linguistic generalization to the effect that non-selected arguments that contribute only not-at-issue meaning are limited to being weak pronouns, although at present we are unable to completely explain this limitation.

²We use the term “conventional implicature” to mean an aspect of the sentence’s meaning that is not at-issue (Potts 2005) or is not part of the truth conditional meaning of the sentence, but is also not like a presupposition in that it is not part of the common ground (nor does it have to be accommodated). We leave aside the issue of the precise definitions of “presupposition” and “implicature” (see the debate between Bach (1999), Potts (2005), and Karttunen and Peters (1979)), and try to sidestep the issue by using the more general term “not-at-issue meaning.”

More generally, our syntactic and semantic analysis explains the peculiar properties that affected experiencers have cross-linguistically, while the two parameters of variation explain the differences between different languages. We locate our proposal within a recent interest in separate tiers of meaning, at-issue and not-at-issue (e.g., Potts 2005). Our two most important and novel claims are the following: First, a syntactic head, often phonologically realized, can introduce elements on both tiers of meaning; and second, languages can vary in how much of the semantics of this head is at-issue and how much is an implicature, with syntactic consequences. We also offer the distinguishing properties of the different non-selected argument constructions discussed here as diagnostics that can be used for cross-linguistic typological categorization of linguistic phenomena, and we suggest analyses of the other non-selected arguments as starting points for further investigation.

2 Distinguishing non-selected arguments

Various different types of non-selected arguments have been identified in many different languages, so it is imperative to find distinguishing characteristics that will group them into classes, as a prerequisite for proposing a formal analysis. We attempt to do that in this section. The languages we concentrate on here are Albanian, German, French (Indo-European); Japanese and Korean (East Asian isolates); Modern Hebrew (Semitic); and Micmac (Algonquian). In our analysis of affected experiencers in Sect. 3 we will concentrate on German and Japanese, since those languages are spoken natively by two of our co-authors, but we also analyze Albanian, Hebrew, and French.

The non-selected arguments that we have identified are external possessors, benefactives, attitude holders, and affected experiencers, but we leave open the possibility that other types might have to be distinguished in other languages. (We identify one common to Hebrew and English in Sect. 4.3.)³ Albanian appears to only have the affected experiencer construction; German has all four, with any given sentence often being ambiguous; French has both affected experiencers and attitude holders; Japanese has the external possession construction and the affected experiencer construction, and a distinctly marked benefactive construction; Korean has the external possession construction and a distinctly marked benefactive construction; Hebrew has the external possession construction and the affected experiencer construction; and Micmac appears to only have the benefactive construction. This distribution is shown in Table 1.

In the following subsections, we discuss each construction in turn, distinguishing the different constructions by their differing properties. The properties we find to distinguish them are the following: whether they require a possession relation; whether they require a sentient NP or not; and whether they contribute at-issue or not-at-issue

³All four types pass the diagnostics proposed by Pykkänen (2008) for “high” applicatives, which she treats as a uniform category. We do not address her “low” applicative type here, which requires the intent of a possession relation holding between the internal argument of the verb and the applied argument as a result of the verbal action (as in English double object constructions).

Table 1 Overview of attested non-selected arguments

	External possessor	Benefactive	Attitude holder	Affected experiencer
Albanian	–	–	–	✓
German	✓	✓	✓	✓
French	–	–	✓	✓
Japanese	✓	✓	–	✓
Korean	✓	✓	–	–
Hebrew	✓	–	–	✓
Micmac	–	✓	–	–

meaning to the sentence (or both). We then turn to the details of some of the better-studied languages we will be addressing, namely, German, Hebrew, and Japanese, and address some previous literature.

First, the different constructions can be broadly identified by their semantics. The external possessor construction obligatorily involves a possession relation between the non-selected NP and another NP in the sentence, typically the direct object. It also often involves some notion of “affectedness,” such that the possessor is affected in some way by the action of the verb phrase. This can easily be confused for the affected experiencer construction or the benefactive construction, since one of the ways an NP can be psychologically affected or benefit is by one of its possessions (alienable or inalienable) being affected (Hubbard 1985, for instance, analyzes Albanian non-selected datives as possessor raising). However, the three constructions can be distinguished by the properties listed above and discussed here. The benefactive construction involves some notion of benefit accruing to the additional NP by virtue of the occurrence of the verbal event. The affected experiencer construction is interpreted as a psychological experience, as detailed below. Attitude holders, in contrast, stand in some relation to the proposition as a whole, for instance as having a strong desire that the proposition be true. In what follows, we describe affected experiencers last, since they are the focus of our analysis.

Before turning to each construction individually, it is first necessary to discuss at-issue versus not-at-issue aspects of meaning.

2.1 At-issue versus not-at-issue meaning

One of the most important distinguishing characteristics that we focus on in this article is at-issue versus not-at-issue meaning. Affected experiencers and attitude holders contribute to not-at-issue meaning, while possessors and benefactives do not. Attitude holders are entirely not-at-issue, but affected experiencers may also contribute at-issue meaning.

We assume, similar to Karttunen and Peters (1979) and Potts (2005), that at-issue and not-at-issue aspects of the meaning of a sentence are represented on separate tiers of meaning. The two tiers are largely independent and interact in only limited ways. For instance, not-at-issue meaning projects past negation and questioning, and makes no difference to the semantics of a conditional (see Soames 1982). Only material on

the at-issue tier can be questioned or negated, and only it affects the semantics of a conditional. In addition, a quantifier that is on the not-at-issue tier cannot bind an element on the at-issue tier.

To illustrate, Potts (2005) analyzes appositives as only contributing a speaker comment. In our terms, that means that they add nothing to the semantics of a sentence on the at-issue tier; instead they add only not-at-issue meaning. As shown below, material in an appositive may not be questioned:

- (4) a. We invited Louis, the king of France.
 b. Which country did you invite the king of?
 c. *Which country did you invite Louis, the king of?

One might think that the problem here is syntactic: appositives, being adjuncts, are probably islands to extraction. However, *wh-in-situ* in a multiple question is normally grammatical inside movement islands, but it is still ungrammatical in an appositive:

- (5) *Who invited Louis, the king of which country?

This example cannot be interpreted as a multiple question. We take this to follow from the fact that the appositive is on a separate tier of meaning. Questioning takes place on the at-issue tier; material that is not present on that tier may not be questioned.⁴

Similarly, the meaning contributed by an appositive cannot be negated, and projects beyond negation:

- (6) We didn't invite Louis, the king of France.

Here, the information that Louis is the king of France cannot be negated; there is no way to understand this sentence as meaning that we did invite Louis, but he is not the king of France. Rather, Louis is identified as the king of France, whether we invited him or not. This contrasts with NPs that are part of the at-issue tier:

- (7) a. We didn't invite the king of FRANCE(, we invited the king of SPAIN).
 b. *We didn't invite Louis, the king of FRANCE(, we invited Louis, the king of SPAIN).

To the extent that (7) is grammatical, it has to be understood as contrasting two different people named Louis. There is no way to understand the sentence as meaning that we did invite the Louis that the interlocutor has in mind, but that person is mistaken in believing him to be the king of France.

The meaning contributed by an appositive projects above a yes/no question, as well:

- (8) Did you invite Louis, the king of France?

⁴A reviewer points out that certain elements that involve not-at-issue aspects of meaning can be questioned. For instance, factive verbs presuppose the truth of their complement, but that complement can still be questioned: *Looking back over your life, what do you most regret?* This is possible because the complement of a factive verb clearly contributes to the at-issue tier of meaning, in addition to the presupposition triggered by the verb. As we show below, some elements of the sentence contribute both at-issue and not-at-issue aspects of meaning, and they can be questioned. Elements of the sentence that are entirely not-at-issue, like appositives, can never be questioned.

Whether the answer is yes or no, the speaker and hearer both understand that Louis is the king of France. If the hearer knows that he or she did invite Louis, but Louis is not the king of France, he or she cannot simply answer “no” to the question; an explanation is necessary. In contrast, the answer to “Did you invite the king of France?” can simply be “no.”

In addition, quantifiers in appositives cannot bind pronouns elsewhere in the sentence:⁵

- (9) a. Each girl₁’s chaperone berated her₁.
 b. *Miss Marple, each girl₁’s chaperone, berated her₁.

Finally, purely not-at-issue meaning makes no difference to the truth conditions of a conditional sentence. In the following example, the presence of the appositive makes absolutely no difference to the conditions under which I will have to pay a hundred dollars:

- (10) a. If Louis actually does visit you, I’ll give you a hundred dollars.
 b. If Louis, the very haughty king of France, actually does visit you, I’ll give you a hundred dollars.

These differences between at-issue and not-at-issue meaning will be important for distinguishing the different types of non-selected arguments. To preview, possessors and benefactives are entirely at-issue, while affected experiencers and attitude holders contribute not-at-issue meaning. However, attitude holders are entirely not-at-issue, while affected experiencers may contribute at-issue meaning as well. (Whether they do or not will be a parameter of variation in our analysis.) The claim that certain elements can contribute both at-issue and not-at-issue meaning at the same time contrasts with Potts (2005), but has recently been explored for certain natural language expressions in different languages (McCready 2009; Sawada 2010).

2.2 The external possessor construction

Numerous languages have been identified as having a construction where the possessor of some NP, most typically the direct object, is realized as an NP receiving some argument case (very often dative). In some languages this is limited to cases of inalienable possession, but in some other languages it is not so limited. Korean is an example of a language that limits the external possession construction to inalienable possession (and the case the possessor receives is accusative):⁶

⁵ But a quantifier on the at-issue tier can bind a pronoun on the not-at-issue tier, contra Potts (2005, 80–82):

- (i) Each girl₁ tried to ditch Miss Marple, her₁ chaperone.

This is an interesting asymmetry which we cannot fully do justice to here, but we do return to it below (Sect. 4.4).

⁶ Some Korean speakers accept (11b) if Sunhee is in the car and Chelswu is viewed as kicking Sunhee by kicking the car that she is in.

- (11) *Korean* (Sim 2005, exx. (1a), (6a))
- a. Chelswu-ka Sunhee-lul son-ul cap-ass-ta.
Chelswu-Nom Sunhee-Acc hand-Acc grab-Past-Decl
'Chelswu grabbed Sunhee by the hand.'
- b. *Chelswu-ka Sunhee-lul cha-lul cha-ass-ta.
Chelswu-Nom Sunhee-Acc car-Acc kick-Past-Decl
'Chelswu kicked Sunhee's car.'

The external possessor construction requires a possession relation; for instance, (11a) is infelicitous if the body part is detached from its possessor (and it is always infelicitous if there is no possession relation at all).

In addition, the external possessor construction does not require that the additional NP (the possessor) be sentient:

- (12) Chelswu-ka sap-ul caru-lul cap-ass-ta.
Chelswu-Nom shovel-Acc handle-Acc grab-Past-Decl
'Chelswu grabbed the handle of the shovel.' (Sim 2005, ex. (1c))

The external possessor construction also appears to be entirely at-issue. For instance, in the yes/no question below, if the hearer knows that Chelswu did grab Sunhee, but not by the hand, he or she can simply answer "no." Or, if the hearer knows that Chelswu grabbed someone by the hand, but it wasn't Sunhee, again he or she can simply answer "no." There is no need to explain as there is with not-at-issue meaning. There also does not appear to be any meaning that projects beyond the yes/no question (other than the presupposition that Sunhee has a hand, but that holds equally in the corresponding sentence with a genitive possessor rather than an external possessor).⁷

- (13) Chelswu-ka Sunhee-lul son-ul cap-ass-ni?
Chelswu-Nom Sunhee-Acc hand-Acc grab-Past-Q
'Did Chelswu grab Sunhee by the hand?'

The additional argument, the possessor, can also be questioned as a wh-word:

- (14) Chelswu-ka nwukwu-lul son-ul cap-ass-ni?
Chelswu-Nom who-Acc hand-Acc grab-Past-Q
'Who did Chelswu grab by the hand?'

The additional argument clearly contributes to the semantics of a conditional, as well. In (15a), Chelswu will only get the money if he grabs Sunhee's hand. In contrast, in (15b), he will get the money if he grabs any hand in the context (for instance, where several severed hands are lying on a table).

- (15) a. Manyak Chelswu-ka Sunhee-lul son-ul cap-umyeon, na-nun
if Chelswu-Nom Sunhee-Acc hand-Acc grab-if I-Top
ku-lul payk-pwul-ul cwu-kess-ta.
he-Acc 100-dollar-Acc give-Fut-Decl
'If Chelswu grabs Sunhee by the hand, I'll give him \$100.'

⁷We thank Lan Kim and Bo-Hyun Kim for the Korean data and judgments.

- b. Manyak Chelswu-ka son-ul cap-umyeon, na-nun ku-lul
 if Chelswu-Nom hand-Acc grab-if I-Top he-Acc
 payk-pwul-ul cwu-kess-ta.
 100-dollar-Acc give-Fut-Decl
 ‘If Chelswu grabs the/a hand, I’ll give him \$100.’

We conclude that external possessor constructions are entirely at-issue.

We will not propose any kind of analysis for external possessor constructions here. Their properties seem to vary widely across languages; for instance, the possessor construction in Hebrew is not limited in any way to inalienable possession, and seems to differ substantially from that of Korean (see Borer and Grodzinsky 1986; Landau 1999). It is possible that external possessor constructions are not uniform across languages, and may require different analyses. However, it is important for us that external possessor constructions be properly distinguished from affected experiencers, which require a sentient NP and do not require possession, and which in addition contribute not-at-issue meaning. We discuss particular languages—German, Japanese, and Hebrew—below, with the intention of properly distinguishing these constructions.

2.3 The benefactive construction

Benefactive constructions, unlike the external possessor construction, do not require possession, as shown by the Micmac example below. In Micmac, benefactive arguments are added to a clause by the morpheme /-u-/ added to a transitive verb. In this example, the food does not ever have to be possessed by the first-person argument, and in fact it has a distinct possessor:⁸

- (16) Malqut’*m-u-ij-ek* Pas’may-al w-iluek.
 eat-Benef-3Subj/1Obj-Past Pasmay-Obv 3Poss-food
 ‘He ate Pasmay’s food for me.’ (e.g., I asked him to)

It should be noted, though, that in many contexts possession is a perfectly natural and salient interpretation for benefactives, since an obvious way an NP might benefit is by virtue of possessing an NP involved in the verbal event. Nevertheless, possession is not required as it is with the external possessor construction.

Benefactives also do not require that the non-selected argument be sentient and aware. Unlike the Albanian and German examples of affected experiencers below (see (28), (29)), the benefactive argument in the following Micmac example can be dead:

- (17) Kisi-mk’n’*m-u-ap’ni’l* wasuek-ji’j-kl w-utj-aq.
 Past-pick-Benef-3Subj/ObvObj.Past flower-Dim-InanP 3-father-Absent
 ‘He had picked some flowers for his late father.’ (father can be dead at time of picking)

⁸Micmac examples come from fieldwork conducted in Eskasoni, Nova Scotia by Benjamin Bruening. The apostrophe after a vowel indicates length; after a consonant, it indicates a schwa. The consonant “q” is a velar fricative. “3Subj/1Obj” means a third-person subject with a first-person object (the first object if there are two, as in this case; the second object is only registered in agreement if it is plural or obviative).

Benefactives also seem to be at-issue, since they can be questioned as a wh-phrase:

- (18) Wen elukwat' m-asəp k-utepaq'n?
 who fix-Benef.2Subj/3Obj.Past 2-vehicle
 'Who did you fix your car for?'

They can also be directly negated:

- (19) Sewistesk-ək-ek kutputiek pasik mu
 break-3Subj/InanObj-Past chair but Neg
 sewisteskm-u-wik-ek.
 break-Benef-3Subj/1Obj.Neg-Past
 'He broke the chair but he didn't break it for me.'

In the above example, we can also see that the meaning contributed by a benefactive construction does not project beyond negation. Like the external possessor construction, the benefactive construction seems to be entirely at-issue.

A possible analysis for the benefactive construction is that proposed by Pylkkänen (2008). She proposes that benefactives (for her, all high applicatives) are introduced by an applicative head (Appl) that occurs between the VP and Voice, which introduces the external argument. The structure and semantics that she proposes are shown below:

- (20) VoiceP [(based on Pylkkänen 2008, ex. (6a))]
-
- ```

graph TD
 VoiceP --> NP_subj
 VoiceP --> Voice
 Voice --> NP_benef
 Voice --> Appl_Ben
 Appl_Ben --> VP

```

- (21)    [[Appl]] =  $\lambda P_{vt}.\lambda x.\lambda e. P(e) \ \& \ \text{Appl}_{\text{Ben}}(x)(e)$  (Pylkkänen 2008, Chap. 2, ex. (13))

(“Appl<sub>Ben</sub>” is a vague benefactive role.) As far as we can tell, this analysis captures the meaning of benefactives adequately. We will have nothing more to say about them here. However, this analysis does *not* adequately account for the affected experiencer construction, as we will show below.

### 2.4 The attitude holder construction

Attitude holders have absolutely nothing to do with possession; rather, they indicate the speaker’s attitude toward the proposition as a whole:

- (22)    Du sollst mir        dem Papa die Schuhe putzen.        *German*  
 you shall me.Dat the    dad    the shoes    clean  
 'You shall clean the shoes for dad and I want this to happen.'

- (23) Je te me vais te me vous lui faire passer un sale quart  
 I 2sg 1sg go 2sg 1sg 2pl 3sg.Dat make pass a dirty quarter  
 d'heure... *French*  
 hour  
 'I'm gonna make him spend a lousy quarter-hour... ' + Ethical Dative  
 (Jouitteau and Rezac 2008, ex. (9))

As can be seen from the translation, the German dative pronoun *mir* 'me' does not denote a possessor but rather expresses the speaker's interest in the proposition coming true. Gutzmann (2007) and references cited therein discuss this meaning of the German attitude holder. For French, the meaning of ethical datives/attitude holders has been described as "invok[ing] the speaker or addressee as witness or vaguely affected party" (Jouitteau and Rezac 2008, 98), and not as involving any possession.

Attitude holders, like affected experiencers, have to be sentient. However, this may be attributed to the fact that they are limited to (groups including) the speaker and the hearer. In German, attitude holders are limited to first person (Gutzmann 2007); in French, they can be second person as well, but they still have to be sentient (Jouitteau and Rezac 2008).

The attitude holder construction appears to be entirely not-at-issue. For instance, attitude holders cannot be questioned, and the meaning of the construction projects beyond negation and yes/no questions:<sup>9</sup>

- (24) Du sollst mir nicht wieder fernsehen! *German*  
 you shall me.Dat not again watch.television  
 'You shall not watch TV again and I want this to come true.' (\*'You shall watch TV again and I do not have an attitude towards this.')

The negated sentence shows that the attitude holder, the dative pronoun, does not contribute any at-issue meaning but only not-at-issue meaning, as the attitude itself cannot be negated.

In addition, the presence of an attitude holder makes no difference to the semantics of a conditional-like meaning. (Since attitude holders are limited to directives/exclamations in German, they cannot be tested in what is grammatically a conditional.) The following two sentences are identical in the conditions for receiving the 100 Euros:

- (25) a. Komm mir pünktlich nach Hause, und du bekommst 100Euro!  
 come me.Dat on.time to home and you get 100Euro  
 'Come home on time (and I want this to happen) and you will get 100 Euros!'  
 b. Komm pünktlich nach Hause, und du bekommst 100Euro!  
 come on.time to home and you get 100Euro  
 'Come home on time and you will get 100 Euros!'

<sup>9</sup>German attitude holders are in fact restricted to directive sentences/wishes/exclamations (Wegener 1989). Thus, questions are not telling here.

Attitude holders, then, are entirely not-at-issue. A plausible analysis that treats them as such was proposed by Gutzmann (2007). He argues that German attitude holders are conventional implicatures and can be identified as such based on the criteria established for conventional implicatures by Potts (2005). Gutzmann formalizes the semantics of the attitude holder as follows. (“DE” stands for “dativus ethicus,” or ethical dative; the material after the colon is the semantic type in the notation of Potts (2005); the superscripts “a” and “c” indicate that they are the types of at-issue and conventional implicature (= our not-at-issue meaning), respectively.)

$$(26) \quad \text{mir}_{DE} \rightarrow \lambda p. \text{mir}_{DE}(p) =_{\text{def}} \lambda p. \text{WANT}(\text{Speaker})(p): \langle t^a, t^c \rangle$$

Thus, the attitude holder denotes that the speaker wants the asserted proposition to come true.

While Gutzmann (2007) argues that several syntactic properties of the pronominal attitude holder follow from it contributing a conventional implicature, he does not address its hierarchical position. We assume that the attitude holder is merged high in the syntax, at least above VoiceP (outside the projection of the external argument), and probably around TP, but we will not provide an explicit syntax here, since our focus is on affected experiencers (see Bosse 2011 for a proposal). (Note that the attitude holder in German can co-occur with other non-selected arguments, like the benefactive in example (22).)

## 2.5 The affected experiencer construction

We now turn to the non-selected argument construction that is the focus of this paper. Affected experiencer constructions can be distinguished from external possessor constructions by the fact that they do not necessarily involve possession. Examples showing this were presented in (1), where the internal argument of the verb had a distinct possessor. These are repeated below:

- (27) a. Alex zerbrach Chris Bens Vase. *German*  
 Alex broke Chris.Dat Ben’s vase  
 ‘Alex broke Ben’s vase on Chris.’  
 = Alex broke Ben’s vase, and this matters to Chris.
- b. Agim-i i-a theu vazon e Ben-it  
 Agim-Nom 3S.Dat-3S.Acc broke vase.Acc AD Ben-Gen  
Dritan-it. *Albanian*  
 Dritan-Dat  
 ‘Agim broke Ben’s vase on Dritan.’  
 = Agim broke Ben’s vase, and this matters to Dritan.
- c. Sachi-ga Masa-ni Aiko-no kabin-o kowas-are-ta. *Japanese*  
 Sachi-Nom Masa-by Aiko-Gen vase-Acc break-Aff-Past  
 ‘Masa broke Aiko’s vase on Sachi.’  
 = Masa broke Aiko’s vase, and this matters to Sachi.

In addition, affected experiencers are distinguished from both external possessors and benefactives by the fact that they have to be sentient and aware. This is shown

by the Albanian examples in (28) and the German examples in (29). Example (28a) is infelicitous in a context where the old man is dead, and (28b) is simply infelicitous unless the office is somehow sentient.

- (28) a. I-a lexuam testament-in burr-it të vjetër.  
3S.Dat-3S.Acc read.1P will-Def.Acc man-Def.Dat AD old  
'We read the old man's will on him.'
- b. # Mjek-u i-a zëvendësoi der-a  
doctor-Def.Nom 3S.Dat-3S.Acc replaced.3S door-Def.Acc  
zyr-ës.  
office-Def.Dat  
'The doctor replaced the door on the office.'

In the German examples in (29), the context is that Paul died first. In this context, (29a), with no affected experiencer, is fine, but (29b), with an affected experiencer (referring to dead Paul), is infelicitous because a dead person cannot be psychologically affected (in normal contexts).

- (29) Context: Paul died first. (Hole 2005, ex. (14))
- a. Dann starb auch seine Mutter.  
then died also his mother  
'Then his mother died, too.'
- b. # Dann starb ihm auch seine Mutter.  
then died him.Dat also his mother  
'Then his mother died on him, too.'

In addition, affected experiencer constructions contrast with the external possessor construction and the benefactive construction in that they contribute not-at-issue meaning. They have a meaning component that projects beyond negation and yes/no questions. For instance, the negated sentences in (30) express that the event denoted by the verb did not happen, while they still convey the meaning that the affected experiencer would have experienced some psychological feeling if such an event had happened:<sup>10</sup>

- (30) a. Alex zerbrach Chris Bens Vase nicht. *German*  
Alex broke Chris.Dat Ben's vase Neg  
'Alex didn't break Ben's vase on Chris.'
1. Alex didn't break Ben's vase (but if he had, it would have mattered to Chris).
  2. \*Alex broke Ben's vase, but it didn't matter to Chris.

<sup>10</sup>Some of our Japanese examples have nominative case on the affected experiencer, while others have the topic marker *-wa* instead. This is a regular alternation in Japanese, and makes no difference to the interpretation that is relevant to our analysis. (It does matter to the information structure of the sentence.) All examples of topic *-wa* could be replaced with nominative *-ga*.

- b. Dritani-t nuk i vdiq Besa. *Albanian*  
 Dritan-Dat Neg 3S.Dat died Besa.Nom  
 ‘Besa didn’t die on Dritan.’
1. Besa didn’t die (but if she had, it would have mattered to Dritan).
  2. \*Besa died, but it didn’t matter to Dritan.
- c. Sachi-wa Masa-ni Aiko-no kabin-o  
 Sachi-Top Masa-Dat Aiko-Gen vase-Acc  
 kowas-are-nakat-ta. *Japanese*  
 break-Aff-Neg-Past  
 ‘Masa didn’t break Aiko’s vase on Sachi.’
1. Masa didn’t break Aiko’s vase (but if he had, it would have mattered to Sachi).
  2. \*Masa broke Aiko’s vase, but it didn’t matter to Sachi.

It is simply impossible for negation to negate the affectedness in these examples. Negation can only negate the main verb.<sup>11</sup>

Similarly, the yes/no questions in (31) ask whether or not the agent broke the vase, implying that such an event, if it took place, would matter to the affected experiencer:

- (31) a. Zerbrach Alex Chris Bens Vase? *German*  
 broke Alex Chris.Dat Ben’s vase  
 ‘Did Alex break Ben’s vase on Chris?’ (If Alex broke it, it would matter to Chris.)
- b. Sachi-wa Masa-ni Aiko-no kabin-o kowas-are-ta  
 Sachi-Top Masa-Dat Aiko-Gen vase-Acc break-Aff-Past  
 no? *Japanese*  
 Q  
 ‘Did Masa break Aiko’s vase on Sachi?’ (If Masa broke it, it would matter to Sachi.)

It is impossible to question the affectedness in these examples. Only the event property denoted by the verb phrase can be questioned. In addition, if the hearer knows that the agent did break the vase, but it did not matter to the affected NP, they cannot simply answer “no.” They have to explain. This is one of the hallmarks of not-at-issue meaning.

These facts show that the affectedness is part of the not-at-issue tier of meaning. That is, it is (conventionally) implicated, rather than at-issue. If it were at-issue, the notion of affectedness should be able to be negated or questioned in the examples above, but this is not the case. Thus, sentences that include affected experiencers have their affected meaning as not-at-issue meaning, which survives under negation and yes/no questions (see Soames 1982).

<sup>11</sup>Bosse (2011) addresses the *it would have mattered* interpretation.

Given the data above, it appears that the external possessor construction and the benefactive construction are entirely at-issue, while the affected experiencer construction and the attitude holder construction are entirely not-at-issue. This is not the end of the story, however. In at least some languages (Albanian, German, Japanese), the affected experiencer constructions appear to be both at-issue and not-at-issue. As just shown, they contribute a meaning that projects beyond negation and yes/no questions, and they cannot be directly negated. Nevertheless, affected experiencer *arguments* can be questioned as *wh*-phrases, and in being questioned in German and Albanian they can undergo overt syntactic movement (32). (Japanese is a *wh*-in-situ language.)

- (32) a. Wem hat Alex Bens Vase zerbrochen? *German*  
 who.Dat has Alex Ben's vase broken  
 'On whom did Alex break Ben's vase?'
- b. Kujt i-a kafshoi qen-i mace-n e  
 who.Dat 3S.Dat-3S.Acc bit dog-the.Nom cat-the.Acc of  
 Bes-ës? *Albanian*  
 Besa-Gen  
 'On whom did the dog bite Besa's cat?'
- c. Dare-ga Masa-ni Aiko-no kabin-o kowas-are-ta  
 who.Nom Masa-Dat Aiko.Gen vase.Acc break.Aff.Past  
 no? *Japanese*  
 Q  
 'On whom did Masa break Aiko's vase?'

If the experiencer were not part of the at-issue meaning at all, questioning it should be impossible, as it is with appositives (see Sect. 2.1). Hence, affected experiencers seem to contribute both to the not-at-issue tier of meaning, and to the at-issue tier of meaning.

Affected experiencers can also be quantificational expressions and bind pronouns that are part of the at-issue content of the verb phrase:

- (33) Ich habe jedem Jungen<sub>1</sub> seine<sub>1</sub> Vase zerbrochen. *German*  
 I have every.Dat boy his vase broken  
 'I broke his<sub>1</sub> vase on every boy<sub>1</sub>.'
- (34) I-a theva çdo djal-it<sub>1</sub> saksinë e tij<sub>1</sub>. *Albanian*  
 3S.Dat-3S.Acc broke. 1S every boy-Dat vase.Acc AD his  
 'I broke his<sub>1</sub> vase on every boy<sub>1</sub>.'
- (35) [Go-nin-ijoo-no hito]<sub>1</sub>-ga Masa-ni [jibun<sub>1</sub>-no kabin]-o  
 [five-CL-more-Gen person]-Nom Masa-Dat [self-Gen vase]-Acc  
 kowas-are-ta. *Japanese*  
 break-Aff-Past  
 'More than five people<sub>1</sub> had Masa break his/her<sub>1</sub> vase on him/her<sub>1</sub>.'

In this affected experiencers again contrast with purely not-at-issue elements like appositives (9) and attitude holders (which can only be first- or second-person pronouns), and pattern with benefactives and possessors.



Affected experiencers also contribute to the truth conditions of a conditional, as in the following Albanian example:

- (36) Nëse Dritan-i m'-a shkel këpucë-n, ai do të  
 if Dritan-Nom 1S.Dat-3S.Acc step.3S shoe-Def.Acc he Fut Subj  
 marrë njëqind dollarë.  
 get.3S.Subj 100 dollars  
 'If Dritan steps on my shoe and it matters to me, he'll get one hundred dollars.'

In this example, if Dritan steps on my shoe, but I don't care, he won't get the hundred dollars. The stepping on the shoe has to matter to me. The same holds for German:

- (37) Wenn Lisa ihrem Mann den Anzug lobt, dann bekommt Jan  
 if Lisa her.Dat husband the suit praises, then get Jan  
 100Euro von ihm.  
 100Euro from him  
 'If Lisa praises the suit on her husband, then Jan will get 100 Euros from him.'

In the case that Lisa confirms that it is a pretty suit but that it is not good for her husband, Jan will not get 100 Euros because the suit was not praised "on the husband." This means that the experiencing event is part of the at-issue semantics: A conditional with the affected experiencer is not truth-conditionally equivalent to the corresponding conditional without it.

These examples show that affected experiencer NPs contribute to the at-issue semantics of the sentence. However, as shown above, affected experiencer constructions also contribute to the not-at-issue meaning of the sentence they appear in. Our theory will account for the dual character of affected experiencer constructions as contributing both to the at-issue tier and to the not-at-issue tier of meaning, in contrast with benefactives and possessors, which are purely at-issue, and attitude holders, which are purely not-at-issue. This dual nature of affected experiencers is not expected in Potts's (2005) analysis of not-at-issue elements. We therefore depart from Potts and assume that it is possible for elements to contribute both not-at-issue and at-issue meaning at the same time.

## 2.6 Summary: non-selected arguments

We have distinguished affected experiencers from other types of non-selected arguments based on a variety of criteria. Only the external possessor construction requires possession. External possessor and benefactive constructions are entirely at-issue, while attitude holder constructions are entirely not-at-issue. Affected experiencer constructions may be both. In addition, affected experiencers and attitude holders must be sentient and aware, while external possessors and benefactives do not need to be. Table 2 summarizes these findings.

Before turning to our analysis of the affected experiencer construction, it is necessary to say a few words about some of the better-studied languages that we are investigating here. We exclude constructions from our analysis that look similar (benefactive, external possessor, attitude holder) but have different properties. German,

**Table 2** Distinguishing properties of non-selected arguments

|                     | Possessors | Benefactives | Attitude holders  | Experiencers       |
|---------------------|------------|--------------|-------------------|--------------------|
| Semantics           | possession | benefit      | attitude toward p | psychological      |
| Possession required | yes        | no           | no                | no                 |
| NP must be sentient | no         | no           | yes               | yes                |
| At-issue            | yes        | yes          | no                | yes/no (parameter) |
| Not-at-issue        | no         | no           | yes               | yes                |

Japanese, and Hebrew all have constructions that look similar to the affected experiencer construction, but they must be distinguished, as discussed on a more general basis above. Distinguishing them within a language is important, since the proper coverage is essential to evaluating a proposal.

## 2.7 More on German

German has all four types of non-selected arguments: possessors, benefactives, affected experiencers, and attitude holders. In many cases, a sentence will be ambiguous between two or more interpretations. However, the different constructions can and should be distinguished. One way of distinguishing affected experiencers from each of the other non-selected arguments is given below.

German has an external possessor construction where the possessor is assigned dative case, illustrated below, but Abraham (1973) shows that it is distinct from the affected experiencer construction that we analyze here. (Abraham refers to our affected experiencers as “ethic [sic] datives”.) Certain contexts allow only the affected reading, even where the possessor reading should be contextually available and salient. First, as shown in (1a) above, the affected experiencer reading of the dative can be forced by having a genitive denoting a distinct possessor for the internal argument of the verb:

- (38) Alex zerbrach Chris Bens Vase.  
 Alex broke Chris.Dat Ben’s vase  
 ‘Alex broke Ben’s vase on Chris.’  
 = Alex broke Ben’s vase, and this matters to Chris. (=1a)

Second, while many verbs, like ‘clean’, allow both the affected experiencer reading and the possessor reading, the affected experiencer reading is obligatory with certain verbs such as *loben*, ‘praise’ (39b), which Abraham (1973) characterizes as not physically affecting their internal argument.

- (39) a. Sie säuberte mir den Anzug.  
 she cleaned me.Dat the suit  
 Affected: ‘She cleaned the suit on me.’  
 Possessive: ‘She cleaned my suit.’  
 (Abraham 1973, ex. (16))

- b. Sie lobt mir den Anzug.  
 she praises me.Dat the suit  
 Affected: ‘She praised the suit on me.’  
 \*Possessive: ‘She praised my suit.’  
 (Abraham 1973, ex. (19))

Second, German has possessor constructions in which the non-selected dative is syntactically part of another NP. These non-selected datives always denote the possessor of the entity referred to by this NP.

- (40) Ich habe dem Peter seinen Vater gesehen.  
 I have the.Dat Peter his father seen  
 ‘I have seen Peter’s father.’  
 (translated from Cîrtila 2006)

These possessor constructions can look like the affected experiencer construction but the two can be distinguished by the fact that this possessor construction requires a possessive pronoun coreferential with the dative. This is not true for the affected experiencer construction, which allows a non-coreferential possessor (1a). For further characteristics of these possessors see Cîrtila (2006), among others.

Third, benefactives (41a) can be distinguished from affected experiencers. As discussed previously, benefactives contribute at-issue content which can be negated (41b) and contributes to the meaning of a conditional clause (41c):

- (41) a. Dennis installierte seinem Freund das Programm.  
 Dennis installed his.Dat friend the program  
 ‘Dennis installed the program for his friend.’  
 b. Dennis installierte seinem Freund das Programm nicht.  
 Dennis installed his.Dat friend the program Neg  
 ‘Dennis didn’t install the program for his friend.’ (Possible Reading:  
 Dennis installed the program but not for his friend.)  
 c. Wenn Dennis seinem Freund das Programm installiert, bekommt er  
 if Dennis his.Dat friend the program installs gets he  
 100Euro von mir.  
 100Euro from me  
 ‘If Dennis installs the program for his friend, he will get 100 Euros  
 from me.’ (I do not have to pay if Dennis installs the program but  
 doesn’t do it for his friend.)

In addition, benefactives do not involve any meaning that projects in a yes/no question:

- (42) Installierte Dennis seinem Freund das Programm?  
 installed Dennis his.Dat friend the program  
 ‘Did Dennis install the program for his friend?’

In (42), if the hearer knows that Dennis did install the program, but not for his friend (maybe not for anyone), he or she can simply answer “no.” In all of these ways,

benefactives contrast with affected experiencers, which were shown above to involve not-at-issue aspects of meaning.

Finally, there are some cases that are ambiguous between the affected experiencer and the attitude holder constructions:

- (43) Lob mir den Anzug!  
 praise me.Dat the suit  
 ‘Praise the suit and I want this to happen!’ or ‘Praise the suit on me!’

On the attitude holder interpretation, it is possible to reply with “That is a gorgeous suit but it looks hideous on you!” (which is praising the suit, just what was asked for) whereas this is not a possible reply in the affected experiencer scenario (because in this particular case of ‘praising on me’ it must result in a positive effect and therefore this is not a felicitous reply). Affected experiencers and attitude holders can also be distinguished by properties other than their semantic contribution. Attitude holders are always first person pronouns (22) and can only appear in certain sentence types (wishes/commands/exclamations; see Wegener (1989) and Gutzmann (2007) for further characteristics of attitude holders). In contrast, affected experiencers can be full NPs (see (1a)) and can appear in a variety of clause types.

## 2.8 More on Hebrew

In Hebrew, affected experiencers can be distinguished from external possessors based on their syntactic behavior, even though both are marked dative. External possessors can be full NPs (44), while affected experiencers can only be pronominal clitics ((1d), repeated in (45)). (Borer and Grodzinsky (1986) call our affected experiencers “ethical datives.”)

- (44) Ha-yalda kilkela la-Dan ‘et ha-radio.  
 the-girl spoiled to-Dan ACC the-radio  
 ‘The girl broke Dan’s radio.’ (Borer and Grodzinsky 1986, ex. (12a))
- (45) Hem kol ha-zman mitxatnim li.  
 they all the-time marry to-me  
 ‘They are getting married on me all the time (and it bothers me).’ (Borer and Grodzinsky 1986, ex. (9a))

Furthermore, possessors and affected experiencers differ in their contribution to conditionals. As we will show in more detail in Sect. 4.1, affected experiencers do not contribute any at-issue meaning in Hebrew and therefore do not affect the conditions of a conditional clause. In the following example, the presence of the dative ‘to me’ makes no difference to the conditions under which *they* will receive \$100.<sup>12</sup>

- (46) Im hem yitxatnu li, Rina titen la’hem 100 dolar.  
 if they will.marry to.me Rina will.give to.them 100 dollar  
 ‘If they marry on me, Rina will give them \$100.’ (They will get \$100 if they marry, regardless of how I feel about it.)

<sup>12</sup>Thanks to Idan Landau for Hebrew judgments.

In contrast, the possessor dative does matter to the conditions of a conditional:

- (47) Im ha-yalda tishbor la-Dan 'et ha-radio, ani eten leha \$100.  
 If the-girl break to-Dan ACC the-radio, I give you \$100  
 'If the girl breaks Dan's radio, I'll give you \$100.' (I do not have to pay if the girl broke a radio but it was not Dan's.)

This difference between possessors and affected experiencers in conditionals shows that they need to be differentiated.

Hebrew also has reflexive non-selected arguments. These are obligatorily co-referential with the subject of the sentence and are therefore unlike affected experiencers, which do not have this requirement (Borer and Grodzinsky 1986).

- (48) Ha-po'alim<sub>i</sub> 'avdu lahem<sub>i</sub>.  
 the-workers worked to-them  
 'The workers worked leisurely.' (Borer and Grodzinsky 1986, ex. (27c))

These seem to pattern with the English subject co-referential pronouns that are discussed briefly below (see Sect. 4.3).

## 2.9 More on Japanese

Japanese does not have the attitude holder construction, but it does have the other three types of non-selected arguments. However, the benefactive construction can easily be distinguished from the affected experiencer and possessor constructions by its morphology. While an affected experiencer in Japanese is added to a sentence with the verbal suffix *-(r)are*, as in (1c), repeated in (49), a benefactive argument is added with a different verbal suffix, *-moraw*, as in (50) (see Shibatani 1994a; Oshima 2006 for a brief discussion of a pragmatic interaction between these two suffixes).

- (49) Sachi-ga Masa-ni Aiko-no kabin-o kowas-are-ta.  
 Sachi-Nom Masa-by Aiko-Gen vase-Acc break-Aff-Past  
 'Masa broke Aiko's vase on Sachi.'  
 = Masa broke Aiko's vase, and this matters to Sachi.
- (50) Sachi-ga Masa-ni Aiko-no kabin-o kowashite-morat-ta.  
 Sachi-Nom Masa-Dat Aiko-Gen vase-Acc break-Benef-Past  
 'Sachi benefited from Masa breaking Aiko's vase.'

We will not discuss whether or not the Japanese benefactive argument should be analyzed as being introduced by the high applicative head of Pyllkänen (2002), as was suggested above. It is not clear if the benefactive meaning in Japanese is entirely at-issue or not, and it is also not clear if more than a simple benefactive meaning is involved or not. For instance, the sentence in (50) includes a meaning of Sachi voluntarily asking Masa to dance for her. We will not address this construction further in this paper.

Japanese also has an external possessor construction that appears to be very similar to our affected experiencer construction in (49). The possessor also receives nominative case, and the verb is marked with the same *-(r)are* morpheme, as shown in (51).

- (51) Taro-ga (kaze-ni) boushi-o hukitobas-are-ta.  
 Taro-Nom wind-by hat-Acc blow-Pass-Past  
 ‘Taro had the wind blow his hat off.’ (Kubo 1992, ex. (5a))

A nominative argument with *-(r)are* is often ambiguous between the affected experiencer and possessor interpretations when it is animate and the internal argument is inanimate and lacks an explicit possessor. They have both often been grouped together under the name of *adversity passive* or *indirect passive* in Japanese generative linguistics. However, Kubo (1992) (see also Dubinsky (1997, 1985)) provides numerous arguments for a difference between examples like (51) in which the possessor of the internal argument receives nominative case, and the affected experiencer construction (which Kubo calls a *gapless passive*). One of Kubo’s reasons for taking them to be different is the fact that inanimates are allowed in the possessor case but not with the affected experiencer. The data in (52) show that when the nominative argument is inanimate only the possessor interpretation is possible.

- (52) Inanimate Nominative: Possessor, \*Affected
- a. Kono-chawan-ga ningen-kokuhoo-ni iro-o  
 this-teacup-Nom human-national.treasure-by color-Acc  
 tsuke-rare-ta.  
 put-Pass-Past  
 ‘This teacup had its color painted by a human-national-treasure.’
- b. Kono-daigaku-ga yuumeena kenchikuka-ni niwa-mo  
 this-university-Nom famous architect-by garden-also  
 dezains-are-ta.  
 design-Pass-Past  
 ‘This university had its garden also designed by a famous architect.’

Since inanimates can only be possessors and not affected experiencers, if there is no internal argument for an inanimate nominative argument to possess, then the sentence is simply infelicitous as illustrated in (53). These examples, which are fine with animate nominative NPs, show again that affected experiencers must be sentient and aware while possessors do not have to be sentient (see Sect. 2.5).

- (53) Inanimate Nominative, No Internal Argument: \*Possessor, \*Affected
- a. # Iwa-ga ame-ni fur-are-ta.  
 rock-Nom rain-Dat fall-Aff-Past  
 ‘The rock had rain fall on it.’ (Kubo 1992, ex. (21a))
- b. # Kono-chawan-ga ningen-kokuho-ni shin-rare-ta.  
 this-teacup-Nom human-national.treasure-Dat die-Aff-Past  
 ‘This teacup had a human-national-treasure die on it.’

Dubinsky contests this, and claims that the subject of the affected experiencer construction can be inanimate as long as “the subject ha[s] an animate possessor (who can be affected by the event)” (1997: 11). He provides the example in (54):

- (54) [Hanako-no suutsukeesu]-ga basu-ni doro-o haner-are-ta.  
 [Hanako-Gen suitcase]-Nom bus-Dat mud-Acc splash-Aff-Past  
 ‘Hanako’s suitcase was splashed mud by the bus.’ (Dubinsky 1997, ex. (18a))  
 =A bus splashed mud on Hanako’s suitcase, and this mattered to Hanako.

However, this particular sentence could be an example of a direct passive where the promoted subject is an underlying locative object of the verb *haner-* ‘splash.’ However, an anonymous reviewer provides the additional example in (55) and claims that the subject of a Japanese adversative passive can be non-sentient as long as there is enough background to support an “affected” interpretation.<sup>13</sup>

- (55) Ano-ie-wa mochinushi-ni shin-are-te irai, akiya-da.  
 that-house-Top owner-Dat die-Aff-Ger since, vacant-Cop  
 ‘That house has been vacant since it had its owner die on it.’

These examples might argue against our proposal (to be presented in the next section) that it is an affected *experiencer* role that the nominative subject receives. However, we contend that these examples of inanimates are only felicitous if the inanimate is personified, and taken to have feelings (and thereby experiences). That they can be personified is shown by examples like (56) (see also Dubinsky 1997: fn. 8):<sup>14</sup>

- (56) Ano-ie-wa kanashi-soo-da.  
 that-house-Top sad-Evid-Cop  
 ‘That house is sad (based on what the speaker sees).’

Unless an inanimate nominative is personified, the experiencer interpretation is odd. Example (57) below is judged to be odd in Dubinsky (1997). Yet it is perfectly acceptable if the speaker personifies the subject *hodoo* ‘sidewalk’, and takes it to have feelings:

- (57) \*Hodoo-ga basu-ni doro-o haner-are-ta.  
 sidewalk-Nom bus-Dat mud-Acc splash-Aff-Past  
 ‘The sidewalk had mud splashed on it by the bus.’ (Dubinsky 1997, ex. (20))  
 =A bus splashed mud on the sidewalk, and this mattered to it (=the sidewalk).

We contend that the same is true of all such examples with inanimates, such as example (55): The speaker (and hearer) have to personify the inanimate and attribute feelings and experiences to it. Therefore, such examples with inanimate nominative arguments are not counterexamples to our claim that the nominative argument is an affected experiencer.

<sup>13</sup>Kitagawa and Kuroda (1992) also have examples with inanimate subjects in their (99b–c).

<sup>14</sup>Psych predicates generally require the evidential marker *soo-(da)* with a non-speaker subject (see McCready and Ogata 2007).

Another issue in Japanese is that the direct passive also has the same verbal suffix *-(r)are* that appears in the affected experiencer construction (58a). However, the direct passive does not necessarily involve an interpretation of psychological affectedness, as (58b) shows (see Shibatani 1994b and Oshima 2006 for the same point).

(58) direct passive

- a. Sachi-ga Aiko-ni sawa-are-ta.  
Sachi-Nom Aiko-by touch-Pass-Past  
'Sachi was touched by Aiko.'
- b. Tokyo-tawaa-ga Gojira-ni hakais-are-ta.  
Tokyo-tower-Nom Godzilla-by destroy-Pass-Past  
'The Tokyo tower was destroyed by Godzilla.'

Because of this difference, our analysis is not meant to account for the direct passive. We follow Kubo (1992) in hypothesizing that the direct passive and the external possessor construction should be treated similarly, while the affected experiencer construction should be analyzed differently, but we do not spell out an analysis of the direct passive/external possessor construction here.<sup>15</sup>

## 2.10 Summary

In general, our target phenomenon can be distinguished from other similar-looking constructions based on the following three points: First, affected experiencers are psychologically affected; second, they are not necessarily interpreted as the possessor of any other argument, and are compatible with a distinct possessor internal to another noun phrase; and third, they give rise to an implicature that survives under negation and questioning, which is not true of the external possessor construction or the benefactive construction.

As mentioned above, many sentences are ambiguous between the affected experiencer interpretation and other interpretations of non-selected arguments (see Abraham (1973) on German, and (39a) and (51) on Japanese). Our analysis is only meant to cover the affected experiencer interpretation, and we leave the proper treatment of the other constructions to future research (see Sect. 2.2).

## 3 An analysis of the affected experiencer construction

In this section we spell out our analysis of the affected experiencer construction. We concentrate here on German and Japanese, where the affected experiencer construction contributes both to the at-issue and not-at-issue meaning of the sentence. The next section turns to languages where the affected experiencer construction is entirely not-at-issue.

<sup>15</sup>Oshima (2003, 2006) proposes a unified view of the *-(r)are* suffix under a general notion of "lack-of-control." Kitagawa and Kuroda (1992) also suggests that this suffix assigns an 'affectee' role to its arguments in general. We treat the suffix as a spellout of the Affect head in the affected experiencer construction, and leave open its proper analysis in the other constructions.



An analysis of the affected experiencer construction must account for its semantics (a psychological experience), its not-at-issue contribution, and its syntax. Before we spell out our analysis, we introduce our assumptions regarding event semantics.

### 3.1 Background assumptions: event semantics

We situate our proposal within a version of event semantics in which syntactic arguments are analyzed as event properties (Kratzer 1996). The whole verb phrase (below tense and modals) denotes a set of event(ualities) that have certain properties. For example, the verb phrase in (59a) denotes a set of events that can be described as hitting, where the person who is hit is Joe and the person who is doing the hitting is John. Thus, the verb phrase denotes the set of events in (59b), whose characteristic function is written as (59c). We define the logical expressions in (59b) and (59c) in (60).

- (59) a. John hit Joe.
- b.  $\{e: \text{hit}(e) \ \& \ \text{Thm}(\text{Joe})(e) \ \& \ \text{Agt}(\text{John})(e)\}$
- c.  $\lambda e. \text{hit}(e) \ \& \ \text{Thm}(\text{Joe})(e) \ \& \ \text{Agt}(\text{John})(e)$
- (60) a.  $\text{hit} \rightarrow \lambda e. e$  is a hitting event
- b.  $\text{Thm} \rightarrow \lambda x. \lambda e. x$  is the theme of  $e$
- c.  $\text{Agt} \rightarrow \lambda x. \lambda e. x$  is the agent of  $e$

Note that *hit* in (60a) is a logical expression: The natural language expression *hit* is translated as in (61a), as a function of type  $\langle e, vt \rangle$ , true of an individual and an event if and only if that individual is the theme of that event which is described as hitting. The interpretation of the VP in (61b) is achieved by function application of the verb *hit* to the NP *Joe*, as in (61c).<sup>16</sup>

- (61) a.  $\llbracket \text{hit} \rrbracket = \lambda x. \lambda e. \text{hit}(e) \ \& \ \text{Thm}(x)(e) \quad \in D_{\langle e, vt \rangle}$
- b. 
$$\begin{array}{c}
 \text{VP}_{\langle v, t \rangle} \\
 \swarrow \quad \searrow \\
 \text{V}_{\langle e, vt \rangle} \quad \text{NP}_e \\
 \text{hit} \quad \quad \text{Joe}
 \end{array}$$
- c.  $\llbracket \text{VP} \rrbracket = \llbracket \text{hit} \rrbracket (\llbracket \text{Joe} \rrbracket)$   
 $= \lambda e. \text{hit}(e) \ \& \ \text{Thm}(\text{Joe})(e) \quad \in D_{\langle v, t \rangle}$

We adopt from Kratzer (1996) the hypothesis that the external argument is not an argument of the verb and is instead introduced by a syntactic head Voice, defined in (62a). We slightly modify Kratzer’s (1996) original mechanism so that the semantic calculation works with function application alone.<sup>17</sup> (62b) and (62c) show the syntactic structure of the whole VoiceP and its semantic interpretation.

<sup>16</sup>Basic types used in this paper:  $e$  (individuals),  $t$  (truth-values),  $v$  (eventualities).

<sup>17</sup>There does not seem to be any necessity for the semantic rule of event identification that Kratzer (1996) uses. Function application and event identification give the same result.

- (62) a.  $[[\mathbf{Voice}]] = \lambda P_{vt}.\lambda x.\lambda e. P(e) \ \& \ \text{Agt}(x)(e) \quad \in D_{\langle vt, evt \rangle}$   
 b.   
 c.  $[[\mathbf{VoiceP}]] = [[\mathbf{Voice}]]([[VP]])([[\mathbf{John}]])$   
 $= \lambda e. \text{hit}(e) \ \& \ \text{Thm}(\text{Joe})(e) \ \& \ \text{Agt}(\text{John})(e) \quad \in D_{\langle v, t \rangle}$

### 3.2 Proposal

We propose that the affected experiencer is introduced by a syntactic head *Aff(ect)*. This head introduces an experiencing event and an experiencer. It also takes the event property denoted by its sister constituent to be the source of the affected experiencer's experience via a conventional implicature. These elements are fully captured by the denotation of *Aff* in (63a). The translation of *Source* is defined in (63b). This function is true if and only if the first event argument is the source of the second event argument. The material after the colon is the conventional implicature. The earlier observation, that part of the meaning of an affected experiencer construction is at-issue while part of it is an implicature (Sect. 2.5), is captured by this split in the meaning: The source information is on the not-at-issue tier, while the affected experiencer is projected on the at-issue tier.<sup>18</sup>

- (63) a.  $[[\mathbf{Aff}]] = \lambda P_{vt}.\lambda x.\lambda e. P(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(x)(e')): \forall e''(P(e'') \rightarrow \text{Source}(e'')(e')) \in D_{\langle vt, evt \rangle}$   
 b.  $\text{Source} \rightarrow \lambda e.\lambda e'. e \text{ is the source of } e'$

This denotation is also vague enough to capture the fact that the experience can be positive or negative for the affected experiencer. For instance, (64) can be used if Chris is upset because of the broken vase or if he is happy (because he never liked the vase).

- (64) Alex zerbrach Chris Bens Vase. *German*  
 Alex broke Chris.Dat Ben's vase  
 'Alex broke Ben's vase on Chris.'  
 = Alex broke Ben's vase, and this matters to Chris.

In the languages we have studied so far, there seems to be a tendency for the affected experiencer construction to be interpreted as adversely affecting the experiencer, but

<sup>18</sup>Negation apparently cannot target a conjunct which is an existentially quantified event variable. This seems to be true in causatives and elsewhere where reasonable analyses posit an additional, existentially quantified event variable. Consequently, the experiencing event itself cannot be the target of negation, as we observed above. In contrast, focus can pick out just the experiencer of the experiencing event, so that the identity of the experiencer can be contrastively negated, but the existence of the experiencing event cannot be negated.

in all of these languages this adversity meaning can be overcome. Consequently, we propose a denotation that does not specify whether or not the experience is positive or negative (see also Kitagawa and Kuroda 1992).

The Aff head may attach either between VP and Voice (low attachment), or above Voice (high attachment). This variation is primarily motivated by an interpretational difference between German and Japanese in the source information. In German (65), the agent *Alex* is not included in the source of the psychological feeling of the affected argument *Chris*. The default assumption is that what matters to *Chris* is that *Ben*'s vase was broken; it would matter to him regardless of who did it. This is not the case in Japanese (66), where the agent *Masa* is included in the source information.

- (65) Alex zerbrach Chris Bens Vase. German  
 Alex broke Chris.Dat Ben.Gen vase.Acc  
 'Alex broke Ben's vase and...'  
 1. ... it matters to Chris because it was Ben's vase.'  
 2. ... # it matters to Chris because Alex did it.'
- (66) Sachi-wa Masa-ni Aiko-no kabin-o kowas-are-ta. Japanese  
 Sachi-Top Masa-Dat Aiko-Gen vase-Acc break-Aff-Past  
 'Sachi had Masa break Aiko's vase on him and...'  
 1. ... it matters to Sachi because it was Aiko's vase.'  
 2. ... it matters to Sachi because Masa did it.'

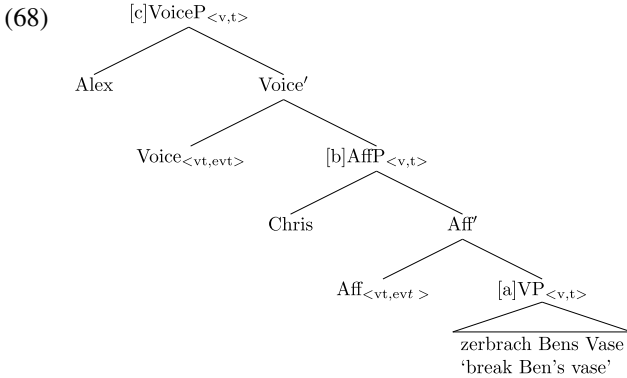
While it is difficult to pin this difference in interpretation down (actual contexts can make the agent more or less relevant), there is a clear difference in the judgments of German and Japanese speakers in what is taken to be the source of the affectedness. (We show below that Albanian patterns like German, and Hebrew like Japanese.) Moreover, syntactic tests for hierarchy are consistent with this difference between German and Japanese, as we show below.

In this analysis, the experiencer is part of the at-issue tier in both Japanese and German, accounting for the fact that it can be questioned as a wh-word (32) or can be a quantifier binding some other at-issue element as a variable (33–35). It also contributes to the semantics of a conditional (37). However, the Aff head also contributes to the not-at-issue tier of meaning, accounting for the meaning that projects through negation (30) and yes/no questions (31).

### 3.2.1 German: low attachment

German merges the Aff head with VP: The Aff head attaches above VP and below Voice in a sentence with a transitive verb, as in (67). The tree in (68) gives the syntactic structure (abstracting away from the surface word order) and the semantic computation for the sentence in (67).

- (67) Alex zerbrach Chris Bens Vase.  
 Alex broke Chris.Dat Ben.Gen vase.Acc  
 'Alex broke Ben's vase on Chris.'



- a.  $[[VP]] = \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Ben's vase})(e)$
- b.  $[[AffP]] = [[Aff]] ([[VP]]) ([[Chris]])$   
 $= [[\lambda P_{vt}. \lambda x. \lambda e. P(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(x)(e')) : \forall e''(P(e'') \rightarrow \text{Source}(e'')(e'))](\lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Ben's vase})(e))](\text{Chris})$   
 $= \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Ben's vase})(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(\text{Chris})(e')) : \forall e''((\text{break}(e'') \ \& \ \text{Thm}(\text{Ben's vase})(e'')) \rightarrow \text{Source}(e'')(e'))$
- c.  $[[VoiceP]] = [[Voice]] ([[AffP]]) ([[Alex]])$   
 $= \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Ben's vase})(e) \ \& \ \text{Agt}(\text{Alex})(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(\text{Chris})(e')) : \forall e''((\text{break}(e'') \ \& \ \text{Thm}(\text{Ben's vase})(e'')) \rightarrow \text{Source}(e'')(e'))$

Assuming that the past tense places an event with the event property in (68c) in a time before the utterance time, we get the following assertion and conventional implicature for the sentence in (67):

- (69)
- Assertion:  $\exists e(e$  is an event of Alex breaking Ben’s vase) and  $\exists e'(e'$  is an event of Chris having a psychological experience) and  $e, e'$  precede the utterance time.<sup>19</sup>
  - Implicature: Any event  $e''$  that is breaking Ben’s vase would be the source of Chris’s experiencing  $e'$ .

The Aff head takes VP as its complement and introduces a universal quantifier that scopes over the event property denoted by the VP as conventional implicature. This universally quantified event property is the source of the experience of the affected experiencer. In other words, the sentence conveys the implicature that Chris would be affected by any event of breaking Ben’s vase. Note that the source event does not have the event property of Alex being the agent.

In the actual world, since the sentence asserts that there was an experiencing event, and implicates that any event of the VP would be the source, the hearer takes it to be the source in the actual world.

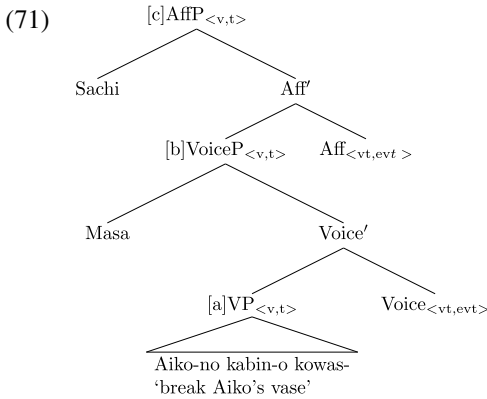
One important thing to note is that, if our analysis is correct, it provides support for Kratzer’s (1996) separation of the external argument from the VP. If the external argument were an argument of the verb, it would be impossible for Aff to merge in between the verb and the external argument in low attaching languages like German.

<sup>19</sup>We assume that tense unselectively binds any open event variables, hence the experiencing event is also located before the utterance time.

3.2.2 Japanese: high attachment

Japanese merges the Aff head with VoiceP rather than with VP. The Aff head attaches above VoiceP in a sentence with a transitive verb like that in (70). (71) is the syntactic structure and the semantic computation for (70). We assume that the verbal suffix *-(r)are* is the spellout of the Aff head in Japanese. The experiencer argument *Sachi* is introduced above the agent NP *Masa* and receives nominative case, unlike the one in German that is introduced below the agent and receives dative case.<sup>20</sup>

- (70) Sachi-ga Masa-ni Aiko-no kabin-o kowas-are-ta.  
 Sachi-Nom Masa-Dat Aiko-Gen vase-Acc break-Aff-Past  
 ‘Masa broke Aiko’s vase on Sachi.’



- a.  $\llbracket \mathbf{VP} \rrbracket = \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Aiko's vase})(e)$
- b.  $\llbracket \mathbf{VoiceP} \rrbracket = \llbracket \llbracket \mathbf{Voice} \rrbracket \ (\llbracket \mathbf{VP} \rrbracket) \ (\llbracket \mathbf{Masa} \rrbracket) \rrbracket$   
 $= \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Aiko's vase})(e) \ \& \ \text{Agt}(\text{Masa})(e)$
- c.  $\llbracket \mathbf{AffP} \rrbracket = \llbracket \llbracket \mathbf{Aff} \rrbracket \ (\llbracket \mathbf{VoiceP} \rrbracket) \ (\llbracket \mathbf{Sachi} \rrbracket) \rrbracket$   
 $= \llbracket [\lambda P_{vt}. \lambda x. \lambda e. P(e) \ \& \ \exists e'(\text{exper})(e') \ \& \ \text{Exp}(x)(e') : \forall e''(P(e'') \rightarrow \text{Source}(e'')(e'))](\lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Aiko's vase})(e) \ \& \ \text{Agt}(\text{Masa})(e)) \rrbracket \ (\text{Sachi}) \rrbracket$   
 $= \lambda e. \text{break}(e) \ \& \ \text{Thm}(\text{Aiko's vase})(e) \ \& \ \text{Agt}(\text{Masa})(e) \ \& \ \exists e'(\text{exper}(e') \ \& \ \text{Exp}(\text{Sachi})(e'))$   
 $: \forall e''((\text{break}(e'') \ \& \ \text{Thm}(\text{Aiko's vase})(e'') \ \& \ \text{Agt}(\text{Masa})(e'')) \rightarrow \text{Source}(e'')(e'))$

Locating an event with the event property in (71c) at some time in the past, we get the following assertion and implicature:

<sup>20</sup>We decline to construct a theory of case marking here, but assume that the difference between Japanese and German is related to the different structures. (Since the experiencer is the highest argument in Japanese, it moves to Spec-TP and gets nominative case.) However, as we show below, Hebrew is like Japanese in its attachment height, but the experiencer argument is still marked dative. Our guess is that this is related to the fact that the experiencer is not part of the at-issue tier at all in Hebrew. We believe there is a constraint limiting structural cases like nominative and accusative to NPs that are part of the at-issue tier. The only case left in Hebrew is then dative case. (The same holds for attitude holders, which are uniformly dative, and reflexive benefactives, discussed briefly below.)

- (72) • Assertion:  $\exists e$  ( $e$  is an event of Masa breaking Aiko's vase) and  $\exists e'$  ( $e'$  is an event of Sachi having a psychological experience) and  $e, e'$  precede the utterance time.
- Implicature: Any event  $e''$  that is breaking Aiko's vase by Masa would be the source of Sachi's experiencing  $e'$ .

In contrast to the German case, the source information in the implicature includes the agent *Masa* in Japanese, because the Aff head takes the VoiceP as its sister.

Hence, we account for the interpretational difference between German and Japanese by allowing parametric variation in the attachment height of the Aff head. In German, Aff attaches above VP but below VoiceP, thus the agent NP is projected above AffP. Aff takes the event property denoted by the VP as the source information. This results in the exclusion of the agent NP from the source of the affected experiencer's experience. In contrast, in Japanese, Aff attaches above VoiceP, which includes the agent NP. Hence the source information for the affectedness includes the agent NP.<sup>21</sup>

Our syntactic analysis of Japanese is identical to the analysis of Japanese adversity passives proposed by Hoshi (1999). He claims that this structure is the standard analysis of Japanese indirect passives, that is, sentences with the passive morpheme *-(r)are* but without an active counterpart. We come to this analysis of Japanese from a different, cross-linguistic perspective, but take the convergence to support our analysis. Furthermore, our analysis goes beyond Hoshi's as we add an explicit semantics to the structure. Our syntactic and semantic analysis also captures the intuition behind what has been called the clausal or complementation analysis of the indirect passive in the Japanese generative literature (see Hoshi 1999 and Fukuda 2006 for overviews). We can see the close connection between our proposal and Kitagawa and Kuroda's (1992) analysis of the verbal suffix *-(r)are* (which we assume to be the spellout of the Aff head in Japanese). Kitagawa and Kuroda propose that *-(r)are* has the property schematized in (73): It takes an EVENTUALITY as its internal argument and an AFFECTEE as its external argument.

- (73) *rare* [ AFFECTEE [ EVENTUALITY \_ ] ] (Kitagawa and Kuroda 1992, ex. (100))

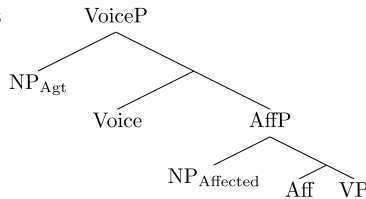
Although they do not provide any further semantic analysis, their proposal is analogous to our claim that Aff or *-(r)are* is a function from an event property to an intransitive verb, of type  $\langle vt, evt \rangle$ . A similar view is also found in the analysis of the "adversative construction" by Oehrle and Nishio (1981), though the intended coverage of each of these studies is different from ours.

<sup>21</sup>We assume that unaccusatives have an active Voice head that does not project an external argument, and Aff comes outside of that. See Legate (2003) on Voice (or "v") in unaccusatives. Dubinsky (1997) and references cited therein claim that unaccusative verbs are incompatible with Japanese indirect passives (our affected experience construction). If that is indeed the case, we can account for this restriction in our theory by saying that Aff in Japanese is restricted to selecting only the Voice head that introduces an external argument.

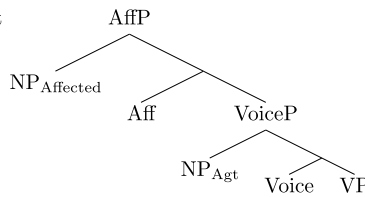
### 3.3 Predictions for the syntax

The difference in the attachment height not only accounts for the interpretational difference between German and Japanese, it also predicts different c-command relations between the agent NP and the affected experiencer. Specifically, in a low-attaching language like German, the agent NP should c-command the affected experiencer (74a), whereas in a high-attaching language like Japanese the affected experiencer should c-command the agent NP (74b).

(74) a. Low Attachment



b. High Attachment



Since the usual tests for c-command actually seem to depend on surface word order in German and Japanese, we turn to some facts regarding adverbial modification for evidence that this structural difference is correct. The adverb we investigate is the equivalent of English *again*. The interpretation of *again* can be used to detect syntactic nodes of type  $\langle v,t \rangle$  in a structure (von Stechow 1996; Beck and Johnson 2004; Bale 2007). The presupposition of *again* in (75) will differ depending on which  $\langle v,t \rangle$  node *again* attaches to:

(75)  $\llbracket \text{again} \rrbracket = \lambda P_{vt} . \lambda e . P(e) : \exists e' [P(e') \ \& \ \text{the run time of } e' \text{ precedes that of } e]$ .

For instance, in a simple transitive clause, *again* will be able to attach to either VP or VoiceP, giving two different readings (see the references cited above):<sup>22</sup>

(76) I closed the door again.

- a. This door was built closed, and has never been opened. One day an earthquake jarred it open, so I had to go close it again. (VP modification: only [*door closed*] held previously)
- b. I've closed this door about ten times already today. Someone just left it open again, so I had to go close it again. (VoiceP modification: [*I closed door*] happened previously)

<sup>22</sup>We focus on the structures above VP that are relevant for distinguishing high versus low attachment. We ignore possible structures below VP such as CAUSE or BECOME components that would yield further distinct presuppositions with *again*.

The structures that we have proposed for low and high attachment of Aff both have three different nodes of type  $\langle v, t \rangle$ . We therefore predict three different readings with an adverb meaning ‘again’ in each type of language. However, the possible readings should differ. A low attachment language like German should allow the following three readings:

- (77)
1. VP attachment: a reading where the VP event has taken place before, without an affected experiencer and not necessarily with the same agent;
  2. AffP attachment: a reading where the AffP event has taken place before with the same affected experiencer and same VP event, but not necessarily with the same agent;
  3. VoiceP attachment: a reading where the whole VoiceP event has taken place before with the same VP event, the same affected experiencer, and the same agent.

There should be no reading where the verbal event, including the agent, happened before, but without the affected experiencer, because there is no such constituent in a low-attaching language. This prediction is correct:

- (78) Lisa zerbrach Martin das Puzzle wieder. *German*  
 Lisa broke Martin.Dat the puzzle again  
 ‘Lisa broke the puzzle on Martin again.’
1. The puzzle is broken again. (repeated VP event)
  2. Someone broke the puzzle on Martin before and now Lisa broke it on him again. (repeated AffP)
  3. Lisa had broken the puzzle on Martin before and now she did it again. (repeated VoiceP)
  4. \*Lisa had broken the puzzle before and now she broke it again but for the first time on Martin. (corresponds to Japanese (79)-2)

In contrast, a high attachment language like Japanese should allow the following readings, including the one not allowed in German:

- (79)
1. VP attachment: a reading where the VP event has taken place before, without an affected experiencer and not necessarily with the same agent;
  2. VoiceP attachment: a reading where the VoiceP event has taken place before with the same VP event and the same agent, but without an affected experiencer (reading not allowed in German);
  3. AffP attachment: a reading where the whole AffP event has taken place before with the same VP event, the same agent, and the same affected experiencer.

A high-attaching language like Japanese should disallow a reading where the VP event took place before with the same affected experiencer, but excluding the agent, because the AffP constituent in Japanese includes VoiceP. This reading was allowed in German, but it is not in Japanese:

- (80) Sachi-ga Masa-ni sono-pazuru-o mata kowas-are-ta. *Japanese*  
 Sachi-Nom Masa-Dat that-puzzle-Acc again break-Aff-Pst  
 ‘Sachi had Masa break the puzzle on her again.’



1. Someone broke the puzzle before and now Masa did it again. (repeated VP)
2. Masa broke the puzzle before and now he did it again, this time affecting Sachi. (repeated VoiceP)
3. Masa had broken the puzzle on Sachi before and now he did it again. (repeated AffP)
4. \*Someone broke the puzzle on Sachi before and now Masa did it on her again. (corresponds to German (77)-2)

Hence, the possible readings of *again* support our claimed syntactic difference between low attachment languages like German and high attachment languages like Japanese. The possible readings are exactly those predicted by our analysis. We take this to justify our syntactic treatment of the Aff head, as well as the parameter regulating its attachment height. Furthermore, notice that it is not possible for *again* in either language to pick out just the experiencing event (Martin/Sachi had an experience before and had one a second time). This is also predicted by our analysis because there is no <v,t> node which corresponds just to the experiencing event. The smallest syntactic constituent containing Aff and its experiencer argument also contains the VP. The experiencing event therefore cannot be separately targeted by *again*-modification.

### 3.4 Summary

We have shown that the proposed syntactic head Aff accounts for the shared properties of the affected experiencer arguments in German and Japanese. The notion of affectedness splits into at-issue and not-at-issue content: The affected experiencer is introduced on the at-issue tier, while the source of the affected experience is a conventional implicature. The parametric variation in the attachment height of the Aff head accounts for the difference in interpretation between these languages, as well as the difference in possible meanings with *again*. The Aff head attaches low in German, taking VP as its complement. The source information excludes the agent NP. On the other hand, in Japanese Aff attaches high, taking VoiceP as its complement, and hence the source information includes the agent NP.

## 4 Clitic languages: another parameter

Hebrew and French have a construction that strongly resembles the affected experiencer construction in German and Japanese. However, Hebrew and French differ from German and Japanese in that the affected experiencer is limited to being a clitic pronoun. We attribute this difference to another parameter that allows crosslinguistic variation in how much of the meaning of Aff is at-issue. In Hebrew and French, the affected experiencer construction is entirely not-at-issue. We suggest that non-selected arguments that are entirely not-at-issue are limited to being weak pronouns, like clitics. Although we do not yet have an account of this limitation, it does seem to be supported by other constructions in various languages, and appears to be a significant generalization.

#### 4.1 Properties of Hebrew

As stated above, we consider Hebrew “ethical datives” to be our affected experiencers (Berman 1982; Borer and Grodzinsky 1986). As shown below, the notion of affect-*edness* survives under negation and in yes/no questions in Hebrew (81, 82), like in the German and Japanese sentences seen above (30, 31):

- (81) Rina lo lavsha li simla megunderet.  
 Rina Neg put.on to.me dress fancy  
 ‘Rina did not put on a fancy dress on me (but if she had I would have found it objectionable).’
- (82) Rina pit’om lavsha lo simla megunderet?  
 Rina suddenly put.on to.him dress fancy  
 ‘Did Rina suddenly put on a fancy dress on him?’

The sentence in (82) questions whether Rina put on a dress or not, and it assumes that if she did, a third person would have found it objectionable.

So far, then, Hebrew looks very much like German and Japanese (30, 31), and we feel justified in extending the analysis to Hebrew. However, unlike German and Japanese (32), affected experiencers in Hebrew cannot be questioned (83):

- (83) \* Lə-mi hem mitxatnim kol ha-zman?  
 to-who they marry all the-time  
 ‘On who do they marry all the time?’ (Borer and Grodzinsky 1986, ex. (11))

In addition, the affected experiencer cannot be a quantifier binding another element on the at-issue tier as a variable; in fact, as Borer and Grodzinsky (1986) show, affected experiencers can only be pronominal clitics.

We see two possible accounts of this difference between Hebrew on the one hand and German and Japanese on the other. First, Hebrew affected experiencers could be exactly like those in German and Japanese in contributing both at-issue and not-at-issue meaning, but some independent constraint limits them to being pronominal clitics. A second and more interesting possibility is that they are limited to clitic forms *because* they are entirely not-at-issue. In this account, Hebrew affected experiencers would differ from their German and Japanese counterparts in not contributing any at-issue meaning at all.

The one context that would tell these two hypotheses apart is conditionals. Clitics are certainly allowed in conditionals, so if an affected experiencer cannot be a *wh*-phrase or a quantifier just because it can only be a clitic, but is still part at-issue, the clitic should contribute to the conditions of the conditional sentence, as we saw above for Albanian (36) and German (37). On the other hand, if the affected experiencer construction is entirely not-at-issue, the clitic should not contribute at all to the conditions of a conditional sentence. Our Hebrew informants tell us that the following conditional is identical to the one without the affected experiencer clitic (repeated from (46)):

- (84) Im hem yitxatnu li, Rina titen la'hem 100 dolar.  
 if they will.marry to.me Rina will.give to.them 100 dollar  
 'If they marry on me, Rina will give them \$100.'

In this sentence, Rina will have to pay them if they marry, regardless of how I feel about that marriage. It therefore appears that Hebrew affected experiencer constructions are entirely not-at-issue, and contribute nothing to the at-issue meaning of the sentence they appear in.

We therefore propose a second parameter of variation to account for Hebrew (and French, below). This variation concerns what the Aff head contributes to the at-issue meaning of the sentence and what is not-at-issue. In German and Japanese, Aff projects the affected experiencer in the assertion (85a). We claim that in Hebrew (and other languages with the same parameter setting, like French, below), the experiencer argument is instead projected in the implicature (after the colon). In other words, the entire content of Aff in Hebrew is an implicature. The denotation is given in (85b).

- (85) a. Experiencer in the assertion  
 $[[\mathbf{Aff}]] = \lambda P_{vt}.\lambda x.\lambda e. P(e) \ \& \ \exists e'(exper(e') \ \& \ Exp(x)(e')) : \forall e''(P(e'') \rightarrow Source(e'')(e')) \in D_{\langle vt, evt \rangle}$
- b. Experiencer in the implicature  
 $[[\mathbf{Aff}_{Hebrew}]] = \lambda P_{vt}.\lambda x.\lambda e. P(e) : \exists e'(exper(e') \ \& \ Exp(x)(e')) \ \& \ \forall e''(P(e'') \rightarrow Source(e'')(e')) \in D_{\langle vt, evt \rangle}$

The two denotations for Aff differ only in whether the experiencing event and experiencer are projected in the assertion or the implicature. Given that the experiencer is now on the not-at-issue tier in Hebrew, it follows that the affected experiencer cannot be questioned as a *wh*-phrase, nor can it be a quantifier binding an at-issue element as a variable. In fact, it can only be a clitic pronoun. We will propose below that non-selected arguments that are entirely not-at-issue are limited to being weak pronouns cross-linguistically.

In principle,  $\mathbf{Aff}_{Hebrew}$  could attach below or above VoiceP in Hebrew. The same diagnostics as for Japanese and German apply, namely whether or not the external argument of the verb can be the source of the experience. Consider (86):

- (86) Rina lavsha li simla megunderet.  
 Rina put.on to.me dress fancy  
 'Rina put on a fancy dress on me.'  
 = Rina put on a fancy dress and . . .

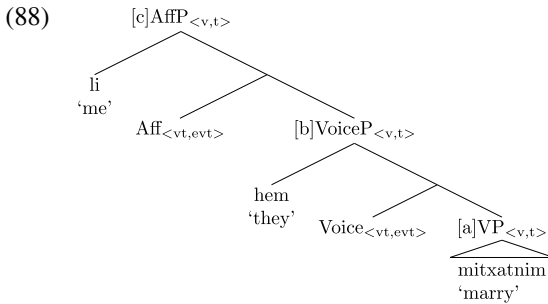
1. It aggravates me that Rina did it.
2. It aggravates me because it is a dress.
3. It aggravates me because the dress is fancy.
4. It aggravates me that she put on the dress.

In Hebrew, it is possible for the external argument to be the source of the experiencing event. Consequently, we tentatively classify Hebrew as a high-attaching language.

If this is correct,  $\mathbf{Aff}_{Hebrew}$  must attach above VoiceP in Hebrew. The derivation for (1d), repeated in (87), then proceeds as follows. The logical expressions *me* and

*they* in (87) refer to the speaker in the context and some people salient in the context, respectively. We abstract away from the surface word order and ignore the modifier *kol ha-zman* ‘all the time’ in the computation.

- (87) Hem kol ha-zman mitxatnim li.  
 they all the-time marry to-me  
 ‘They are getting married on me all the time (and it bothers me).’ (Borer and Grodzinsky 1986, ex. (9a))



- a.  $[[\mathbf{VP}]] = \lambda e. \text{marry}(e)$   
 b.  $[[\mathbf{VoiceP}]] = [ [ [\mathbf{Voice}] ( [[\mathbf{VP}]] ) ] ([\text{hem}])] ]$   
 $= \lambda e. \text{marry}(e) \ \& \ \text{Agt}(\text{they})(e)$   
 c.  $[[\mathbf{AffP}]] = [ [ [\mathbf{Aff}] ( [[\mathbf{VoiceP}]] ) ] ([\text{li}])] ]$   
 $= [[[\lambda P_{vt}. \lambda x. \lambda e. P(e) : \exists e'(\text{exper}(e') \ \& \ \text{Exp}(x)(e')) \ \& \ \forall e''(P(e'') \rightarrow \text{Source}(e'')(e'))] (\lambda e. \text{marry}(e) \ \& \ \text{Agt}(\text{they})(e))] (\text{me})]$   
 $= \lambda e. \text{marry}(e) \ \& \ \text{Agt}(\text{they})(e) : \exists e'(\text{exper}(e') \ \& \ \text{Exp}(\text{me})(e')) \ \& \ \forall e''((\text{marry}(e'') \ \& \ \text{Agt}(e''))(\text{they})) \rightarrow \text{Source}(e'')(e'))$

Once tense is computed, this leads to the following assertion and implicature:

- (89) • Assertion:  $\exists e(e$  is an event of them getting married)  
 • Implicature:  $\exists e'(e'$  is an event of the speaker having a psychological experience) and any event  $e''$  that is them getting married is the source of the speaker’s experiencing  $e'$ .

In summary, we have accounted for the Hebrew facts by proposing another point of variation for the Aff head: In Hebrew, Aff projects the affected experiencer in the implicature instead of in the assertion. The syntactic parameter of the attachment height accounts for the interpretation of the source information. The Aff head attaches to VoiceP, similarly to Japanese, and the agent is included in the source information. We make predictions for modification with the Hebrew equivalent of *again*, as described above, which have been confirmed in Bosse (2011).

## 4.2 French

A very similar pattern appears in French. A yes/no question with an affected experiencer, for instance, cannot question the experience; rather, it assumes that the event, if it were to occur, would affect the non-selected NP:<sup>23</sup>

<sup>23</sup>Thanks to Marc Authier and Philippe Schlenker for French judgments and discussion. The examples in (90) and (91) are based on an example in Jones (1996: 293); (92) is based on an example in Rouveret and Vergnaud (1980: 170).

- (90) Est-ce-que les invités lui ont mangé tout ce qu' il y avait dans le is-it-that the guests 3S.Dat have eaten all that there was in the frigo? fridge  
 'Did the guests eat everything in the fridge on him/her?' (If they did, it would matter to him/her.)

If the hearer knows that the guests did eat everything in the fridge, but it didn't matter to *lui* in the slightest, the hearer could not simply answer "no." They would have to explain.

Similarly, negation cannot negate just the experiencing event or the affectedness, and the implicature projects through negation:

- (91) Heureusement que les invités lui ont pas mangé tout ce qu' il y fortunately that the guests 3S.Dat have not eaten all that there avait dans le frigo. was in the fridge  
 'Fortunately, the guests did not eat everything in the fridge on him/her.' (If they did, it would matter to him/her.)

And, just as in Hebrew, affected experiencers are limited to clitic pronoun forms (Authier and Reed 1992). They cannot be questioned as *wh*-words (Authier and Reed 1992, ex. (15)), nor can they be quantifiers. Again, this could be because of some independent limitation to clitic forms; or, they could be limited to being clitics because they are entirely not-at-issue. Once again, the deciding context is a conditional sentence. Although it is difficult to tell for certain, it appears that affected experiencers do not contribute to the conditions of a conditional sentence:

- (92) Si Elmer lui dévalise deux banques, je te donnerai \$100. if Elmer 3S.Dat rob two banks I you will.give \$100  
 'If Elmer robs two banks on him/her, I will give you \$100.'

According to our informants, if I promise (92), and Elmer robs two banks but this does not affect *lui* (Yves, for instance), then technically I will have to pay you \$100. However, I could complain that I was mistaken about whether Yves would care, and hence my promise should be nullified. This is very much like a presupposition with the definite article. Suppose someone says to you, "If I can't get an interview with the king of France next week, I'll give you \$100." Then they come back from France, and you ask for your \$100. They might object, saying, "I didn't know there was no king of France! I never would have said that if I'd known!" But you can also argue that you're owed \$100, because technically, the conditions were met. In other words, not-at-issue meanings like presuppositions do not affect the technical conditions of a conditional, but they can certainly be argued over if they are not met. Hence, we think that, to the extent that the affected experiencer could make a difference to a French conditional, it does so as an entirely not-at-issue element (but we admit that the facts are less clear than we would like, having only consulted two French speakers so far).

We therefore analyze French affected experiencers as being entirely not-at-issue, just like Hebrew. French then has two different non-selected arguments that are entirely not-at-issue, namely affected experiencers, and attitude holders. The difference between them comes from the semantics of the selecting head: Aff for the affected experiencers, and some higher head, around TP or ModP, for the attitude holders. Some dative clitics will therefore be ambiguous between the two (see Jouitteau and Rezac 2008 and the literature cited on distributional differences between the two that distinguish many cases). Both are limited to being weak pronouns (clitics). We think that there is a connection between non-selected arguments being entirely not-at-issue and being limited to weak pronouns (like clitics). We explore this possibility in the next subsection.

### 4.3 A note on non-selected, not-at-issue elements

Hebrew and French affected experiencers, as we just saw, are limited to being clitic pronouns, and they also seem to be entirely not-at-issue. This correlation seems to hold for other non-selected arguments as well, and therefore appears to be a significant one.

As discussed above (Sect. 2.4), attitude holders in French and German are entirely not-at-issue, and they are also limited to being weak pronouns (clitics in French, first person pronouns in German). There is also a further type of non-selected, not-at-issue element which takes the form of a weak pronoun, namely reflexive or subject co-referential pronouns. These have been observed for (some dialects of) English (Horn 2008; Christian 1991; Webelhuth and Dannenberg 2006; Conroy 2007) and for Hebrew (Borer and Grodzinsky 1986; Halevy 2007),<sup>24</sup> and are illustrated below.

- (93) a. I'm gonna sit me down in this chair.     *English*  
 b. Ha-yalda<sub>i</sub> yašva la<sub>i</sub>.     *Hebrew*  
    the-girl sat to-her  
    'The girl sat leisurely.' (Borer and Grodzinsky 1986, ex. (27b))

In both languages, the subject co-referential pronoun adds to the sentence a flavor of involvement or intentionality of the subject in the event (see Borer and Grodzinsky 1986; Webelhuth and Dannenberg 2006; Horn 2008).

We think it is significant that these take the form of pronouns rather than SELF anaphors, even though they are reflexive. It appears that entirely not-at-issue non-selected arguments are limited to weak or clitic pronouns. They cannot be questioned, they cannot be quantifiers, they cannot be full NPs of any kind:<sup>25</sup>

<sup>24</sup>Halevy (2007) argues that these dative pronouns are in fact comments made by the speaker. This is not entirely correct for the English ones, though, since they can take a matrix subject as their source rather than the speaker, as in *Jane said that she loves her some Obama*.

<sup>25</sup>There is one exception in English, which is that they can take the form of the *ass* camouflage construction: *I love my ass some funny movies* (Horn 2008, 179; ex. (22c)). See Levine (2010) for an approach to this construction. At the moment we do not know why this exception would be allowed. Additionally, a reviewer says that in his/her dialect of English, sentences like this are acceptable: *I can drink a man 10 beers in 10 minutes!* However, this must have a very different semantics from the subject co-referential

- (94) a. \* Who<sub>i</sub> does John<sub>i</sub> sit down in this chair? *English*  
 b. \* Ləmi<sub>i</sub> Rani<sub>i</sub> bana 'armonot ba'xol? *Hebrew*  
 to-whom Rani build castles in.the.sand  
 'To who<sub>i</sub> did Rani<sub>i</sub> build castles in the sand?' (Borer and Grodzinsky 1986, ex. (23d))
- (95) a. \* I sit John down in this chair. *English*  
 (ungrammatical on reading where I sat in this chair for John's pleasure/involvement)  
 b. \* Rani<sub>i</sub> yašav lə-Dina<sub>j</sub>/lə-'acmo<sub>i</sub>. *Hebrew*  
 Rani sat to-Dina/ to-himself  
 'Rani sat to Dina/ (leisurely) to himself.' (Borer and Grodzinsky 1986, ex. (23c))

Furthermore, these elements do not make a difference in conditionals:

- (96) a. If I sit me down in this here chair, will you give me some coffee?  
 b. If I sit down in this here chair, will you give me some coffee?

There is no difference between the two members of this pair in the conditions for receiving the coffee. So long as the speaker sits, he or she can expect some coffee (assuming the interlocutor agrees). The sentence with the additional pronoun only adds the implicature that the speaker will be more involved in, or get some kind of enjoyment out of, sitting, but that makes no difference to the conditional.

We are not going to propose an analysis of these subject co-referential pronouns here because our focus is on affected experiencers. We do think, however, that these constructions point to a significant cross-linguistic generalization, stated below:

- (97) Non-selected arguments that are entirely not-at-issue can only be weak pronouns.

The subject co-referential pronouns are especially telling, because one might expect something that is co-referential with a local subject to take the form of a SELF anaphor. Instead, they appear as pronouns, in apparent violation of the ban on a local antecedent (Condition B). This follows from whatever is behind this generalization, because SELF anaphors are not weak pronouns.

At present we cannot explain this generalization, but we do offer it here for others to confirm or disconfirm or to derive from independent principles. (It is possible that it is related to weak pronouns being structurally deficient, as proposed by Cardinaletti and Starke 1999.) If it is a true generalization, then whatever is behind it will explain why affected experiencers in Hebrew and French can only be clitic pronouns. They have the parameter set such that affected experiencer constructions contribute only not-at-issue meaning, and hence they must be weak pronouns (which are clitics in these languages).

---

pronouns described in this section. We have found some speakers of English who seem to allow a benefactive non-selected object (see Sect. 2.3 above), since it does not have to involve a transfer of possession like most double object constructions in English do. We suspect that this reviewer's example is a benefactive.

#### 4.4 Cross-tier interaction

Our proposal for Hebrew and French essentially claims that a linguistic expression can have a phonological form and a syntactic position, but make no contribution to the at-issue meaning of a sentence at all. Its entire contribution is an implicature. In this subsection, we explore some of the properties of such linguistic expressions, and show that there is some limited interaction between the two tiers of meaning, as a quantifier on the at-issue tier can bind a variable on the not-at-issue tier (but not vice versa, as shown in footnote 5 and Sect. 2.1).

In the previous subsections, we argued that Hebrew and French affected experiencers are entirely not-at-issue, because they cannot undergo syntactic processes like wh-movement (83) and appear to make no difference to a conditional sentence (84, 92). However, the example from Hebrew below shows that the affected experiencer can be a variable bound by a quantifier that is part of the at-issue tier. In example (98), the quantificational subject *kol hore*, ‘every parent’, binds the affected argument *lo*, ‘to him’, yielding a bound variable reading:

- (98) Kol hore<sub>1</sub> hit’acben she-ha-yeled pit’om baxa lo<sub>1</sub> be-emca  
 every parent got-irritated that-the-child suddenly cried to.him in.middle  
 ha-seret.  
 the-movie  
 ‘Every parent<sub>1</sub> got irritated that/when his child suddenly cried in the middle of the movie on him/her<sub>1</sub>.’

In (98), the binder is in the at-issue tier while the bound variable is in the implicature.

It appears that such binding from the assertive content into the non-assertive content is allowed in natural language, based on examples like (99) (and those discussed in Sect. 2.1). This example has an R-expression (translation given in (100)) that behaves like a bound variable: *the poor bastard* is essentially like a pronoun, except that it has an additional not-at-issue meaning (following the colon in (100)), the speaker’s comment in the sense of Potts (2005):

- (99) Every man’s mother-in-law thinks that the poor bastard is a good-for-nothing.  
 (100) Translation of the R-expression:  
 the poor bastard  $\rightarrow x_1$ :  $x_1$  is a poor bastard

The logical form of (99) would roughly be (101). The universal quantifier binds four occurrences of the variable  $x$ : one in the restriction, two in the nuclear scope, and one in the not-at-issue tier of the sentence. This cannot be a case of co-reference; rather it has to be a case of binding because the ‘antecedent’ of the pronoun is a non-referential quantificational expression, namely *every man*.

- (101) For all  $x$ ,  $x$  is a man  $\rightarrow x$ ’s mother-in-law thinks  $x$  is a good-for-nothing:  $x$  is a poor bastard

This shows that binding from the at-issue tier into the not-at-issue tier is possible in cases other than the affected experiencer construction in Hebrew, and must be allowed generally. Potts (2005: 80–82) explicitly denies that this sort of cross-tier binding is possible, giving examples like the following (his example 3.70):



(102) \*No reporter<sub>1</sub> believes that Ames, often the subject of his<sub>1</sub> columns, is a spy.

It is true that the examples that Potts gives are ungrammatical, but better examples can easily be constructed, including the ones above, and the following:

- (103) a. No reporter<sub>1</sub> would write that the editor-in-chief, his<sub>1</sub> immediate supervisor, is a half-wit.  
 b. No archbishop<sub>1</sub> would contradict the pope, his<sub>1</sub> infallible superior.  
 c. Each of the twelve little girls<sub>1</sub> thinks that Miss Clavel, her<sub>1</sub> beloved teacher, is practically infallible.

Thus, Potts is incorrect that cross-tier binding of this sort is impossible.

While interesting in itself, such binding is also important for our analysis, because in our denotation for the German/Japanese Aff head, repeated below, there is an event variable  $e'$  which is free on the not-at-issue tier but is bound by an existential quantifier on the at-issue tier:

(104)  $\llbracket \mathbf{Aff}_1 \rrbracket = \lambda P_{vt}. \lambda x. \lambda e. P(e) \ \& \ \exists e'(exper(e') \ \& \ Exp(x)(e')): \forall e''(P(e'') \rightarrow Source(e'')(e')) \in D_{\langle vt, evt \rangle}$

This is not a defect of our analysis, then, since this sort of cross-tier binding seems to be generally available and necessary (although it seems to go only one way, as noted in Sect. 2.1).

#### 4.5 Typology

We have captured the basic similarities among affected experiencers across the languages of our sample with our proposed semantics for the Aff head. We have also accounted for small differences among the languages by introducing two parameters, one of which regulates attachment height and one of which governs whether the experiencer is projected in the at-issue meaning or is not-at-issue. A novelty in our proposal is the claim that natural language allows parametric variation concerning the type of meaning contributed by a given linguistic item: The same logical formula appears on the at-issue tier in one language but as an implicature in another language. Scheffler (2008) has proposed this kind of variation within a language: According to her, it is possible to have two words with essentially the same meaning, but one contributes this meaning as a conventional implicature while the other asserts the meaning. She shows this for the German causal complementizers *denn* ('because', as conventional implicature) and *weil* ('because', as assertion). We have argued here that this kind of variation also exists across languages.

The syntactic parameter of attachment height is logically independent of the semantic parameter of at-issue/not-at-issue meaning, giving four different types of languages. Table 3 shows our cross-linguistic typology. Japanese and Hebrew are our two examples of high-attaching languages, but they differ in the other parameter, with Japanese part at-issue, and Hebrew fully not-at-issue. German is like Japanese in being part at-issue, but it is a low-attaching language. We tentatively classify French as an entirely not-at-issue, low-attaching language, given the discussion in Authier and Reed (1992: 299). These authors provide the example in (105) (their example (10b)):

**Table 3** Typology of affected experiencers

|                          | High attachment | Low attachment   |
|--------------------------|-----------------|------------------|
| experiencer at-issue     | Japanese        | German, Albanian |
| experiencer not-at-issue | Hebrew          | French           |

- (105) Le gosse lui a gribouillé sur tous les murs.  
 the kid her-Dat has scribbled on all the walls  
 ‘The kid scribbled all over the walls on her.’

About this example, they say, “. . . the kid is not understood as being someone who aggravated the individual denoted by the clitic. Rather, this individual became aggravated by the whole event. Of course, since the kid initiated the event denoted by the whole sentence, it is only natural to assume that he or she aggravated the individual denoted by the affected dative, but this is purely a pragmatic matter. . .” (p. 299). This sounds close to native speakers’ intuitions regarding German (and Albanian), so we tentatively classify French as a low-attaching language in Table 3, filling out our typology.

Other languages from which we have collected preliminary data follow the pattern of one of these languages. For instance, Albanian follows the German pattern. The external argument is not part of the source of the experiencing event, as can be seen from the example below.

- (106) Bir-i m’a kafshoi Besa-ën.  
 son-the.Nom 1S.Dat-3S.Acc bit Besa-Acc  
 ‘The son bit Besa on me.’  
 = ‘The son bit Besa and it matters to me because it was Besa/#because it was the son.’

We therefore classify Albanian with German as a low-attaching language. (That it is part at-issue was shown above.) C-command tests also indicate that the structure is the same as we posited above for German, although in the interest of space we do not include the data here. Spanish also seems to have an affected experiencer construction that patterns with German and Albanian (at least for the one speaker that we have consulted; see Cuervo (2003) on non-selected arguments in Spanish).

In summary, we have identified specific properties of affected experiencers (psychological affectedness, sentience, no necessary possession relation, an implicature that survives in negation and yes/no questions) that are constant across numerous unrelated languages, and have proposed a typology of small ways in which they can differ from language to language. We hope to use the diagnostics we have identified in future research to identify and classify affected experiencers in more languages. Our proposal makes clear predictions about the patterns we should expect to find.<sup>26</sup>

<sup>26</sup> There are two other cross-linguistic issues that we have not discussed. First, as Pytkäinen (2002) observes, not all languages allow non-selected arguments to appear with unergative and static verbs. For instance, German does not allow affected experiencer arguments to occur with these verbs, as shown in

## 5 Conclusion

We have distinguished five different types of non-selected arguments: external possessors, benefactives, subject co-referential pronouns, attitude holders, and affected experiencers. We have shown that they differ in several ways, most crucially, in whether they contribute purely at-issue meaning, purely not-at-issue meaning, or both. We have also offered a formal syntactic and semantic analysis of affected experiencers, which constitute a widespread linguistic phenomenon but have long resisted a satisfactory generative account. In our analysis, the affected experiencer is introduced by a syntactic head, *Affect* (so non-selected arguments *are* selected, just not by

(i), unless they denote some kind of resultative/telic event indicated by an additional particle or adjunct. Albanian, on the other hand, does allow the corresponding sentences (ii).

- (i) German
- a. \* Alex lief dem Mann.  
Alex run the.DAT man  
'Alex ran on the man.'
  - b. \* Der Korb enthielt ihm zwei Schlangen.  
the basket contained him.Dat two snakes  
'The basket contained two snakes on him.'
- (ii) Albanian
- a. I vrapova.  
3S.Dat ran.1sg  
'I ran on him.'
  - b. Agim-i i mban Drit-ës çanten timë.  
Agim-Nom 3S.Dat hold Drita-Dat bag.Acc my  
'Agim holds my bag on Drita.'

Since in every other way German and Albanian pattern alike, we do not think it is correct to assign them different structures. A possible way to account for the restrictions in our theory is to place additional selectional restrictions on Aff. In a given language Aff may select only for certain types of VPs and not others. For instance, in German certain unergative and static verbs are not allowed. Since this is a restriction on the VP, we predict that this kind of restriction could only be exhibited by a low-attaching language, because in high-attaching languages where Aff attaches above Voice, these VP features are not local to Aff and should be unavailable for selection. It seems that this prediction is borne out, as our high-attaching languages, Japanese and Hebrew, do not exhibit any restrictions on the verb (though Dubinsky (1997) discusses some restrictions in Japanese). However, it is important to evaluate this claim against a larger sample of high-attaching languages. In addition, Roberge and Troberg (2007) claim that there is a correlation between verbal restrictions and restricting affected experiencers to clitic forms, but this does not appear to be correct because German has verbal restrictions but allows full NPs.

Second, languages may apparently further specify the nature of the experiencing event. For instance, in the case of German nonagentive resultative verbs (iii), the affected experiencer must be interpreted as adversely affected by the result of the event (cf. Hens (1997); see Oehrle and Nishio (1981) for a similar effect in Japanese). This adversity requirement does not hold for agentive resultative sentences such as (1a), which is felicitous both if Chris was upset about the broken vase or happy. Our account does not explain this contrast, and we leave it for future research.

- (iii) Der Oma zerbrach eine Vase.  
the.DAT grandma broke a vase  
'The vase broke on grandma.' (Hens 1997, ex. (2))

the main predicate of the clause). Affect may merge either low, above VP but below Voice, or high, above Voice, in a given language. Affect introduces a new event, an experiencing event, and the argument it introduces is the experiencer of that event. In a second parameter of variation, either part of its semantics is not-at-issue, or all of it is. This parameter plus the parameter of attachment height lead to four different types of languages, all of which are attested.

In addition to our formal syntactic and semantic proposal, and the typology of non-selected arguments that we have proposed, we have also identified a potential cross-linguistic generalization of some significance: that non-selected arguments that are purely not-at-issue are limited to being weak or clitic pronouns. Both reflexive benefactives and attitude holders are always purely not-at-issue, and they are also always weak pronouns. In the languages where affected experiencers are entirely not-at-issue (Hebrew and French), they are also limited to being weak (clitic) pronouns. Determining whether this generalization is correct, and what is behind it, will be an important strand of future research.

We have also investigated the different tiers of meaning to some extent, and found only limited cross-tier interaction. Elements on the not-at-issue tier may not be questioned and may not be quantifiers binding elements on the at-issue tier, but the opposite is possible. Further research will explore the properties of the different tiers in more detail. Our analysis of affected experiencers also involves a syntactic head that introduces elements of meaning on both tiers (contra Potts 2005). We expect that further research will uncover other syntactic elements of this sort (e.g. McCready 2009; Sawada 2010), leading to increased understanding of natural language syntax and semantics.

Finally, in conducting further research on other languages, we have identified a set of questions that need to be investigated, particularly involving not-at-issue aspects of meaning. These questions have not typically been addressed in descriptive studies of languages, or even in theoretical works on the very topics discussed here (non-selected arguments). We hope that this paper, along with others investigating the same issues, will lead to further research on these topics that will lead to increased understanding of not-at-issue aspects of meaning, and how important they are to understanding linguistic phenomena.

**Acknowledgements** Special thanks to Satoshi Tomioka, Mariellen Cathcart, and Anne Peng as well as all our informants. Thanks to the members of SeSyL at the University of Delaware, our audiences at Kyoto University (Japan) and TEAL 5 as well as the anonymous reviewers for valuable feedback.

Work on Micmac and Albanian was supported by the National Science Foundation (NSF grant no. BCS-0518308 to Benjamin Bruening).

This work was supported by JSPS grant KAKENHI 22.4831 to Masahiro Yamada.

**Open Access** This article is distributed under the terms of the Creative Commons Attribution License which permits any use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

## References

Abraham, Werner. 1973. The ethic dative in German. In *Generative grammar in Europe*, eds. Ferenc Kiefer and N. Ruwet, 1–19. Dordrecht: D. Reidel.

- Alexiadou, Artemis. 2003. Some notes on the structure of alienable and inalienable possessors. In *Proceedings of the workshop on syntax, semantics and pragmatics of the noun phrase: From NP to DP*, eds. M. Coene and Y. D'hulst, 167–188. Amsterdam: John Benjamins.
- Authier, J. Marc, and Lisa Reed. 1992. Case theory, theta theory, and the distribution of French affected datives. In *The proceedings of the tenth west coast conference on formal linguistics*, ed. Dawn Bates, 27–40. Stanford: Center for the Study of Language and Information.
- Bach, Kent. 1999. The myth of conventional implicature. *Linguistics and Philosophy* 22: 327–366.
- Bale, Alan. 2007. Quantifiers and Verb Phrases: An exploration of propositional complexity. *Natural Language & Linguistic Theory* 25: 447–483.
- Beck, Sigrid, and Kyle Johnson. 2004. Double objects again. *Linguistic Inquiry* 35: 97–123.
- Berman, Ruth. 1982. Dative marking of the affectee role: Data from Modern Hebrew. *Hebrew Annual Review* 6: 35–59.
- Borer, Hagit, and Yosef Grodzinsky. 1986. Syntactic cliticization and lexical cliticization: The case of Hebrew dative clitics. *Syntax and Semantics* 19: 175–217.
- Bosse, Solveig. 2011. The syntax and semantics of applicative arguments in German and English. PhD diss, University of Delaware.
- Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: A case study of the three classes of pronouns. In *Clitics in the languages of Europe*, ed. Henk van Riemsdijk, 145–223. Berlin: Mouton de Gruyter.
- Christian, Donna. 1991. The personal dative in Appalachian speech. In *Dialects of English: Studies in grammatical variation*, eds. Peter Trudgill and J. K. Chambers, 11–19. London: Longman.
- Cîrtilă, Bogdana. 2006. Zum adnominalen possessiven Dative im Deutschen. *Analele Universitatii din Craiova Linguistics* 28: 73–80.
- Conroy, Anastasia M. 2007. The personal dative in Appalachian English as a reflexive pronoun. In *University of Maryland working papers in linguistics*, eds. Akira Omaki, I. Ortega-Santos, Jon Sprouse, and M. Wagers, Vol. 16, 63–88. College Park: UMWPI.
- Cuervo, Maria Cristina. 2003. Datives at large. PhD diss, MIT.
- Dubinsky, Stanley. 1985. Japanese union constructions: A unified analysis of -sase and -rare. PhD diss, Cornell University.
- Dubinsky, Stanley. 1997. Predicate union and the syntax of Japanese passives. *Journal of Linguistics* 33: 1–37.
- Fukuda, Shin. 2006. Japanese passives, external arguments, and structural case. *San Diego Linguistic Papers* 2: 86–113.
- Gutzmann, Daniel. 2007. Eine Implikatur konventioneller Art: Der Dativus Ethicus. *Linguistische Berichte* 211: 277–308.
- Halevy, Rivka. 2007. The subject co-referential *l*-pronoun in Hebrew. In *Studies in semitic and general linguistics in honor of Gideon Goldenberg*, eds. Tali Bar and Eran Cohen, 299–321. Münster: Ugarit-Verlag.
- Hens, Gregor. 1997. Constructional semantics in German: The dative of inaction. *American Journal of Germanic Linguistics and Literatures* 9: 191–219.
- Hole, Daniel. 2005. Reconciling “possessor” datives and “beneficiary” datives—towards a unified voice account of dative binding in German. In *Event arguments in syntax, semantics, and discourse*, eds. Claudia Maienborn and Angelika Wöllenstein-Leisten, 213–242. Tübingen: Niemeyer.
- Horn, Lawrence. 2008. “I love me some him”: The landscape of non-argument datives. In *Empirical issues in Syntax and Semantics 7*, eds. Olivier Bonami and Patricia Cabredo Hofherr, 169–192. [http://www.cssp.cnrs.fr/eiss7/index\\_en.html](http://www.cssp.cnrs.fr/eiss7/index_en.html). Accessed July 31, 2012.
- Hoshi, Hiroto. 1999. Passives. In *The Handbook of Japanese Linguistics*, ed. Natsuko Tsujimura, 191–235. Oxford: Blackwell.
- Hubbard, Philip. 1985. *The syntax of the Albanian verb complex. Outstanding Dissertations in Linguistics*. New York: Garland.
- Jones, Michael Allan. 1996. *Foundations of French syntax*. Cambridge: Cambridge University Press.
- Jouitteau, Melanie, and Milan Rezac. 2008. The French ethical dative, 13 syntactic tests. *Bucharest Working Papers in Linguistics* XI: 97–108.
- Karttunen, Lauri, and Stanley Peters. 1979. Conventional implicature. In *Syntax and semantics*, eds. David A. Dinneen and Choon-Kyu Oh, Vol. 11, 1–56. New York: Academic Press.
- Kitagawa, Yoshihisa, and S. Y. Kuroda. 1992. Passives in Japanese. [http://www.indiana.edu/~ykling/KitagawaKuroda\(1992\)JPP.pdf](http://www.indiana.edu/~ykling/KitagawaKuroda(1992)JPP.pdf). Accessed July 10, 2012.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, eds. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer Academic.

- Kubo, Miori. 1992. Japanese passives. In *Institute of language and culture studies working papers 23*. Sapporo: Hokkaido University.
- Landau, Idan. 1999. Possessor raising and the structure of VP. *Lingua* 107: 1–37.
- Legate, Julie Anne. 2003. Some interface properties of the phase. *Linguistic Inquiry* 34: 506–516.
- Levine, Robert D. 2010. The *Ass* camouflage construction: Masks as parasitic heads. *Language* 86: 265–301.
- McCready, Eric. 2009. Varieties of conventional implicature: Evidence from Japanese. <http://www.semanticsarchive.net/Archive/DdmMWQyM/adverbs.pdf>. Accessed July 21, 2010.
- McCready, Eric, and Norry Ogata. 2007. Evidentiality, modality, and probability. *Linguistics and Philosophy* 30: 147–206.
- Oehrle, Richard T., and Hiroko Nishio. 1981. Adversity. In *Coyote papers: Proceedings of the Arizona conference on Japanese linguistics; the formal grammar sessions*, eds. Ann K. K. Farmer and Chisato Kitagawa, Vol. 2, 163–185.
- Oshima, David Y. 2003. Out of control: A unified analysis of Japanese passive construction. In *The Proceedings of the Ninth International Conference on HPSG*, eds. Jong-Bok Kim and Stephen Wechsler. Stanford: Stanford University.
- Oshima, David Y. 2006. Adversity and Korean/Japanese passives: Constructional analogy. *Journal of East Asian Linguistics* 15: 137–166.
- Potts, Christopher. 2005. *The logic of conventional implicatures*. Oxford: Oxford University Press.
- Pylkkänen, Liina. 2002. Introducing arguments. PhD diss, Massachusetts Institute of Technology.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge: MIT Press.
- Roberge, Yves, and Michelle Troberg. 2007. Thematic indirect objects in French. *French Language Studies* 17: 297–322.
- Rouveret, Alain, and Jean-Roger Vergnaud. 1980. Specifying reference to the subject. *Linguistic Inquiry* 11: 97–202.
- Sawada, Osamu. 2010. Pragmatic aspects of scalar modifiers. PhD diss, University of Chicago.
- Scheffler, Tatjana. 2008. Semantic operators in different dimensions. PhD diss, University of Pennsylvania.
- Shibatani, Masayoshi. 1994a. Benefactive constructions: A Japanese-Korean comparative perspective. In *Japanese/Korean linguistics(4)*, ed. Noriko Akatsuka, 39–74. Stanford: Stanford Linguistics Association.
- Shibatani, Masayoshi. 1994b. An integrational approach to possessor raising, ethical datives, and adversity passives. In *Proceedings of the 20th annual meeting of the Berkeley Linguistics Society*, eds. Susanne Gahl, Andy Dolbey, and Christopher Johnson, 461–486. Berkeley: Berkeley Linguistic Society.
- Sim, Chang-Yong. 2005. To make a case for all: Syntactic structure, semantic interpretation, and case morphology. PhD diss, University of Delaware.
- Soames, Scott. 1982. How presuppositions are inherited: A solution to the projection problem. *Linguistic Inquiry* 13: 483–545.
- Stockwell, Robert P., Paul Schachter, and Barbara Hall Partee. 1973. *The major syntactic structures of English*. New York: Holt, Rinehart and Winston.
- von Stechow, Armin. 1996. The different readings of *wieder* “again”: A structural account. *Journal of Semantics* 13: 87–138.
- Webelhuth, Gert, and Clare J. Dannenberg. 2006. Southern American English personal datives: The theoretical significance of dialectal variation. *American Speech* 81: 31–55.
- Wegener, Heide. 1989. Eine Modalpartikel besonderer Art: Der Dativus Ethicus. In *Sprechen mit partikeln*, ed. Harald Weydt, 56–73. Berlin: Walter de Gruyter.