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Distinguishing Animacy Effects for Agents: A Case Study of Australian Languages*

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This study investigates construction-level effects of animacy for Agents in a set of Australian languages. It is shown that the presence of an inanimate Agent can not only affect the marking of the Agent, but also the marking of the verb and of the Undergoer. On the basis of a detailed study of the extent of these effects in specific languages, it is shown that they are not always directly related to animacy, but can also be related to factors that are typically but not exclusively associated with animacy, like unusual instigation and unusual affectedness. It is also shown that there is a correlation between the part of the construction that is affected, and the type of motivation. Special marking of the Agent tends to be a direct animacy effect, while special marking of verbal transitivity is an effect of unusual instigation, and special marking of the Undergoer is an effect of unusual affectedness.

Keywords: Animacy; Agency; Transitivity; Australian Languages

1. Introduction

In this paper, we will study construction-level effects of inanimate Agents in a sample of Australian languages. We will show that constructions with inanimate Agents can deviate from standard transitive constructions in a number of ways, including not just the marking of the Agent, but also the marking of transitivity on the verb and the

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marking of the Undergoer. On the basis of these observations, we will argue that not all of these effects can be attributed to animacy as such, but that some can be attributed to semantic features typically associated with animacy, such as unusual instigation or unusual affectedness. Finally, we will show that there is a correlation between these different motivations and the specific part of a construction that is affected.

As an illustration of the range of constructional effects of an inanimate Agent, we can consider the following examples from Yidiny:

- (1) Yidiny (Dixon 1977: 324, 282)
- a. *wagudya-nggu guda:ga bundya:-ng*
 man-ERG dog hit-PAST¹
 'The man hit the dog.'
- b. *nganyany dyina bangga:-ldu gunda:-dyi-nyu*
 1SG.ACC foot axe-ERG cut-ITR-PAST
 'The axe cut my foot.'

The structure in example (1a) is a standard transitive clause in Yidiny, with an ergative-marked Agent, a transitive verb and an unmarked (absolutive) Undergoer. The structure in example (1b) has an inanimate Agent instead of an animate one. Formally, the construction is similar to example (1a), with a case frame that combines an ergative-marked Agent and an absolutive-marked Undergoer, but there is an important difference in the morphology of the verb. Unlike in example (1a), the structure with an inanimate Agent in example (1b) is intransitivized by the addition of the suffix *:-dyi*, which is otherwise used in intransitivized constructions like antipassives and reflexives [with adjusted case frames, see Dixon (1977: 274) and further in Section 2.1 below]. In this sense, we can say that intransitivization of the verb appears to be a construction-level effect of the use of an inanimate Agent instead of an animate one [see also Blake (1977: 48–49, 1987: 28), who first observed this as a more general pattern].

In this paper, we will investigate the range of constructional effects of inanimate Agents in a sample of 32 Australian languages, both Pama-Nyungan and non-Pama-Nyungan, 13 of which show deviations from standard transitive constructions (see Section 2.1 for more details). We will show that there are formal effects on different aspects of the construction, including the marking of the verb, the marking of the Agent, and the marking of the Undergoer, by themselves or in combination. On the basis of the data discussed in this study, we will also question whether the semantic basis of these effects is really animacy as such, as suggested in some interpretations of the Silverstein hierarchy (Silverstein 1976), or some other parameter indirectly

¹ The following abbreviations are used in the glosses: ABL ablative, ACC accusative, ADES adessive, ALL allative, COMIT comitative, CONT continuative, CSL causal, DAT dative, DU dual, ERG ergative, EXC exclusive, FOC focal, GEN genitive, INST instrumental, IRR irrealis, ITR intransitive, LOC locative, MIN minimal, NOM nominative, O object, PAST past tense, PL plural, PLUP pluperfect tense, POT potential, PRES present tense, S subject, SG singular, TEMP temporal condition, TR transitive, PT potential.

associated with it. We will show that, although all effects are prototypically associated with inanimate Agents, some subtypes actually extend beyond inanimate Agents. We will argue that in these cases other semantic parameters are at work, such as unusual instigation of an event, or unusual affectedness of an Undergoer, which are typically but not necessarily associated with inanimate Agents. In addition, we will show that there is a correlation between the part of a construction that formally deviates from a standard transitive construction, and the type of semantic motivation that is involved. Special marking of the Agent is mainly associated with animacy as such, while intransitivization of the verb is mainly associated with unusual instigation, and special marking of the Undergoer is mainly associated with unusual affectedness.

It should be noted that, throughout this paper, the terms ‘Agent’ and ‘Undergoer’ are to be understood in a broad sense, more or less comparable to the macroroles as used, for instance, in Van Valin (2005), which cover a large range of semantically similar types of roles. Thus, Agent and Undergoer will be taken as referring to the affecting and the affected entities of some action, respectively. We are, of course, aware that different marking of a participant may indicate a slightly different type of semantic role than Agent and Undergoer in the narrow sense, but we will abstract away from such problems to focus on formal marking and its semantic and functional motivations. In the concluding section, we will return to this point to outline some consequences of our observations for assigning roles in the constructions investigated here. A related issue, which we will not deal with in this paper, is the question which participant can be used as an Agent. Australian languages often allow interesting choices in this domain, for instance in experiencer object constructions, where inanimate entities can be coded as Agent instead of Undergoer (see, for instance, Evans 2004). Although this is an obvious point of typological interest, the issue we will look at in this paper is quite different. Our question is not *whether* inanimate participants can be coded as Agents or not, but if they serve as Agents, what effects this can have on the form of the construction.

The rest of this paper will be structured as follows. In the first section we will give an overview of the different constructional effects that are associated with the presence of an inanimate Agent, and we will present a first—obvious—generalization in terms of classic models like animacy hierarchies for case assignment and Hopper and Thompson’s (1980) model of transitivity. In the second, third and fourth sections, we will zoom in on the different constructional effects separately, providing more examples for each, and showing that neither the traditional transitivity account, nor the feature of animacy as such, can provide an adequate functional motivation. We will provide a number of alternative hypotheses, based on extensions of the constructional features beyond the prototypical constructions with inanimate Agents, and we will show that the different subtypes can be associated with different motivations. In the fifth section, finally, we will present our conclusions, and outline the relevance of our findings for further analyses of the relation between animacy and transitivity, and of the assignment of semantic roles.

2. Constructional Effects and Transitivity

In the set of languages studied in this paper, we can find three different types of constructional effects that are typically associated with the presence of an inanimate Agent in the construction. In Section 2.1, we will illustrate the range of effects found in the different languages, i.e. intransitivization of the verb, special marking of the inanimate Agent and special marking of the Undergoer. In Section 2.2, we will provide a first generalization over these effects in terms of case hierarchies like those inspired by Silverstein (1976) and the classic functionalist account of transitivity found in Hopper and Thompson (1980). The following section will then provide further examples of each of the effects, and will investigate alternative accounts.

2.1. Effects

The range of effects to be discussed in this paper is based on a sample of 32 Australian languages (see the list and map in the Appendix), 13 of which show formal deviations from standard transitive constructions in the presence of an inanimate Agent. Perhaps not coincidentally, most of these are found in two areas, viz. languages from Cape York Peninsula and adjacent areas, and languages from the Kimberley and adjacent areas. The deviations from transitive structures can be described in terms of three basic categories.²

As already mentioned in the Introduction, one of the effects of the presence of an inanimate Agent is intransitivization of the verb [first observed as a more general pattern in Blake (1977: 48–49, 1987: 28)], with or without retention of the standard transitive case frame. One example was Yidiny, illustrated in the structure in example (1) above, where the ergative-absolutive case frame was retained, but the verb was marked as intransitive. Another example is Djabugay, illustrated in the structure in example (2):

- (2) Djabugay (Patz 1991: 298, 265)
a.	<i>bama-lu</i>	<i>minya</i>	<i>wa:-ng</i>	<i>gurra:-nda</i>
	man-ERG	food	give-PRES	dog-DAT
	'The man gives food to the dog.'			
b.	<i>nganya</i>	<i>du:-yi-ny</i>	<i>burrmburr-u</i>	
	1SG.ACC	hit-ITR-PAST	palm.leaf-ERG	
	'A palm leaf hit me.'			

The transitive structure in example (2a) has an ergative-marked animate Agent, an unmarked Undergoer and a transitive verb. This example can be contrasted with the clause in example (2b), which has an inanimate Agent. Here, the transitive case frame is retained but the verb is marked with an intransitivizing suffix. This type of

² Twelve languages show no effect at all, while seven have optional ergative systems where ergative marking is obligatory for inanimates and optional (e.g. governed by information structure principles) for animates (cf McGregor 2006, 2009; Verstraete 2009). A number of effects which occur only occasionally, and which will not be discussed here, include word order phenomena and genuine passives.

phenomenon also occurs in Guugu Yimidhirr (Haviland 1979) and Kuku Yalanji (Patz 2002).

The second type of constructional effect we find in our sample is the use of special case marking for the Agent. In these constructions, the inanimate Agent is not marked in the same way as animate Agents in standard transitive clauses, but is assigned a different type of case marker. Consider the following examples from Jingulu:

- (3) Jingulu (Pensalfini 2003: 178, 189)
- a. *babi-rni* *ikiya-rnarna-nu* *ibilkini*.
 older brother-ERG wet-3SG.S > 1SG.O-did water
 'My brother wet me.'
- b. *darrangku-warndi* *maya-ngarna-nu*.
 tree-INST hit-3SG.S > 1SG.O-did
 'A tree hit me [contextually: "I ran into a tree"].'

The structure in example (3a) is a standard transitive clause with an animate Agent. The Agent has ergative case marking, and is cross-referenced on the verb (together with the Undergoer). The structure in example (3b) is very similar. It involves an Agent and an Undergoer which are both cross-referenced on the verb. The Agent, however, is inanimate and has instrumental instead of ergative case, i.e. a case that is normally reserved for adjuncts. Note that instrumental and ergative are distinct case forms in Jingulu (Pensalfini 2003: 178, 188). A similar phenomenon can be observed in Kuku Yalanji (Patz 2002) and in Arabana-Wangkangurru (Hercus 1994; in this case the special case marker is the causal instead of the instrumental).

Finally, constructional effects of inanimate Agents do not just relate to marking of the verb and the Agent, but can also be associated with the marking of the Undergoer. This can be illustrated using the following examples from Umpithamu:

- (4) Umpithamu (Verstraete fieldnotes)
- a. *anharra* *yawul* *ngama-n = ilu-ungku*
 crocodile big see-PAST = 3SG.NOM-3SG.ACC
 'He saw a big saltwater crocodile.'
- b. *yuma-mpal* *anthi-ku = uurrangana*
 fire-ERG burn-POT = 2PL.GEN
 'The fire is going to burn you.'

Example (4a) has the structure of a basic transitive clause, where both the Agent and the Undergoer are marked on the verb by pronouns in nominative and accusative case. When we contrast this structure with example (4b), where the Agent is inanimate, we can see two differences. First, the Undergoer is not marked by the expected accusative pronoun, but by a genitive form, and second, the ergative-marked Agent is no longer cross-referenced on the verb with a nominative pronoun.

These are the three basic types of constructional effects we find in our sample, all of them typically associated with the presence of an inanimate Agent. Most languages have only one of the effects, while one has a combination, giving rise to different

Table 1 Animacy effects in the languages of the sample

	V intransitivization	A marking	U marking
Yidiny	+	–	–
Djabugay	+	–	–
Guugu Yimidhirr	+	–	–
Kuku Yalanji	–	+	–
	+	+	+
Jingulu	–	+	–
Arabana-Wangkangurru	–	+	–
Umpithamu	–	–	+
Yawuru, Nyikina, Bardi, Nyulnyul (Nyulnyulan)	–	–	+

alternative construction types. Table 1 provides an overview of how the different effects are distributed on a language-by-language basis.

2.2. Generalization in Terms of Case Hierarchies and Transitivity

The findings from the previous section are generally in line with the classic Silverstein hierarchy (1976): inanimate entities are unexpected in Agent roles, and therefore tend to be associated with special formal marking when they do serve as Agents. All of the structures discussed in the previous section are examples of this phenomenon: they all show special marking of some part of the construction (Agent, verb, or Undergoer) when compared with their counterparts that have animate Agents. Although semantic hierarchies are a very insightful way to make sense of distributions of case marking, they are also problematic in a number of ways. First, they are difficult to interpret straightforwardly in theoretical terms. Over the years, the hierarchy has been functionally motivated in terms of a range of different features, including animacy, agency and perspective [Song (2001: 155–178) provides a good historical survey]. Some of these parameters work for only part of the hierarchy (e.g. animacy), and others have been subject to decomposition in terms of more basic features [e.g. Van Valin and Wilkins (1996) on the notion of agency]. Second, the hierarchy tends to be interpreted as a unidimensional phenomenon, both functionally (in terms of a single explanatory feature) and formally (in terms of the Agent marking phenomena they can explain). In this study, we will use our data on inanimate agents to provide an alternative to such unidimensional interpretations. In the present section, we will show that the formal diversity of phenomena can be generalized more adequately as different instantiations of reduced transitivity, in terms of Hopper and Thompson's (1980) model of clause-level transitivity. In the following sections, we will then build on this to show that the phenomena do not involve one single feature of animacy, but a range of features whose association with animacy is typical but not exclusive.

When comparing the range of constructional effects discussed above, a generalization in terms of Hopper and Thompson's (1980) 'reduced transitivity' seems

obvious. In each of the cases there is a deviation from the standard transitive pattern, which reduces the formal transitivity of the clause. In the first case, illustrated in examples (1) and (2), the verb is intransitivized, but there are still two arguments marked by cases associated with transitive patterns (ergative for the Agent and absolutive/accusative for the Undergoer). In the second case, illustrated in example (3), the Agent is not marked by the ergative case associated with a core argument, but with a case normally reserved for adjuncts, which implies that the inanimate Agent is demoted from full argument status. In the third case, illustrated in example (4), the Undergoer does not bear accusative/absolutive case marking and is thus not marked as a standard direct object. The Agent, however, is still ergatively marked and the verb is transitive. Again, this implies reduced transitivity on a constructional level.

In sum, the structures with inanimate Agents in our sample that deviate from standard clauses tend to have reduced transitivity, i.e. they are not fully intransitive or fully transitive, but they are formally mixed, not unlike the patterns observed by Evans *et al.* (2007) for reciprocal constructions in some Australian languages. These observations can easily be related to the basic semantic characteristics of inanimate Agents. If we consider Hopper and Thompson's (1980) semantic parameters of transitivity, listed in Table 2, we can see that events with inanimate Agents rank high in transitivity with respect to some parameters, but low with respect to others, and are therefore also semantically mixed in terms of transitivity.

The events with inanimate Agents discussed in this paper are all telic, punctual actions with two clearly distinct participants, and hence they have a certain degree of semantic transitivity. However, they are not fully transitive on all parameters, because they rank low on the features of volitionality and agency. For inanimates, these features may need some more discussion. Van Valin and Wilkins (1996: 313–316), for instance, distinguish various semantic properties relating to agency, including volition, intentionality and motivity. Volition relates to inherent willpower and the ability to control actions; obviously humans by default rank very high on this feature, and inanimates very low. Like volition, the feature of intentionality equally excludes inanimates, although humans can also be unintentional Agents in certain contexts (e.g. accidentally breaking a cup by dropping it). Motivity, finally, is the ability to

Table 2 Hopper and Thompson's (1980: 252) transitivity parameters

		High	Low
A.	Participants	2 or more	1
B.	Kinesis	action	non-action
C.	Aspect	telic	atelic
D.	Punctuality	punctual	non-punctual
E.	Volitionality	volitional	non-volitional
F.	Affirmation	affirmative	negative
G.	Mode	realis	irrealis
H.	Agency	A high in potency	A low in potency
I.	Affectedness of O	O totally affected	O not affected
J.	Individuation of O	O highly individuated	O non-individuated

move—and thus to instigate actions—independently. Inanimate objects, like a knife or a stone, rank very low on this feature because they cannot move or instigate actions without external manipulation, while animates rank high on this feature. However, motivity is not exclusively related to animates, as also observed in Van Valin and Wilkins (1996). Inanimate natural forces, for instance, such as wind or lightning, have an internal source of energy and can instigate actions without external manipulation (e.g. when lightning strikes). Even with such qualifications, however, we can still conclude that in general inanimates inherently rank very low on semantic features associated with agency (see also Silverstein 1976)—a notion which is important for the semantic transitivity of an event.

In this sense, an analysis in terms of reduced semantic transitivity seems to be a good starting point for the observations in Section 2.1: mixed transitivity on a constructional level is motivated by mixed transitivity on a semantic level. However, such an analysis also leaves a number of important questions unanswered. First, it was shown above that constructional effects of inanimate Agents are formally very diverse. Lumping them together under the general label of ‘reduced transitivity’ may actually gloss over differences between the different types of effects, in the sense that each may affect a slightly different aspect of the construction, and thus also have a different meaning. Secondly, we should also investigate what kind of meaning(s) we are dealing with in these constructions. As already mentioned, the different effects are all prototypically associated with the presence of an inanimate Agent, but this does not necessarily imply that they actually encode animacy. They could just as well encode one of the semantic features associated with low agency, with an indirect link to animacy as one of its prototypical instantiations.

To provide an answer to these questions we will analyze the different construction types in more detail. In the following sections, we will provide more examples, focusing on their actual use and function in the different language systems, and we will show that they are more diverse in meaning than their prototypical associations with animacy suggest. We will also show that these different meanings systematically correspond to the different morphosyntactic configurations.

3. Intransitivization of the Verb

The first constructional effect to be dealt with is intransitivization of the verb. When looking at the distribution of structures with intransitivized verbs, it is obvious that intransitivization as such has a wide range of uses. In Yidiny, for example, the intransitivizing suffix *-dyi* is not only used with inanimate Agents, but also with human Agents acting unintentionally, in both cases with transitive case frames, as illustrated in examples (5a) and (5b) below. Moreover, it is also used in reflexive, reciprocal, antipassive and ‘continuous action’ structures, though usually in combination with different (intransitive) case frames, as illustrated in examples (5c) and (5d).

- (5) Yidiny (Dixon 1977: 282, 289, 277, 280, 275)
- a. *nganyany dyina bangga:-ldu gunda:-dyi-u*
 1SG.ACC foot axe-ERG cut-ITR-PAST
 'The axe cut my foot' [inanimate].
- b. *yingu yinydyu:-ng badya:r-dyi-nyu*
 this this-ERG leave-ITR-PAST
 'This [woman] has left this [yamstick] by mistake' [unintentional].
- c. *bunya wagudya-nda dungu: dyina: bara:-dyi-nyu*
 woman man-DAT head.LOC foot.INSTR strike-ITR-PAST
 'The woman was kicking at the man' [antipassive].
- d. *ngayu bambi:-dyi-nyu*
 1SG.NOM cover-ITR-PAST
 'I covered myself' [reflexive].

We can make similar observations about the use of verb intransitivization for Kuku Yalanji, Djabugay and Guugu Yimidhirr, perhaps not coincidentally all languages that are not too distantly related, genetically and areally. In Kuku Yalanji (Patz 2002: 144–155), it covers reflexive, passive, antipassive, inanimate Agent and unintentional Agent, all with intransitive case frames. In Djabugay (Patz 1991: 297–300; Hale 1976: 324–326), it covers antipassive, passive, reflexive, ongoing action, inanimate Agent and unintentional Agent, with a transitive case frame for the last two types. In Guugu Yimidhirr (Haviland 1979: 121–134), it covers passive, antipassive, reflexive, generalized action, inanimate Agent and unintentional Agent, again with transitive case frames for the last two types. It seems difficult to group all these different uses into one category—the only common feature seems to be low semantic transitivity according to Hopper and Thompson's transitivity features (see Table 2 above). In clauses like examples (5a) and (5b), however, there is a shared feature of unintentionality that is interesting for our purposes, because inanimates are by default incapable of intention or volition. In this sense, it might be possible to group these uses together in a category that is defined in terms of 'lack of intention'. This would imply that animacy in itself is not decisive at all, and that there is only an indirect link in that the category of unintentional Agents happens to include inanimates.

While the use with unintentional human Agents shows quite clearly that the determining feature is not animacy, there are a number of problems with the feature of intentionality as well. One problem is that the intransitivized construction is not used systematically when the Agent is inanimate: although intransitivization is prototypical with inanimates, each language also has a number of exceptions to this generalization. In Guugu Yimidhirr, for instance, the construction is not used when 'an inanimate entity bring[s] about some action, as it were, under its own power' (Haviland 1979: 124), i.e. when the inanimate Agent is construed as acting without external manipulation. The data in Haviland (1979) suggest that this applies both to natural forces like wind or rain, which have an internal source of energy, and to inanimate objects, which can be construed as if they were acting 'on their own'. The

structure in example (6a) is an example of a structure with a natural force as the Agent, where the normal transitive construction is used instead of the expected transitive one. The structure in example (6b) is an example of an inanimate object that is construed as acting without external manipulation. Again, the verb ‘cover’ is not intransitivized, because the act of crushing is construed as a natural consequence of the tree’s falling, which happens without external manipulation, as described in the clause that precedes immediately.

- (6) Guugu Yimidhirr (Haviland 1979: 158, 124)
- a. *birra gaangga wunydyu-rrin daan.gay-il dyiba-alu*
 leaf yam blow-PAST wind-ERG south-ALL
 ‘The yam leaf was blown south by the wind.’
- b. *yugu buli buligi baydya-rrin*
 tree fall-PAST bullock cover-PAST
 ‘The tree fell [and it] covered [i.e. crushed] the bullock.’

This can be contrasted with example (7), where the verb is intransitivized because the knife must have been manipulated by someone (perhaps the speaker him/herself): it certainly did not cut of its own accord (see Haviland 1979: 123–125).³

- (7) Guugu Yimidhirr (Haviland 1979: 123)
- nganhi wagi-idhi naaybu-unh*
 1SG.ACC cut-ITR.PAST knife-ERG
 ‘I got cut on the knife’ (=the knife cut me).

In Djabugay, the verb of a structure with an inanimate Agent is not intransitivized when ‘the transitive verb involved refers to a process which is, in some (as yet only intuitively understood) sense, characteristic of an entity denoted by an inanimate ergative subject’ [Hale 1976: 325; a similar observation is made by Patz (1991: 298)]. The action of burning, for example, is considered to be characteristic of fire in example (8a) (transitive construction), whereas it is not characteristic for tassel-ferns to stick people [example (8b) (intransitivized construction)].

- (8) Djabugay (Hale 1976: 325)
- a. *biri-nggu nganja ganda-nj*
 fire-ERG 1SG.ACC burn-PAST
 ‘The fire burned me.’
- b. *mungaymunga-njdju nganja бага-yi-nj*
 fern-ERG 1SG.ACC stick-ITR-PAST
 ‘The tassel-fern stuck me; I got stuck by the tassel-fern.’

³ As pointed out by a reviewer, it is of course possible to get cut on a stationary knife, for instance if the Undergoer brings him- or herself into contact with it. While this could be a very interesting parameter to add to our general schema, the semantic analyses available in the grammars were not detailed enough for us to be able to make reliable generalizations here. One specific case of a related phenomenon (lack of Undergoer control) is discussed in more detail in Section 5 below.

Yidiny uses the intransitivizing suffix *-:dyi* in structures with inanimate Agents, mainly with ‘members of the large class of transitive verbs that expect animate subjects’, more specifically with ‘affect verbs’, which describe ‘an action which effects some physical change in the patient, and demands an instrumental NP (referring to a weapon or implement)’ (Dixon 1977: 287). In fact this seems to boil down to the same situation as observed in Guugu Yimidhirr. Structures with natural forces as Agents, which act unprovoked, are not intransitivized. Intransitivization only occurs when the entity depicted as Agent does not act ‘under its own power’ and it is more like an instrument that is externally manipulated. The following examples illustrate the use of the regular transitive construction with natural forces [example (9a)] and inanimates construed as acting independently [example (9b)].

- (9) Yidiny (Dixon 1977: 257, 287)
- a. *bana-ng bulmba wungang*
 water-ERG camp drink.PRES
 ‘The water drowned the camp.’
- b. *nganyany muni-ldu guri duga-l*
 1SG.ACC vine-ERG waist grab-PAST
 ‘The Munil-vine grabbed me by the waist.’

In Kuku Yalanji, finally, the intransitivized construction is not used systematically either. The exact usage conditions are not very clear from the available descriptions; apparently the intransitivized construction is preferred by speakers with inanimate, non-controlling Agents because of ‘the “chance” aspect of such agentless events’ (Patz 2002: 131). Note also that, in Kuku Yalanji, the intransitivized verb is not accompanied by a transitive case frame. The Undergoer is marked by the nominative, whereas the inanimate Agent has instrumental case marking (this case is also used with inanimate Agents if the verb is not intransitivized, see further in Section 3). In this sense, this particular construction looks more like a traditional passive—combining intransitivization of the verb with argument demotion—than the others described here.

- (10) Kuku Yalanji (Patz 2002: 131)
- nyulu mili-bu waju-ji-ny*
 3SG.NOM stinging.tree-INST burn-ITR-PAST
 ‘He was burnt with/by a stinging tree.’

In sum, in the languages we looked at, the intransitivized constructions are used with unintentional animate Agents and most but not all inanimate Agents. This implies not only that animacy is not the right generalization, but also that it is not really possible to group both uses under one single label of ‘lack of intention’. The tree in example (6b) and the fire in example (8a) do not act more intentionally than the woman in example (5b) or the axe in example (5a), yet they have standard transitive verb forms. As an alternative, we propose a schematic concept of ‘unusual instigation’,

which can generalize over both the unsystematic use of the intransitive suffix with inanimate Agents, and its systematic use with unintentional human Agents.

For human Agents, intentionality is the main parameter on which they can deviate from the expected pattern of instigation of actions. Humans are expected to act intentionally, because of their high volition, and when they do not, this is a marked situation. Kittilä (2005) provides good cross-linguistic evidence for the markedness of this situation, and thus indirectly confirms that events unintentionally instigated by humans can be regarded as one particular instance of unusual instigation. For inanimates, by contrast, the parameter of intentionality is not relevant, because they are not expected to act intentionally at all, due to their total lack of volition and control. This implies that 'unusual instigation' depends on other features for inanimates, which may differ slightly from language to language but mostly seem to relate to Hopper and Thompson's (1980) parameter of motivity. In Yidiny and Guugu Yimidhirr, the difference is between inanimates conceived of as 'acting under their own power', which have transitive verbs, and inanimates that only act through external manipulation, which have intransitivized verbs [compare DeLancey (1984) for a similar observation in a different context]. In the former category, which includes natural forces, instigation of actions is not unusual or unexpected, because the inanimates have their own sources of energy which can act independently of any volition or control. In the latter category, by contrast, instigation of actions is unusual because the instigating entity does not even have such an internal source of energy. Note that this contrast is similar to the 'motivity' feature discussed earlier, where we established a distinction between natural forces and inanimate objects according to their inherent (lack of) source of energy and thus their ability to move independently. The contrast discussed here, however, is slightly different because it is not just about inherent features but about the way an entity is construed. Thus, for instance, a tree is not normally capable of moving on its own accord, but it can be conceived of as doing so in contexts where the focus is on the tree's movement rather than what caused it [see example (6b)]. A similar analysis could probably also be applied to Kuku Yalanji, where the intransitivized construction is preferred with non-controlling inanimate Agents. In Djabugay, by contrast, the concept of unusual instigation is a bit different. The main distinction is between actions that are characteristic of inanimate entities and actions that are not. In this case the notion of unusual instigation does not relate to the degree of motivity of the entity, but to the typicality of its association with an action. If an inanimate entity is typically associated with some action, intransitivization is not applied.

In this section, we have shown that even if intransitivization of the verb is prototypically associated with inanimate Agents, animacy as such cannot be regarded as its basic motivation: the construction can also be used with unintentional human Agents, and avoided for specific types of inanimate Agents. As an alternative, we proposed that the use of the intransitive suffix with unintentional Agents and certain inanimate Agents may be motivated by the concept of unusual instigation, which relates to deviations from the expected patterns of instigation. The animacy distinction is

important in that the expectations regarding normal instigation vary depending on the animacy of the instigator, but the motivation itself is not directly related to animacy. For animates, unusual instigation is a matter of intentionality, while for inanimates it is a matter of motivity and typicality of the association with an action.

4. Marking of the Agent

The second constructional effect we observed relates to the use of special case marking for inanimate Agents. Recall example (3b) in Jingulu, repeated here as example (11), where the inanimate Agent is marked by the instrumental instead of the ergative case.

- (11) Jingulu (Pensalfini 2003: 189)
darrangku-warndi maya-ngarna-nu.
 tree-INST hit-3SG.S > 1SG.O-did
 ‘I ran into a tree [Literally: The tree hit me.]’

Example (12) shows that the instrumental case in this structure really corresponds to what would have been an ergative case for an animate, as shown in Pensalfini (2003: 190–191). The inanimate Agent ‘fire’ in example (12) is marked by the instrumental, but the demonstrative which accompanies it bears ergative case marking.

- (12) Jingulu (Pensalfini 1997: 190)
wukalu ngilma-ju nginda-rni-ni buba-arndi
 smoke make-do this(ERG)-FOC fire-INST
 ‘This fire is giving off smoke.’

It can thus be concluded that the inanimate element, even if it is marked with instrumental case, does not have the role of Instrument, but that of Agent. At first sight this seems to be readily explained by the fact that inanimates are less expected as Agents because of their inherent lack of volition and intention, among other features. What we are dealing with here thus appears to be a true animacy effect, unlike the effects dealt with in the preceding section, and at least for Jingulu it is also analyzed as such by Pensalfini (2003: 190–191). There is, in fact, further evidence to confirm this hypothesis. First, the association between inanimate Agents and instrumental case marking is consistent and systematic in Jingulu, whether the Agent is a natural force or not. Example (13) shows that the instrumental case is also used when the Agent is a natural force.⁴

⁴ There is one counterexample in the grammar, but in this case it is not unlikely that the sun is construed as an animate entity (i.e. a personification), just like the falling tree in example (6b) was construed as an independently motive entity.

uliyijirni, maja-ngana-ju uliyija-nga ngabanju
 sun get-3SG.S > 1SG.O sun-ERG eye
 ‘The sun, the sun is getting in my eyes’ (Pensalfini 2003:178).

- (13) Jingulu (Pensalfini 2003: 189)
ngarrini-rni lilirni jujum-arndi maya-nu
 1SG-GEN aunt lightning-INST hit-did
 'My aunt was struck by lightning.'

Second, the special case marking cannot be used with humans, even when they have low control or lack intention: no examples have been found in Pensalfini (1997, 2003). We are aware of the fact that unintentionally acting human Agents can receive special case marking in some languages, but if they do, the case used is not the same as the one used with inanimate Agents (see further in Kittilä 2005). Compare the following examples from Guugu Yimidhirr:

- (14) Guugu Yimidhirr (Haviland 1979: 123, 125)
 a. *nganhi wagi-idhi naaybu-unh*
 1SG.ACC cut-ITR.PAST knife-ERG
 'I got cut on the knife' (=the knife cut me).
 b. *ngadhun.gal galga nhanu dumbi-idhi*
 1SG.ADES spear 2SG.GEN break-ITR.PAST
 'I broke your spear [by accident].'

The structure in example (14a) describes an event instigated by a dependently motive inanimate Agent, and the structure in example (14b) describes an action that is instigated unintentionally by a human. In both examples the verb is intransitivized, because both events are instances of unusual instigation, as discussed in the previous section, but the case marking of the Agent is different. The inanimate is marked by the ergative case, whereas the unintentionally acting human is marked by the adessive case [which in other circumstances marks the person in whose presence an action takes place, or to whom speech is directed (Haviland 1979: 54)]. This distinction further confirms that special marking for inanimate Agents does not relate to a specific semantic feature like lack of control or intention (which can sometimes also be present with animates) but rather to animacy as such.

The case of Jingulu clearly points in the direction of a genuine animacy distinction for special case marking of Agents. This is, in fact, confirmed by the two other languages in our sample for which different marking of Agents is reasonably well-described. The first language is Arabana-Wangkangurru, where inanimate Agents are marked by the causal instead of the ergative case. Compare, for instance, the standard transitive clause in example (15a) with the structure in example (15b), where the Agent is an inanimate:

- (15) Arabana-Wangkangurru (Hercus 1994: 78)
 a. *watypala-ru nhanhi-ka partyarna*
 whitefellow-ERG see-PAST everything
 'The whitefellow saw it all.'

- b. *wabmaRa-ra* *thawi-ngura*
 wind-CSL throw-CONT
 ‘(The papers) were thrown around by the wind.’

The use of the causal case for Agents is restricted to inanimates, but it does not seem to be obligatory. According to Hercus (1994: 78) the causal can always be replaced by the usual ergative without any difference in emphasis, as in example (16).

- (16) Arabana Wangkangurru (Hercus 1994: 78)
 wabmaRa-ru *wirliwa-yangu*
 wind-ERG wipe.out-PLUP
 ‘(The tracks) were wiped out by the wind.’

On the basis of this limited information, it looks like causal case explicitly marks the Agent as inanimate, whereas ergative is unmarked with respect to animacy, i.e. it does not encode any information about it.

The third language to be discussed here is Kuku Yalanji, where inanimate Agents receive instrumental instead of ergative case, as illustrated in the contrast between examples (17a) and (17b) below.

- (17) Kuku Yalanji (Patz 2002: 129, 131)
- a. *dingar-angka* *kaya* *kanban* *kuni-ny*
 man-ERG dog by.mistake hit-PAST
 ‘The man hit the dog by mistake.’
- b. *nganya* *yuku-bu* *kuni-ny*
 1SG.ACC tree-INST hit-PAST
 ‘A tree hit me.’⁵

The precise distribution of the ergative and the instrumental is quite complex in Kuku Yalanji (see Patz 2002: 123–131).⁶ Case marking of the Agent depends on which of the three basic categories of nominals it belongs to. The first category includes humans, ghosts, mythical beings and dogs and is associated with ergative case marking. The second category includes inanimate entities (such as plants and food), body parts, abstract concepts and some kinship terms, and is associated with instrumental case marking. There is, however, also a third, intermediary category containing animals,

⁵ In fact the intransitivized construction is an alternative, and even preferred, way to encode this kind of situation, see Section 2 above.

⁶ Patz’s (2002) terminology is slightly different from ours. She uses the label ‘neutral ergative’ for the instrumental when there is an ‘underlying agentive function’ (p. 131), and uses the term ‘potent ergative’ as its counterpart for what we call ergatives. Because there is no formal difference between the ‘neutral ergative’ and the instrumental we only make a distinction between the instrumental and ergative case, and also re-gloss them as such. Note also that the categories described here have wider relevance in the system of Kuku Yalanji than just the marking of Agents. There are two sets of inflections for dative, locative and ablative as well: one set is used in the same cases as the instrumental and the other in the same cases as the ergative.

natural forces and generic terms with animate reference. For Agents from this category both ergative and instrumental marking are possible.

At first sight animacy seems to play an important role in Kuku Yalanji: higher animate Agents (category 1) are ergative-marked, inanimate Agents (category 3) are instrumental-marked and lower animates (category 2) may be construed as animate or as inanimate depending on the choice of the speaker. Patz (2002: 127) attributes the difference between the two sets of case marking to a difference in internal power, somewhat comparable to our notion of independent motivity (see Section 2): Agents are marked with ergative when they are construed as having their own internal power, and with instrumental when they are not. The sun, for instance, might be ‘credited with an internal power with which it can act unprompted and unprovoked’ (Patz 2002: 126). This would imply that animacy in itself is not important, and that it should be replaced by a more specific semantic feature. However, there are a few problems with this analysis, which suggest that animacy is relevant even in this language. First, ‘conceived internal power’ does not seem to be the only feature which determines the use of ergative marking with category 2 nouns. Animals, for instance, can be assigned ergative case marking when they are credited with volition and responsibility for their acts (Patz 2002: 126, 128). This is not the same as internal power (as in the case of the sun). Secondly, it is not entirely clear under Patz’s hypothesis why generic terms with animate reference can be marked with the instrumental, as in the following example.

- (18) Kuku Yalanji (Patz 2002: 126)
dingkar-abu karrkay kuni-ny
 man-INST child hit-PAST
 ‘Some man hit the child’ (I think it was a man).

Patz (2002: 126) explains structures like example (18) as follows: ‘the fact that animate generic terms may take either type of inflection could be seen as underlining the abstract content of such terms, i.e. that they refer to concepts rather than actual referents’. How does this relate to a (conceived) lack of internal power? Thirdly, it is not clear why category 2 nouns can be conceived as having an internal power whereas category 3 nouns cannot. As we have shown in Section 2, in other languages inanimates like trees can be construed as acting unprovoked as well, and this has consequences for the constructions in which they figure.

It seems that, in the end, an analysis in terms of animacy might be more appropriate than Patz’s own analysis in terms of ‘conceived internal power’. Consider the animacy hierarchy shown in Figure 1, which represents the three categories distinguished in Kuku Yalanji (Patz 2002: 124–125).

The entities at the lower end of the hierarchy are unambiguously inanimate in Kuku Yalanji, and the ones at the higher end are unambiguously animate, irrespective of semantic features relating to agency. This results in instrumental and ergative marking for Agents, respectively. The categories of ‘inanimate’ and ‘animate’ are not clear-cut, however: there is an in-between category of lower animates (like mosquitoes) and ‘higher’ inanimates (like natural forces) which may be conceptualized as belonging with

In this section, we have discussed three languages which show an alternation between ergative and instrumental or other marking for Agents. We have shown that this alternation, unlike the feature of intransitivization, can be accounted for directly in terms of animacy rather than any related feature. This distinction, however, is not always clear-cut: in Kuku Yalanji, the animacy of a noun is not always an inherent feature, but may vary according to different conceptualizations.

The third, and last, constructional effect associated with inanimate Agents relates to the marking of the Undergoer. Recall example (4b) from Umpithamu, repeated here as example (19), where the Undergoer is marked by a genitive pronoun instead of an accusative one when the Agent is inanimate:

- There are other languages in our sample where inanimate Agents can trigger unusual case marking for the Undergoer. This is the case in a number of Nyulnyulan languages (e.g. Yawuru, Nyikina, Nyulnyul, Bardi), which show a ‘medio-active’ clause type with an ergative-marked inanimate Agent that is not cross-referenced on the verb, and an Undergoer that is cross-referenced by a nominative prefix instead of the expected accusative suffix (McGregor 1999). The structure in example (20) is an example from Nyulnyul.

⁷ This still leaves the use of the instrumental with some kinship terms unaccounted for, but it cannot be explained through conceived internal power, either.

- (20) Nyulnyul (McGregor 1999: 545)
nga-la-marr-karr *jungk-in*
 1:SG:NOM-IRR-burn-TEMP fire-ERG
 'I might get burnt by the fire.'

Because the Umpithamu and the Nyulnyulan constructions are formally very different we will analyze them separately, but the general phenomenon, and the proposed motivation, are similar [see McGregor (1999), Verstraete (2007) and Verstraete and De Cock (2008) for a more detailed account]. The Umpithamu construction is used with inanimate Agents (including natural forces), but it also occurs in various other contexts, for instance when the Undergoer is dead or unconscious [example (21a)], when it is construed as completely powerless [example (21b)] or when the action is instigated by a supernatural being [example (21c)] (Verstraete 2007).

- (21) Umpithamu (Verstraete fieldnotes)
a.	<i>ulangana</i>	<i>aampa-n = ulangana/</i>	<i>ula</i>	<i>inatha-nti</i>
	3DU.GEN	bury-PAST = 3DU.GEN	3DU.NOM	FeB-COMIT
	'(They) buried them two, uncle and nephew' [dead Undergoer].			
b.	<i>Yintyingka-mun</i>	<i>kali-n = antyangana</i>		
	Yintyingka-ABL	carry-PAST = 1PL.EXC.GEN		
	'(They) took us away from Yintyingka/We were taken away from Yintyingka' [Undergoer construed as powerless].			
c.	<i>Wooperrri</i>	<i>neena</i>	<i>noomu-n = antyangana</i>	
	Story	smell	smell-PAST = 1PL.EXC.GEN	
	'The Story [mythical being] smelt us' [supernatural Agent].			

On the basis of this evidence, it is obvious that the use of the genitive pronoun is not a genuine animacy effect, either. The semantic motivation underlying each of these uses is the notion of 'overcoming': the use of this construction encodes that the Undergoer is 'overcome by an action completely beyond their control' (Verstraete 2007). This notion is only related to animacy in an indirect way, in that actions instigated by inanimates, as in example (19), typically lead to this type of interpretation, because they are 'not monitored as potential Agents' (Verstraete 2007). Supernatural Agents, on the other hand, as in examples (21c), are treated in the same way because their actions are 'regarded as inescapable' (Verstraete 2007), and thus also beyond the control of the Undergoer. Moreover, the notion of overcoming may also be present because of Undergoer-related features, e.g. when the Undergoer is inherently without control (because he or she is dead or unconscious) or when it is construed as such. In the last case the construction has the rhetorical function of marking powerlessness (see further in Verstraete & De Cock 2008).

The Nyulnyulan construction is analyzed in detail in McGregor (1999). It is only used with inanimate or lower inanimate Agents, but in most of these cases a standard transitive construction is also available. Consider, for instance, the structure in example (22), which is the transitive counterpart of example (20).

- (22) Nyulnyul (McGregor 1999: 547)
jungk -in *i-na-marr-in-ngay*
 fire-ERG 3:SG:NOM-TR-burn-PRES-1:MIN:ACC
 ‘The fire burns me.’

Again, the availability of an alternative construction is an indication that we are not dealing with a genuine animacy effect but that there is some other motivation behind the use or non-use of the construction. According to McGregor (1999: 532, 548, 551) the medio-active construction in example (20), is only used with ‘happenings’, i.e. non-directed events that befall human beings (or occasionally things). The transitive construction in example (22), by contrast, construes the event as an action brought about by an Agent, and specifically directed towards an Undergoer. It is interesting to compare the semantics and use of this medio-active construction with the intransitivized construction found in Yidiny, Djabugay, Guugu Yimidhirr and Kuku Yalanji. Unlike the intransitivized construction, the medio-active construction cannot be used with unintentional human Agents. Moreover, the medio-active construction is typically used with natural force Agents, whereas the intransitivized construction is not used in these cases (see McGregor 1999: 559–561). Semantically, the intransitivized construction encodes the way the Agent is involved in the event (it instigates the action in an atypical way). The medio-active construction, on the other hand, encodes the way the Undergoer is involved in the event: it is touched upon by an action or event that was not directed towards it.

Although there are several differences between the Nyulnyulan and the Umpithamu construction, there is also an important similarity. In both cases the construction does not directly relate to the animacy of the Agent, but focuses on the way the Undergoer is involved in the event: either marked as lacking control over what happens, or as affected by an event that was not specifically directed towards it. While the general semantic value is roughly comparable, its concrete implementation may vary. In Umpithamu there are various contexts where the Undergoer is regarded as lacking control, including, but not restricted to, all events that are instigated by inanimates. In Nyulnyulan languages, by contrast, this is only available within the category of events instigated by inanimate Agents, and its use depends on the way the event is conceptualized—specifically directed towards the Undergoer or not.

In several ways there are parallels between the intransitivization of the verb described in Section 3 and the effects described in this section. In both cases, the constructional effect is not directly related to animacy, but is motivated by another semantic parameter. These parameters are related to the two opposite ends of the action chain: unusual instigation of the action in the first case, and unusual involvement of the Undergoer in the action in the second case. Moreover, both semantic notions are schematic, and may be instantiated in different ways. Thus, ‘unusual instigation’ may relate to inanimates that are not capable of independent instigation (Yidiny, Guugu Yimidhirr), but also to actions that are atypical of the

inanimate Agent (Djabugay). In the same way ‘unusual involvement’ is not exactly the same in Umpithamu and in the Nyulnyulan languages, with Umpithamu focusing on the action ‘overcoming’ the Undergoer, and Nyulnyulan languages focusing on the action not being specifically directed towards the Undergoer.

6. Conclusions

In this paper, we discussed three types of constructional effects that are typically associated with the presence of an inanimate Agent. By looking more closely at the extent of these effects in specific languages, we argued that only one of them, special marking of the Agent, can be regarded as a genuine animacy effect, while the other two encode unusual instigation and unusual affectedness, which are typically but not exclusively associated with inanimate Agents. It is interesting to note that the three types of effects are not mutually exclusive, and that the semantic generalizations we propose are in fact compatible when different types co-occur in one single construction. The case of Kuku Yalanji is instructive in this respect, because it has intransitivization of the verb, as well as special case marking of the Agent. The structures in example (23) below both have intransitivized verbs, which is compatible with inanimate Agents [as in example (23a)] and with unintentional animate Agents [as in example (23b)], because these are both instances of unusual instigation. On top of this, however, the case marker for the Agent is different in examples (23a) and (23b) because of the difference in animacy. Inanimate Agents are assigned instrumental case, whereas unintentional animate Agents are locative-marked (Patz 2002: 148–150). Thus, in Kuku Yalanji intransitivization of the verb serves to encode unusual instigation, while special case marking of the Agent serves to further encode animacy contrasts within this category. In this sense, the co-occurrence of effects in one and the same construction further confirms the proposed semantic analysis: they do distinct but complementary jobs.

(23) Kuku Yalanji (Patz 2002: 131, 148)

a.	<i>nyulu</i>	<i>mili-bu</i>	<i>waju-ji-ny</i>
	3SG.NOM	stinging tree-INST	burn-ITR-PAST
	‘He was burnt by a stinging tree’ [inanimate A].		
b.	<i>jalbu-ndu</i>	<i>jarb</i>	<i>baka-ji-ny</i>
	woman-LOC:pt	snake-ABS	poke-ITR-PAST
	‘The woman happened to poke a snake’ [unintentional anim. A].		

If we go back to the basic transitivity analysis discussed in Section 2.2 above, our findings can also be interpreted as defining different deviations from the transitive prototype, for different functional reasons. Table 3 summarizes the contrast with the transitive prototype for each of the parameters discussed in this study. As illustrated by the examples from Kuku Yalanji, these effects can be compositional, though this is not always the case. In other languages with intransitive verb morphology, the association with unusual instigation presupposes a basic transitive case frame.

Table 3 ‘Animacy’ effects as deviations from the transitive prototype

		Agent	Verb	Undergoer
Transitive prototype	Form	Standard Agent marking ERG (15a)	Transitive verb (1a)	Standard Undergoer marking ACC (4a), (22)
	Function	Animate Agent	Instigation by an intentional, motive Agent	Directed, non-experienced action
Transitivity reduction	Form	Special Agent marking INSTR (11), (12), (23a), CAUS (15b), (16)	Intransitive morphology (1b), (5a), (5b), (7), (8b), (23a), (23b)	Special Undergoer marking GEN (19), (21), NOM (20)
	Function	Inanimate Agent	Unusual instigation: <ul style="list-style-type: none"> ● Unintentional animate Agent, (5b), (14b), (23a) ● Non-motive inanimate Agent, (5a), (7), (10), (14a), (23b) 	Unusual affectedness: <ul style="list-style-type: none"> ● Undirected action, (20) ● Overcoming action, (19), (21a), (21b), (21c)
	Relation to animacy	Direct	Indirect: <ul style="list-style-type: none"> ● Inanimate Agents typically non-motive ● Animate Agents typically intentional 	Indirect: <ul style="list-style-type: none"> ● Animate Agents typically directed and monitored ● Inanimate Agents typically undirected and unmonitored

Combinations with intransitive case frames lead to the better-known categories of reflexive, reciprocal, antipassive and the like.

The analysis in this paper of course remains exploratory, in that it suggests a number of questions for further research that we did not pursue. One of these concerns the absence of any noticeable constructional effects of inanimate Agents, which is the majority situation in the set of languages studied here. For pure animacy effects, which affect the marking of the Agent, this absence is not very surprising. As we showed, these are rare even within the set of phenomena studied in this paper. Instead, languages seem to make do with one single type of Agent marking, perhaps relying on lexical redundancy rules (compare Blake 2001: 169–170) like the ones behind ergative-instrumental syncretism, or on usage splits between obligatory use for inanimate Agents and discourse-based use for animate Agents [as found in optional ergative systems, see McGregor (2009)]. For the other effects, however, the absence of transitivity effects in a language need not imply that the underlying semantic features of unusual instigation or unusual affectedness have a different relation to animacy, or cannot be encoded in that language. Perhaps it simply means that such features need not be encoded in the system of transitivity, and that we should be looking beyond this system, for instance in tense–aspect–mood marking or in verb semantics.

A second question we did not pursue concerns the theoretical implications of our analysis for the assignment of roles. Our analysis of animacy effects shows quite clearly that generalizations like Agent and Undergoer, based on a restricted theory of roles, are not really adequate to do justice to the variety of construction types that are found in a specific language. Each of the parameters we described formally distinguishes more construction types than can be accounted for in a simple model of transitive and intransitive types [e.g. Dixon's (1994) SAO model]. One solution is to further differentiate within the set of macroroles, with finer distinction of role types that control formal distinctions within constructions, more or less along the lines of Van Valin and Wilkins (1996). Thus, for instance, it would be necessary to distinguish between animate and inanimate Agents, between intentional and unintentional ones for animates, and between (motive) forces and (non-motive) objects for inanimates. Another, perhaps more parsimonious, solution would be to keep the number of roles down by introducing tiers of roles (as in McGregor 1999), and assigning semantic effects to different role combinations within those tiers. Regardless of which path one takes, we believe that our analysis adds to the body of evidence to show that a simple model of three roles is just not tenable.

A final question we did not pursue relates to the semantics of verb intransitivization. In the literature, the intransitive markers discussed in this study have mainly been treated as different types of valency-changing derivations, producing derived clause types such as reflexives, reciprocals or antipassives. Our analysis takes a different perspective on these markers, focusing on uses that relate to unusual types of agency and that are less easy to assign to an analysis in terms of derived clause types. While we have not made any attempt to reconcile the two analyses, we are

convinced that this is not impossible, and that the uses that do not explicitly relate to valency provide important but somewhat neglected clues to their semantics.

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Appendix

The 32 languages of the sample used in this study are listed below. The languages followed by an asterisk show the animacy effects studied in this paper. In the other languages, animacy effects do not seem to exist, or they are part of an optional ergative system (see further in footnote 2):

Alyawarra (Yallop 1977), Arabana-Wangkangurru* (Hercus 1994), Bāgandji (Hercus 1982), Bardi* (McGregor 1999; Metcalfe 1975), Bininj Gun-wok (Evans 2003), Djabugay* (Hale 1976; Patz 1991), Djinang and Djinba (Waters 1989), Garawa (Furby & Furby 1977), Gooniyandi (McGregor 1990, 1992, 1998), Gumbayngirr (Eades 1979), Guugu Yimidhirr* (Haviland 1979), Jaminjung (Schultze-Berndt 2000), Jingulu* (Pensalfini 1997), Kalkatungu (Blake 1979b), Kayardild (Evans 1995), Kuku Yalanji* (Patz 2002), Kuuk Thaayorre (Gaby 2006, 2008), Malakmalak (Birk 1976), Mara (Heath 1981), Maranungku (Tryon 1970), Martuthunira (Dench 1995), Ngankikurungkurr (Hoddinott & Kofod 1988), Nyikina* (McGregor 1999; Stokes 1982), Nyulnyul* (McGregor 1999), Pitta-Pitta (Blake 1979a), Tiwi (Lee 1987), Umpithamu* (Verstraete fieldnotes), Ungarinjin (Rumsey 1982), Warrwa (McGregor 2006), Yawuru* (McGregor 1999; Hosokawa 1991), Yidiny* (Dixon 1977), Yuwaalaraay (Williams 1980).

Languages

1 Yidiny (S) & Djabugay (N)	16 Maranungku
2 Arabana-Wangkangurru	17 Martuthunira
3 Alyawarra	18 Ngankikurungkurr
4 Bininj Gun-Wok	19 Nyulnyulan languages
5 Djinang	20 Pitta-Pitta
6 Gumbaynggir	21 Tiwi
7 Guugu Yimidhirr	22 Ungarinjin
8 Jaminjung	23 Yuwaalaraay
9 Jingulu	24 Umpithamu
10 Kalkatungu	25 Gooniyandi
11 Kayardild	26 Garawa
12 Kuku Yalanji	27 Bāgandji
13 Kuuk Thaayorre	
14 Malakmalak	
15 Mara	