
On (in)animate noun phrases¹

HELEN DE HOOP

'Small people talk about people, average people talk about events, great people talk about ideas.'

10.1 Introduction

The above philosophical saying has been challenged by linguists, who instead say: 'All people talk about people.' Indeed, statistical studies of spoken language have shown that the subject of most sentences is human, or at least animate. For example, Dahl (2000) reports that in a corpus of spoken Swedish about two thirds of all subjects are animate. Not only do people preferably talk about living creatures, they also expect other people to do so. Psycholinguistic research has revealed that there is a strong preference for sentences that begin with an animate noun phrase, both in production and perception (Bock & Warren (1985), Weckerly & Kutas (1999)). The same principle, dubbed 'Animate First', has been proposed in functional typology to account for cross-linguistic word order preferences (Tomlin (1986)).

In this chapter I hypothesize that the animacy of noun phrases affects their 'prominence', and that in that sense animacy is comparable to definiteness. 'Prominence' is best known as a functional-typological notion that plays a role in voice alternations (cf. Givón (1994), Aissen (1999)). As such, it is determined by a range of different factors, including definiteness and/or referentiality, animacy, person, topichood. An argument can be prominent due to its inherent properties or because of its status in the discourse (de Swart

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(2007)). Definite noun phrases can be argued to be prominent, but not all definites are equally prominent (Anagnostopoulou & Giannakidou (1995)). The same holds for animate noun phrases, which led to the introduction of so-called 'prominence hierarchies' or 'prominence scales' (e.g. Silverstein (1976), Comrie (1989)). Notoriously, animacy and definiteness play a similar role in the domain of differential object marking (Aissen (2003)). A question related to the theme of the present volume is whether this similarity in prominence between the two features is also reflected in a similarity in DP structure. Danon (2006), for example, argues that syntactically definite objects require a morphological case marker in Hebrew because they have a DP projection which bare nominals lack. Danon suggests that in languages other than Hebrew the phenomenon of differential object marking can also be seen as an indirect reflection of a difference in the syntactic structure of the noun phrase.

However, while definiteness can be conceived of as a feature related to the syntax of noun phrases, animacy is a feature related to the individuals (in the world or discourse) that the noun phrases refer to. As Danon (2006) correctly points out, it would be rather unrealistic to assume that (differential) object marking triggered by the animacy of the noun phrase could be reduced to the presence of a DP layer, too. Therefore, apart from striking similarities between animacy and definiteness in certain linguistic phenomena such as differential object marking, we predict certain differences between animacy and definiteness as well. In this chapter, I will argue that this prediction is indeed borne out.

In order to investigate these similarities as well as differences between animacy and definiteness, I will focus on the phenomenon of differential object marking in natural language, which is well known to be related to either animacy or definiteness or both (Aissen (2003)). In section 10.2, I will introduce this domain of investigation and immediately point out a crucial difference between definiteness and animacy. In section 10.3 I will further explore the idea of animacy as a matter of prominence, which can also be used to explain certain similarities between animacy and definiteness. Then, in section 10.4, I will tentatively propose that there is a difference between preferred (basic) interpretations of animate versus inanimate noun phrases. This can be captured by a (violable) constraint of basic interpretations. Naturally, the preferred interpretation can alter when the constraint on basic interpretations is overruled by certain conditions in the context, as has been proposed for preferred interpretations of definite and indefinite noun phrases as well. Section 10.5 presents the conclusions of this chapter.

10.2 Differential object marking

As argued by Aissen (2003), when a language distinguishes between two types of case marking on objects, very often the object that receives accusative case is higher in animacy or definiteness or both than the object that does not receive case. For example, in Malayalam animate objects receive accusative case (1) whereas inanimate objects do not (2) (Asher & Kumari (1997)).

- (1) Avan oru paṣuvine vaṛṇṇi.
 he a cow-ACC bought
 'He bought a cow.'
- (2) ṇaan teṇṇa vaṛṇṇi.
 I coconut bought
 'I bought some coconut.'

In (1) the animate noun 'cow' is marked with accusative case, while the inanimate noun 'coconut' does not receive accusative case. The intuitive idea behind this phenomenon of differential object marking is that subjects are usually animate (and definite) while objects are usually inanimate (and indefinite), and that an animate (definite) object is therefore semantically 'marked' (an animate/definite object is not a typical object) and requires to be morphosyntactically (case-)marked as well (Comrie (1989), Aissen (2003)). This relation between semantic markedness of the object and case marking holds for animate objects as well as for definite/specific ones, as the examples from Hindi in (3) and (4) below show (Mohanani (1990)):

- (3) Ilaa-ne haar uThaayaa.
 Ila-ERG necklace lifted
 'Ila lifted a necklace.'
- (4) Ilaa-ne haar-ko uThaayaa.
 Ila-ERG necklace-ACC lifted
 'Ila lifted the necklace.'

The motivation for case-marking only animate or definite/specific transitive objects, as witnessed in Malayalam and Hindi above, could be a principle of distinguishability or to 'avoid ambiguity': objects that are animate or definite/specific are more 'subject-like' and therefore they need accusative case marking in order to make sure that they are correctly identified as the object of the transitive clause (Aissen (2003), among others). To put the general motivation behind this type of case marking in a constraint (de Hoop & Lamers (2006)):

- (5) **DISTINGUISHABILITY:** The two arguments of a transitive clause should be distinguishable.

Case marking is one way to distinguish between the subject and the object and hence to satisfy the above constraint. However, if the subject and object are otherwise distinguishable, then case marking is not necessary to satisfy **DISTINGUISHABILITY**; it would become redundant. In Awtuw the object is obligatorily marked with accusative case if the object is equally high or higher than the subject in the animacy hierarchy (Feldman (1986)):

- (6) Tey tale-re yaw dæli.
 3fs woman-ACC pig bit
 'The pig bit the woman.'
- (7) Tey tale yaw dæli.
 3fs woman pig bit
 'The woman bit the pig.'

Thus, in (6) the object is marked with accusative case because, unexpectedly, it outranks the subject in animacy (where human \gg animate \gg inanimate, cf. Comrie (1989)). If there is no case marker, as in (7), *the woman* is automatically interpreted as the subject and *the pig* as the object, in accordance with the generalization that subjects outrank objects in animacy. But if the object is more 'subject-like' (absolutely or relatively), that is, if it equals the (general or actual) subject in animacy/definiteness, the subject and the object can no longer be distinguished on the basis of these animacy/definiteness properties. In order to satisfy the constraint **DISTINGUISHABILITY** and to avoid *potential* ambiguity, case marking can apply.

However, as pointed out in de Hoop & Malchukov (2007), this is not always the best explanation for the pattern of differential object marking. Consider for example the pattern in Central Pomo, where accusative case is locally (that is, independently of the case of the subject) assigned to human objects only (Mithun (1991), who calls this 'patientive' case):

- (8) M'u·tu ?a·hk'úm.
 he.ACC I.killed
 'I killed him.'
- (9) Mu·l ?a·hk'úm.
 he I.killed
 'I killed it (the bee).'

In principle, the pattern in (8)–(9), where only the human object is case-marked, could be explained along the lines set out above. However, the

problem is that this type of differential case marking in Central Pomo carries over to intransitive subjects as well:

- (10) Q'alá-w m'u·tu.
 died he.ACC
 'He died.'

In (10) the subject of the intransitive clause is a patient and when it is human it gets the same case marking as the object of the transitive clause in (8). The case marking in (10) cannot be explained by a mechanism that assigns case to the object when it might get confused with the subject. Obviously, since (10) is an intransitive clause, there is only one argument available and therefore no potential danger of ambiguity. That is, although differential object marking can sometimes be explained along the lines of distinguishability between subject and object, this does not always seem to be the best explanation. Sometimes, only objects which are human or animate are case-marked, but the reason is not that they might get confused with the subject otherwise.

Besides, if differential object marking were to be attributed to a principle of distinguishability (that is, to avoid ambiguity as to what is the subject and what is the object), then we would expect to find differential subject marking along the same lines. This prediction is actually borne out in some languages, such as Qiang (a Tibetan language), where the subject in a transitive clause only takes agentive case when it is inanimate (LaPolla & Huang (2003)).

- (11) MoVu-wu qa da-tuə-Z.
 wind-AGT 1sg DIR-fall.over-CAUS
 'The wind knocked me down.'

However, although in such examples of case marking only inanimate subjects exist, as illustrated above, this is not a very common trigger for differential subject marking (de Hoop & Malchukov (forthcoming), de Hoop & Malchukov (2007)).

Finally, in certain contexts the alternation is not between case-marking the object or not, but between two different types of objective case. For example, in Finnish, partitive case and accusative case may correspond to a difference in definiteness, as illustrated below:

- (12) Anne tapaa vieraita.
 Anne meets guests-PART
 'Anne meets some guests.'
- (13) Anne tapaa vieraat.
 Anne meets guests-ACC
 'Anne meets the guests.'

In this case, both objective cases differ from the nominative case-marked subject, hence the differential object marking cannot be explained in terms of distinguishability between subject and object. Clearly, a meaning alternation is involved between the two types of case, which is more fine-grained than the difference between interpreting a noun phrase as the subject or as the object.

To sum up, a case alternation on the object of a transitive sentence could be motivated by distinguishability, that is, the need to distinguish the object from the subject. However, there are certain clear cases, as pointed out above, where distinguishability cannot be the motivating factor for a difference in case assignment. This holds both for a differential object-marking pattern on the basis of animacy, as in (8)–(9), as for a differential object-marking pattern on the basis of definiteness, as in (12)–(13).

Note that, although both animacy and definiteness can trigger differential object marking for other reasons than distinguishability between the subject and the object, as illustrated in this section, there is a clear difference between animacy and definiteness as well. The difference lies in the relation between the form alternation and the meaning difference. To see this, reconsider the pair of sentences (3)–(4) above, repeated below.

- (14) Ilaa-ne haar uThaayaa.
Ila-ERG necklace lifted
'Ila lifted a necklace.'
- (15) Ilaa-ne haar-ko uThaayaa.
Ila-ERG necklace-ACC lifted
'Ila lifted the necklace.'

In (14) and (15) the object noun phrase that receives differential case marking has the same form *except for the case marking*. As a consequence, the case alternation triggers the difference in meaning; the noun *necklace* is interpreted as *the necklace* when it bears accusative case, and as *a necklace* otherwise. The same holds for the case alternation in (12)–(13) above. That is, dependent on whether it bears partitive or accusative case, the noun *guests* in (12) and (13) denotes some non-specific or *the* guests, respectively.

By contrast, when differential object marking is triggered by a difference in animacy (whether or not in relation to the animacy of the subject), one type of case is used for one type of noun phrase, the other for another, as in the pair (1)–(2), repeated below.

- (16) Avan oru pafuvine vaappi.
he a cow-ACC bought
'He bought a cow.'

- (17) *ṅaan teeṅa vaṅṅi.*
 I coconut bought
 'I bought some coconut.'

As a consequence, the accusative case marker does not actually trigger or *change* the animacy of the cow in (16), nor does the lack of case. However, the individual that is animate in (16) must carry accusative case when it functions as the object, while the inanimate coconut does not receive case.

Although there are instantiations of differential object marking on the basis of definiteness that are similar to this pattern of differential case marking on the basis of animacy (for example, noun phrases with a definite article are case-marked in Hebrew, while noun phrases without a definite article are caseless, cf. Aissen (2003)), as far as I know this does not hold the other way around. That is, there are no instantiations of differential object marking based on animacy, where the same noun gets interpreted as animate when it has one type of case and as inanimate when it has another type of case. Hence, although superficially animacy and definiteness seem to behave alike with respect to differential object marking, they in fact differ in this crucial aspect.

10.3 Animacy as a matter of prominence

In this section I would like to argue that animacy contributes to the prominence of a noun phrase. Although animacy is not a linguistic category, it clearly *affects* language in multiple ways.² Yamamoto (1999) investigates animacy for the choice of reference mode (full noun phrases, pronouns, zero anaphora, etc.). There are languages, such as Japanese, where the subject of a transitive sentence is not allowed to be inanimate (Jacobsen (1992)). In other languages the restriction is not absolute but present as a strong tendency. For instance, 92% of the transitive subjects found in the Swedish corpus referred to above were animate (Dahl (2000)). Some languages (like Algonquian) distinguish agreement with animate and inanimate arguments (cf. Bloomfield (1956) on Ojibwa). Restrictions on derived voice patterns are also found. For example, in Tungusic passives are only possible with animate subjects (Malchukov (1993)).

There happen to be more similarities between animacy and definiteness of noun phrases than in the domain of differential object marking pointed out

² Anastasia Giannakidou (p.c.) points out that animacy is reminiscent of the category of gender/sex in the sense that sex is also a physical category, but it has a linguistic counterpart, gender. Animacy, unlike sex, however, does not have a clear-cut linguistic counterpart.

in the previous section. We also find similarities with respect to noun phrase incorporation, number marking, and word order variation. At first sight, these similarities between animacy and definiteness with respect to different linguistic phenomena do not straightforwardly follow from their syntactic or semantic properties. As mentioned already in the introduction, a syntactic difference between NPs and DPs could explain a difference in case marking in relation to definiteness, but not for animacy. Animacy is usually conceived of as a semantic feature rather than a syntactic one. In this section I will argue that animacy and definiteness both contribute to the status of the noun phrase in the discourse, that is, to its prominence. Another factor that reflects the prominence of noun phrases is their word order. I will briefly examine the interaction between word order and animacy in the next section.

With respect to the concept of animacy, three categories of animacy are usually distinguished (e.g. Comrie (1989)):

HUMANS >> ANIMALS (ANIMATES) >> INANIMATES

One may observe different cut-off points in different languages. Comrie (1989) discusses a certain case form in Slavic languages that was first used only for male, adult, freeborn, and healthy humans (and not for women, children, slaves, and cripples), and only later spread to all humans. In Ritharngu, kangaroos and dogs belong to the same category as humans, but other animals do not (Heath (1980)). Of course, some animals are not literally more animate than others, but in our perception of the world they are closer to human beings. Kuno (1987) uses the term *humanness hierarchy* instead of *animacy hierarchy* and argues, following Kuno & Kaburaki (1977), that the humanness hierarchy derives from *empathy* considerations, where *empathy* measures the degree of the speaker's identification with the relevant discourse participants.

In some treatments, the animacy hierarchy is extended to include the person hierarchy. At first sight, this makes sense, since first and second person are almost exclusively animate. Animacy, person, and also definiteness, show correlations that could be captured by a comprehensive notion such as *empathy*, *topicality*, or *discourse prominence*. Yet, the danger of a fusion between different types of scales is that one cannot be certain anymore about which factor underlies a certain grammatical phenomenon (Dahl & Fraurud (1996)). Therefore, I choose to consider both animacy and definiteness as factors of prominence, but without mixing them into one integrated scale of prominence.

Although definiteness and animacy both can be seen as inherent prominence properties of noun phrases, they do differ in what level of prominence they actually affect. Animacy refers *directly* to the properties of the (discourse)

referents (that is, the individuals the noun phrases refer to). By contrast, a definite article does not reflect an inherent property of the individual; it merely reflects its role or status in the discourse (that is, it is supposed to be unique or familiar (discourse-old); see also McNally (this volume), and Farkas & de Swart (this volume)). *Marking* animacy itself would be redundant and languages in general lack markers of animacy. Obviously, while a definite article marks a noun phrase as definite, there is no such thing that marks a noun phrase as animate. That is, the individual referred to by the noun phrase *is* or *is not* animate irrespective of the linguistic expression that is used. This sheds light on the difference between animacy and definiteness in the domain of differential case marking as pointed out in the previous section. In fact, we may say that the accusative case marking can function as a definite article, in the sense that it marks a noun phrase as definite or specific, but that does not hold for accusative case marking as a marker of animacy. The case alternation may be dependent on a difference in animacy, such that accusative marks animate noun phrases, but it cannot mark a noun phrase *as* animate. That is, case cannot change the animacy properties of the noun phrase, while it can change its definiteness (see also de Swart (2007), and de Swart & de Hoop (2007)).

It is common knowledge in typology that animacy is a 'hidden' or 'covert' category, as it is not overtly marked. Because of its relevance across a wide range of languages, animacy is viewed as a *meaning constant* which exists independently of its realizations in any particular language, independent of particular linguistic or cultural bias (Comrie (1989), Pencheva (1992)). In formal semantic theories animacy has been almost completely ignored. This is not surprising, since animacy is not a linguistic but an ontological (or rather, maybe conceptual) category, that is, a property of the individuals in the real world or the discourse (Dahl & Fraurud (1996)). Thus, while definiteness adds meaning to a noun (see also Farkas & de Swart (this volume)), animacy does not. Instead, animacy simply pertains to the properties of the members of the set the noun denotes. Whereas a vast literature deals with the difference between definites and indefinites, as far as I know, no formal linguistic account has ever been offered for the difference between animates and inanimates. In this chapter I will not try to give a formal account of the animacy distinction either. However, I will present a hypothesis concerning the basic interpretation of animate and inanimate noun phrases in the discourse, and how this relates to definiteness.

I believe that animate and inanimate noun phrases differ in their preferred (or basic) discourse role, but that (conflicting) information from the (extra-) linguistic context may drive a shift in interpretation, similarly to what has been

proposed in terms of semantic type-shifting of definite and indefinite noun phrases (van der Does & de Hoop (1998)). Inanimate noun phrases are not typical discourse referents, hence their basic discourse role is *low prominent* rather than *high prominent*. This is in accordance with the fact that subjects generally outrank objects in prominence in the discourse whereas objects tend to be inanimate and non-specific (Comrie (1989)). Also, it might account for the fact that some languages do not extend number marking to inanimates (Corbett (2000)). To say that the basic or preferred interpretation of inanimate nouns is low prominent does not mean that they cannot shift to get a high prominent interpretation. Preferences in interpretation can be phrased as soft (violable) constraints in an Optimality Theoretic framework of interpretation (Hendriks & de Hoop (2001)).

This difference in prominence may be similar to the difference in preferred types that definites and indefinites have. Definites have a natural interpretation in the referential type *e*, while indefinites live more naturally in the predicative type $\langle e, t \rangle$ (Partee (1987), van der Does & de Hoop (1998)). Definite as well as specific noun phrases are used to talk about a certain subject, that is, they describe certain discourse referents (Dekker (1998)). The hypothesis I would like to put forward here is that animacy can also be mapped onto a scale of discourse referentiality, or prominence.

In de Hoop (1992) a relation is established between referential properties of noun phrases and the type of case they bear. It is argued that strong (quantificational, referential) object noun phrases come with 'strong' case, while weak (predicative, non-referential) ones are licensed by 'weak' case. If we replace 'strong noun phrases' by 'high prominent noun phrases' and the abstract case theory of de Hoop (1992) by a morphosyntactic perspective, we can still link the interpretive difference between definite and indefinite object noun phrases to a difference in case. Recall the minimal pair of Hindi sentences in (3)–(4) above, repeated here once more for convenience (Mohanani (1990)):

- (18) Ilaa-ne haar uThaayaa.
 Ila-ERG necklace lifted
 'Ila lifted a necklace.'
- (19) Ilaa-ne haar-ko uThaayaa.
 Ila-ERG necklace-ACC lifted
 'Ila lifted the necklace.'

The only difference between (18) and (19) is a difference in the absence or presence of the accusative case marking. This case alternation reflects a shift in prominence. The necklace in (19) gets a more prominent reading than the one in (18). The transitive verb *to lift* in (18) and (19) can take either an animate or

an inanimate object. Note, however, that if the object is human, the accusative case marker becomes obligatory (Mohanana (1990)).

- (20) Wo bacce-ko / *baccaa uThaataa hae.
 he child-ACC / *child lifts is
 'He picks up a/the child.'

If the accusative case marker *ko* would just reflect a difference in definiteness, we would expect the accusative marked noun *child* to be interpreted as *the child* and as *a child* otherwise. But, clearly, the human object in (20) is high prominent by itself and does not need the case marker to get a prominent role in the discourse. Even if it is interpreted as non-specific or indefinite, it still describes a prominent discourse referent. Thus, the accusative case marker can shift the interpretation of the noun phrase from non-specific to specific and this corresponds to a shift in prominence, but when the object is high prominent for other reasons, in this case because it is human, the absence of the case marker is not allowed. That is, the accusative case marker does not shift the interpretation of *child* in (16) from inanimate to animate, nor does it shift from non-specific to specific. We can conclude that human objects are high prominent in Hindi and that is why they must bear accusative case. Accusative case thus *reflects* the prominence of the object, but it does not *trigger* it. Also in the case of definiteness, therefore, I assume that when the necklace plays a prominent role in the discourse, it must receive case, while it can only be without accusative case when it is low prominent. Animals and inanimate direct objects can optionally bear case. If they do, they are marked as being high prominent in the discourse; if they do not receive case, obviously they are low prominent in the discourse.

For Hindi, it could be maintained that distinguishability plays a role in case marking, at least with respect to the animacy dimension. In (18) and (19) case marking the object, it is immediately clear that the pronoun must refer to the subject, while the inanimate noun phrase must be the object of *to lift*. Hence, accusative case marking would not be necessary from the perspective of distinguishability, and indeed it turns out to be optional. In (20), on the other hand, the child could in principle be the subject of *to lift* and hence, the accusative case marker can be argued to serve the purpose of distinguishing between the subject and the object. However, the optionality of the case marking in (18) and (19) is only apparent. As has been pointed out, the accusative case marking in (19) does reflect a difference in prominence. Moreover, in other cases differential case-marking patterns on the basis of animacy cannot straightforwardly be explained in terms of distinguishability. Recall the pattern in Malayalam, repeated below:

- (21) Avan oru pafuvine vaap̄ni.
 he a cow-ACC bought
 'He bought a cow.'
- (22) ŋaan teeŋŋa vaap̄ni.
 I coconut bought
 'I bought some coconut.'

In this instance it does not seem to make sense to assume that the accusative case on *cow* helps to distinguish between the subject and the object. Verbs such as *to buy* and *to sell* require a human agent subject and neither the cow nor the coconut would make a good subject therefore. However, it does make sense to assume that a cow plays a more prominent role in the discourse than a coconut, and therefore that it can be a difference in prominence that is reflected by the differential case marking. If the difference between the case-marked object and the caseless object is based on a difference in prominence, rather than on a difference in distinguishability between the subject and the object, then we may expect to encounter inanimate objects that are high prominent to be case-marked as well. Indeed, we find such cases. Inanimate objects of *worship* receive accusative case in Malayalam, as illustrated in (23) (Asher & Kumari (1997)).

- (23) Aval filpatte araadhiccu.
 she statue-ACC worshipped
 'She worshipped the statue.'

Evidently, it would not be very helpful to try to analyse the accusative case marking in (23) in terms of distinguishability, as it is clear that an inanimate object such as a statue cannot be the subject of *to worship*. However, it seems plausible to attribute the occurrence of accusative case in this example to the high prominence an object of worship must have in the discourse.

10.4 Shifts in interpretation

Above it was pointed out that a case alternation can express a shift in prominence. Also, case can shift the interpretation of a noun phrase; in particular it can shift the interpretation from non-specific to specific (cf. McNally (this volume)), but it cannot usually function to shift the interpretation from inanimate to animate. From the hearer's perspective, animacy helps to identify the prominence of the noun phrases, or to determine what discourse referent the speaker is talking about. Speakers mostly talk about animate subjects, but of course, when a speaker wants to talk about an inanimate

entity, say 'the car', she can do that without any problems, although the construction that is used may vary from language to language. In any case, the speaker must choose a form that the hearer will correctly interpret. This may involve the use of a (different) case marker, a different word order, a passive construction, etc.

Above I hypothesized that inanimate noun phrases are preferably interpreted as low prominent, while animate noun phrases are preferably interpreted as high(er) prominent. When an inanimate noun phrase is the subject of a transitive sentence, however, its prominence increases as well, that is, its interpretation may shift to a high prominent interpretation. Take for example the sentence with an inanimate subject below:

(24) The car hit a boy.

In (24) *the car* refers to an inanimate entity which nevertheless is high prominent in the discourse, not only due to the fact that it is the subject but also thanks to its definiteness which makes the inanimate noun phrase in (24) maybe even more prominent than the human indefinite object *a boy*.

The shift in prominence of the car in (24) is clearly not related to a shift in animacy, though. But shifts in animacy occur as well. A well-known example of the latter case is given in (25) (cf. Nunberg (1979)):

(25) The ham sandwich asked for the check.

In (25) *the ham sandwich* is interpreted as the person who ordered the ham sandwich in the context of a restaurant. Because of the predicate, this interpretation is straightforwardly obtained. Now consider the interpretation of (26):

(26) The ham sandwich has eaten the fish.

The verb *to eat* requires an animate subject. In (26) an animate noun phrase is available, namely *the fish*. However, *the fish* cannot be interpreted as the subject in English, due to a strict word order constraint that dictates an SVO order. The interpretation that the fish has eaten the ham sandwich is not possible, therefore. Another possible interpretation could be to allow inanimate individuals to eat, that is, to violate the selectional restrictions of the verb. This type of interpretive shift is sometimes possible as well, but without any further contextual clues it is definitely not the preferred interpretation of (26). Hence, the optimal interpretation that one gets is an interpretation similar to the one in (25) where the inanimate noun phrase *the ham sandwich* is interpreted as referring to a human individual in the discourse. This reading appears to violate a type of faithfulness constraint that requires an (inanimate)

TABLEAU 10.1 Optimality Theoretic semantic tableau of sentence (26)

<i>The ham sandwich has eaten the fish</i>	PRECEDENCE	SELECTION	FAITHFULNESS
Eat (ham sandwich, fish)		*	
Eat (fish, ham sandwich)	*		
☞ Eat (ham sandwich _{animate} , fish)			*

input such as *the ham sandwich* to refer to a ham sandwich. The preferred or optimal interpretation is determined on the basis of three constraints and their ranking in English. To investigate the role of animacy information in sentence comprehension, de Hoop & Lamers (2006) use a set of five violable constraints. Two of these constraints seem to be relevant to the interpretation of (22). These are PRECEDENCE and SELECTION:

(27) PRECEDENCE: The subject precedes the object.

(28) SELECTION: Fit the selectional restrictions of the verb (animacy).

In English, PRECEDENCE is a very strong constraint which in fact results in the ungrammaticality of an object-verb-subject order. In addition, I propose a third constraint, which requires faithfulness between the noun phrase (animate or inanimate) and the individual it refers to (animate or inanimate):

(29) FAITHFULNESS: An (in)animate noun phrase refers to an (in)animate individual.

The constraint in (29) is similar to the faithfulness constraints on the expression of (in)definiteness in Farkas & de Swart (this volume). The outcome of the optimization of the interpretation of (26) can be illustrated in an OT semantic tableau, where the input is the transitive sentence with the two noun phrases in (26) and the optimal output is the winning candidate interpretation. The tableau that illustrates the optimization of the interpretation is given above.

In Tableau 10.1 I have illustrated the conflict between the three constraints in English. The first candidate interpretation is the one in which the noun phrase *the ham sandwich* is used to refer to a (unique) ham sandwich which functions as the subject of the sentence. This candidate violates the selectional criteria of the verb *to eat*, because only animate individuals can actually eat and therefore be the subject of the verb *to eat*. The second candidate interpretation is the one in which the first noun phrase in the sentence, *the ham sandwich*, gets interpreted as the object rather than as the subject, while the second noun phrase, *the fish*, gets interpreted as the subject.

TABLEAU 10.2 Optimality Theoretic semantic tableau of sentence (30)

<i>Het broodje ham heeft de vis opgegeten</i>	SELECTION	FAITHFULNESS	PRECEDENCE
Eat (ham sandwich, fish)	*		
☞ Eat (fish, ham sandwich)			*
Eat (ham sandwich _{animate} , fish)		*	

Hence, the second candidate is the object-initial interpretation, which violates the constraint PRECEDENCE, and therefore loses the competition. The third candidate interpretation satisfies both SELECTION and PRECEDENCE, which means that *the ham sandwich* is interpreted as being animate and as the subject of the sentence. This candidate only violates the faithfulness constraint because *the ham sandwich* apparently denotes an animate entity which can eat (that is, it does not refer to a ham sandwich). The third candidate comes out as the winning interpretation. Thus, the optimal interpretation of the given sentence is that either *the ham sandwich* functions as a description or name of a living person, or that we are in a discourse (movie, cartoon) in which ham sandwiches are alive. Anyway, we may say that 'the ham sandwich' is used to talk about a prominent (animate) discourse referent (cf. Dekker (1998)).

Dutch differs from English in that the word order constraint is ranked below the selectional and the faithfulness constraint. As a consequence, the second candidate interpretation wins the competition, as illustrated in Tableau 10.2 above.

(30) *Het broodje ham heeft de vis opgegeten.*

The word order constraint is weaker than in English but it is still active in Dutch: if the first noun phrase were animate (for instance, *het meisje* 'the girl') then the subject-initial reading would certainly be the optimal one.

As we have just seen, the impact of animacy is sometimes obscured by its interaction with other factors of prominence, in particular word order. Psycholinguists found a strong tendency for a subject-before-object preference, both in language comprehension and production. This tendency is also noted in the typological literature (Greenberg (1963), Tomlin (1986)). In Tomlin's sample, only 4% of the languages have object-before-subject as their basic word order. Languages such as Japanese, which are flexible in that they permit both orders, show the same tendency. Only about 4% of the sentences in the written corpus of Hawkins (1994) has object-before-subject order, while for other corpora of written and spoken Japanese this percentage was even smaller

(Yamashita & Chang (2001)). However, a closer look at the data might reveal that animacy plays an important role here. This is corroborated by Tanaka et al. (2005) who report on two sentence-recall experiments in Japanese for which they found clear 'animate-first' effects. Firstly, speakers are more likely to recall object-before-subject sentences than subject-before-object sentences (but not the other way around) when this allowed an animate entity to appear first. Secondly, they found a tendency to recall sentences in the alternative voice (actives as passives and *vice versa*) when this allowed an animate entity to appear first.

In Fore, a Papuan language, a man is higher in the animacy hierarchy than the pig, and that is why *man* is interpreted as the subject in (31), even though the canonical word order is overruled (Scott (1978), Blake (2001)).

- (31) Yagaa wá aegúye.
 pig man hit
 'The man hit (killed) the pig.'

If the speaker wants to express that the pig hit the man, then the subject needs to be explicitly case-marked as the subject:

- (32) Yagaa-wama wá aegúye.
 pig-ERG man hit
 'The pig hit the man.'

When the two arguments are equal in animacy, word order solely determines what is the subject and what is the object: the first noun phrase will then be interpreted as the subject.

In Mayan languages, basic word order sentences must have animate and definite subjects (England (1991)). In Tz'utujil, the subject has to outrank the object in definiteness, as in (33), and if the subject is equally high or lower than the object in definiteness, as in (34), the sentence becomes ungrammatical (Dayley (1985)).

- (33) Xuuch'ey jun iixoq jar aachi.
 hit a woman the man
 'The man hit a woman.'
- (34) *Xuuch'ey jar iixoq jun aachi.
 hit the woman a man
 '*A man hit the woman.'

The interaction of different factors of prominence, such as animacy, definiteness, and word order, and how this affects grammaticality, clearly deserves further investigation. However, this has to await a future opportunity.

10.5 Conclusions

The main claim of this chapter was that animacy of noun phrases (like definiteness) reflects the prominence of the individuals they refer to. I have defended the view that animacy and definiteness both contribute to the prominence of noun phrases, but they differ considerably in their syntax and semantics. Animacy is just like definiteness an *inherent* property of noun phrases that influences their prominence. Yet animacy is not a linguistic category while definiteness is. Thus, when differential object marking is triggered by definiteness, this might be explained as a function of the syntactic structure of the noun phrase, in such a way that accusative case marking is required for DPs but not for bare nominals which lack a DP projection (Danon (2006)). It is less likely, however, that differential object marking, triggered by the animacy properties of the noun phrase, is the consequence of a difference in noun phrase structure. Other factors, such as word order and grammatical role are *external* triggers of prominence, in the sense that they are determined by the position of the noun phrase in the sentence, its case, or verbal agreement, and not by properties of the noun phrase itself.

Case marking actually seems to behave as a factor somewhere in between, as it clearly involves semantic and syntactic aspects of the noun phrases it is assigned to. When differential object marking is triggered by animacy, the function of the case marking can be either to avoid ambiguity as to what is the subject and the object, or to mark the prominence of the noun phrase in the discourse (de Hoop & Malchukov (forthcoming)). In this sense, animacy resembles definiteness, but is also different, because definiteness clearly is a prominence marker, but usually its function is not to distinguish between the subject and the object. Also, I have pointed out that while accusative case marking can be used to mark only animate objects, crucially it is not used to mark noun phrases *as* animate. In this sense, animacy differs from definiteness as well, since accusative case can actually determine the definiteness of an object in a differential object marking context.

Finally, I have argued that, in general, animate noun phrases start out with a high prominent interpretation which can get overruled by potentially conflicting factors such as grammatical function and word order. By contrast, inanimate noun phrases are interpreted as low prominent, but they can shift to a high(er) prominent reading as well, again due to factors such as case marking, grammatical function, and word order.