

# Intransitivity, Ergatives and Middles

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## ABSTRACT

The grammatical status of the English middle construction has been the object of much debate in the literature. Some have proposed accounts according to which middles turn out to be not very different from ergatives (Fagan 1988, 1992). Others defend that middles are derived very much in the same way as passive structures (Keyser and Roeper 1984, Hoekstra and Roberts 1993). Yet others have denied the very existence of the middle construction as a grammatical category (Condoravdi 1989, Lekakou 2002). Building on the Unaccusative Hypothesis and on a careful interpretation of the Universal Theta Assignment Hypothesis (UTAH) (Baker 1997), this paper attempts to demonstrate that middles constitute an independent class of intransitive sentences, distinct from ergatives, unergatives and passives both in argument configuration and derivation. A clearer and more symmetrical picture of the English intransitivity paradigm emerges as a result.

**Keywords:** intransitivity, ergatives, middles, argument structure, verbal alternations

## Intransitividad, construcciones ergativas y medias

### RESUMEN

El estatus gramatical de la construcción media en inglés ha sido objeto de un amplio debate en la literatura. Según algunas propuestas, las estructuras medias no son muy diferentes de las ergativas (Fagan 1988, 1992). Otros defienden que se derivan de un modo muy similar a las estructuras pasivas (Keyser y Roeper 1984, Hoekstra y Roberts 1993). También hay quien ha negado la existencia misma de la construcción media como categoría gramatical (Condoravdi 1989, Lekakou 2002). Tomando como punto de partida la Hipótesis de la Inacusatividad y una cuidadosa interpretación de la UTAH (Baker 1997), este artículo pretende demostrar que las construcciones medias constituyen una clase independiente de oraciones intransitivas, distintas de las estructuras ergativas, inergativas y pasivas, tanto en lo referente a su configuración argumental como a su derivación. Emerge como resultado una visión más clara y más simétrica del paradigma de intransitividad en inglés.

**Palabras clave:** intransitividad, construcciones ergativas, construcciones medias, estructura argumental, alternancias verbales.

**SUMMARY:** 1. Introduction. 2. The transitivity alternations. 3. The derivation of ergatives and middles. 4. Conclusion. 5. References

## 1. INTRODUCTION

The English middle construction (Van Oosten 1977, Keyser and Roeper 1984, Fellbaum 1985, Roberts 1987; Fagan 1988, 1992; Hoekstra and Roberts 1993; Ackema and Schoorlemmer 1994, Rosta 1995) can be illustrated with the following sentences:

- (1) Love stories read easily.
- (2) Cookery books translate easily.
- (3) Isabel Allende's novels sell like hot cakes.

In all of them, the grammatical subject is understood as the patient of the verb. The love stories are the thing being read, cookery books are the thing being translated, and Isabel Allende's novels are the thing that is being sold. And, even though the Agent is not superficially expressed, it is semantically present. Our knowledge of the world tells us that books do not read or translate by themselves, and neither do novels sell alone. A reader, a translator and a seller are somehow implied.

It is a crucial feature of middles that they are essentially stative, property-predicational constructions. We could draw on Halliday's (1967:38ff.) notion of transitivity, which he characterises in cognitive terms, according to the type of process expressed in the clause. Middles can be seen to be *attributive* clauses, involving primarily a process of *ascription* of an *attribute* ("a property of [...] one of the participants in the clause" p. 62) to an *attribuant* (the participant to whom the property is ascribed). Halliday's (p.47) example of an attributive clause is *She looked happy*, where an attribute (happiness) is being ascribed to an attribuant (*she*). The subject of a middle sentence, like *This book reads easily*, could equally be seen as having the role of an *attribuant* to which the property of being easy to read is being ascribed. Erades (1975:36) refers to this characteristic of middles by noting that "the construction in question is only found when the subject is represented as having certain inherent qualities which promote, hamper or prevent the realisation of the idea expressed by the predicate." The same insight is captured by Van Oosten (1977:461) who claims that in middles, "the subject, or a property of it, is understood to be responsible for the action of the verb."

It is, in fact, generally taken to be a characteristic of middles that they "lack specific time reference" (Levin 1993:26), and that they are generic statements, and, as such, they state propositions that are generally true and do not describe particular events in time (Keyser and Roeper 1984:384; see also Roberts 1987:195ff.). Sentence (2), for example, is attributing some property to cookery books that makes them easy to translate, but no actual translating event is being referred to. Whereas this is a characteristic that applies to many middles, examples of 'eventive middles' can also be found, as in (4):

- (4) I thought that this book was going to be really difficult to translate, but it wasn't. It translated really easily.

Middles are typically associated with a notion of ability or modality, as pointed out by Fagan (1992:22). Thus, (2) could be paraphrased using a modal:

- (5) Cookery books can be easily translated.

Middles usually require some kind of modification. Adverbs like *easily*, as in (1) and (2), and others like *well* or *nicely* are amongst the most common ones to be found with middles (Vendler 1984, Fellbaum 1989). If not an adverb, some other element is typically present, such as negation, as in (6), a modal verb, as in (7), or a combination of the two, as in (8):

- (6) That book didn't sell. (from Dixon 1991:326)  
 (7) The car will steer, after all. (from Rosta 1985:132)  
 (8) This book won't translate.

Hoekstra and Roberts (1993:192) have argued that adverbial modification is a compulsory part of middle structures, and have accounted for it on strictly derivational terms. Their analysis integrates adverbs into the grammatical makeup of the construction and therefore predicts that adjunctless middles are "ungrammatical".<sup>1</sup> The fact is, however, that, given a suitable context, middles like those in (9) and (10) (from Fagan 1992:57) are possible. This points to adverbs as a contextually-required element in middles and not an intrinsic part of their structure.

- (9) Glass recycles.  
 (10) This dress buttons.

This paper assesses the place of middles in relation to transitivity and intransitivity in English and justifies the recognition of a middle structural category, clearly distinct from ergatives, unergatives and passives. The status of the middle alternation vis à vis the other transitivity alternations in English is discussed first. The second part of the paper builds on an analysis of the derivation of middles in which both structural and semantic features are inbuilt, and which further justifies the identification of middles as a lexical class of intransitives.

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<sup>1</sup> More precisely, they argue that the suppressed subject argument in a middle sentence is a *pro* which needs to be "theta-licensed for content." This requirement is satisfied by adverbs like *easily*, whose Experiencer theta-role is identified with *pro*. Lack of adverbial modification means that *pro* is left unlicensed and that the sentence is, therefore, ungrammatical.

## 2. THE TRANSITIVITY ALTERNATIONS

Let us begin by introducing a classification of verbs on the basis of their argument structure, paying particular attention to the expression of subjects and objects.

Pure transitive verbs are those like *cut* or *sell*, which take an object and involve two participants, an Agent, and a Theme or Patient.<sup>2</sup> Having both Agents and Patients, pure transitive verbs do meet the structural requirements for middle formation, and they form unambiguous middles, like *Bread cuts easily*.

Intransitive verbs are those that occur without an object and involve one single participant, which is grammatically a subject. Semantically, it can be a Patient or an Agent. This is the basis for Perlmutter's (1978:160ff.) Unaccusative Hypothesis, which distinguishes two types of intransitive verbs.<sup>3</sup> Unergative verbs, such as *run*, *laugh* or *swim*, have a subject that performs some action or activity and is associated with an Agent theta-role. In *Isabel laughed*, *Isabel* is an Agent, and a subject both underlyingly and on the surface. Since they do not take objects, unergative verbs do not form middles. A sentence like *Isabel laughs easily* cannot be understood as a middle.

The second type of intransitive verb is the unaccusative verb. These are verbs like *fall* or *die*, whose subject position refers to the participant that undergoes some change of location or state and is associated with a Patient or Theme theta-role. What is more, the Patient theta-role is represented underlyingly in object position, and raised to subject (external) position later on in the derivation of the sentence. In standard Government and Binding analyses, a sentence like *Paula died* would have an underlying structure *\_\_died Paula*. Movement of *Paula* to subject position is forced for reasons of Case. Non-alternating unaccusative verbs fail to assign accusative Case to their objects and they do not assign an external theta-role either, as captured by Burzio's generalisation (Burzio 1986:178).

Some unaccusative verbs, like *break*, *open*, *melt*, can also appear in transitive sentences. These are the alternating unaccusative verbs. Along with the intransitive *The door opened*, the transitive *I opened the door* exists. The relationship between the transitive and intransitive variants of alternating unaccusative verbs is usually known as the ergative alternation, and the intransitive variant of the verb, and therefore the construction in which it appears, has been called 'ergative'.

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<sup>2</sup> The Agent theta-role is normally associated with the participant that is the 'doer', 'performer' or 'instigator' of an action (Gruber 1967:943; Fillmore 1968:24; Lyons 1968:356; Jackendoff 1972:32; Cruse 1973), whether volitional, as *Mary* in *Mary ate an apple* or non-volitional, as in *She coughed*. The Patient and Theme theta-roles are often employed indistinctively to refer to the participant which is, in a broad sense, 'affected by the action or state identified by the verb' (Fillmore 1968:25). This includes cases where physical motion is involved, as *the cup* in *I broke the cup*, but it can also include non-moving participants or participants which are not physically affected, as *the book* in *Max owns the book* (Jackendoff 1972:30)

<sup>3</sup> Within a Government and Binding framework, the analysis of unaccusativity was developed by Burzio (1986).

Non-alternating unaccusative verbs, like *fall*, *arrive* or *die*, do not form middles, given that they lack Agents. A sentence like *The leaves fall easily* cannot be interpreted as a middle, since no Agent is implied. Alternating unaccusative verbs (ergatives), on the other hand, do produce middles. A sentence like *This door opens easily* could, in principle, receive a middle interpretation. The distinction between a middle and an ergative is not always clear. The main difference lies in the presence or absence of an Agent. The middle, derived from the transitive variant of the alternation, involves an Agent argument. The middle interpretation implies that someone, at some stage, could open the door, or that it is easy for someone to open the door. The ergative, in the derivation of which no Agent is involved, implies that the door opens ‘all by itself’.<sup>4</sup> In fact, the incompatibility of middles with the phrase ‘all by itself’, and the fact that ergatives admit it freely, has been taken as an indication of the presence of an Agent in the former, and of the lack thereof in the latter (Fagan 1992:52; Keyser and Roeper 1984:405; Rapoport 1999:150), as the following examples show:

- (11) This wood carves easily all by itself. (from Rapoport 1999:150)  
 (12) The cup broke all by itself.

So, from a strictly structural point of view, middles can be formed straightforwardly with pure transitive verbs, not so straightforwardly with alternating unaccusative verbs, since ambiguity with ergative sentences exists, and not at all with non-alternating unaccusative verbs and with unergatives.

A word of caution is needed at this stage. Saying that middles must be formed from an input structure in which two participants, both Agent and Patient, are present does not mean that any such structure yields a satisfactory middle sentence. There are restrictions at work. Roberts (1987:207ff.) and Fagan (1992:64ff.) both argue that the aspectual properties (Vendler 1967:100) of the verb phrase in question determine its eligibility for middle formation. More precisely, they claim that accomplishments and activities are eligible for middle formation whereas states and achievements are not. This would explain the impossibility of middles like those in (13) and (14), given that the verb phrases *know the answer* and *spot the mistake* are a state and an achievement respectively. It is also common to find accounts of the middle construction which describe it as being restricted to verbs with affected objects (Doron and Rappaport-Hovav 1991; Levin 1993:26). Examples like (15), however, show that this is not the case, as Fagan (1992:65) points out. The sentence is a perfect middle, and there is no way in which *the book* can be seen as affected or undergoing a change of state. There are, furthermore,

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<sup>4</sup> I am assuming that ergatives are the basic variant of the alternation and that they are obtained from an underlying configuration in which the argument bearing the Theme theta-role is in object position and the subject position is empty. But other proposals have been made regarding the derivation of ergatives. See the next section.

those who have claimed that middles like that in (13) are “grammatical in principle, although deviant on semantic terms” (Keyser and Roeper 1984:383). This is an issue, in sum, that is far from settled, but which clearly falls beyond the scope of the present paper.

- (13) \* The answer knows easily.  
 (14) \* This type of mistake spots easily.  
 (15) This book reads easily.

Having made this clarification, let us not lose the thread. Leaving aside the ability of the different classes of verbs to form middles, and focusing now on the more general picture of transitivity and intransitivity, our discussion so far can be summarised schematically in Table 1:

	<b>Unergatives</b> ( <i>walk</i> )	<b>Alternating unaccusatives</b> ( <i>break</i> )	<b>Non-alternating unaccusatives</b> ( <i>die</i> )	<b>Pure transitives</b> ( <i>cut</i> )
<b>Transitive</b>		√		√
<b>Intransitive</b>	√	√	√	

**Table 1:** Ability of different types of verbs to enter a transitivity alternation

How do middles fit in this picture? As intransitives, prototypically obtained from pure transitive verbs, they would come to fill in the bottom rightmost slot. Pure transitive verbs are thus on a par with alternating unaccusative verbs, which also have transitive and intransitive variants. The parallelism with alternating unaccusatives is important. If it were just a matter of presence or absence of an object, it is uncontroversial that pure transitive verbs *can* appear without an object (Huddleston 1984:192; Payne 1997:170; Goldberg 2001, 2004:434). This happens when the object is generic, recoverable from the context, particularly within a certain jargon, and “de-emphasised in the discourse vis à vis the action” (Goldberg 2001:514), as shown by the following examples, which we can refer to as ‘reduced transitive sentences’:

- (16) Have you eaten? (Generic object: Food)  
 (17) England won. (Understood object: The match)  
 (18) I would like to submit by May. (Student jargon. Understood object: PhD thesis)  
 (19) When would be a good time to sell? (Understood object: Shares. Stock market jargon)

What we are rather trying to show is that pure transitive verbs are able to participate in a transitivity alternation, in the sense of exhibiting changes in the number and syntactic alignment of their arguments, just as alternating unaccusative

verbs do. Middle sentences thus constitute the intransitive counterparts of pure transitive sentences. This sheds new light on the picture of transitivity and intransitivity which we presented in Table 1, and which arose largely from Perlmutter's classification. Middles seem to constitute a step towards the 'levelling' of the transitivity paradigm in English, by creating the possibility for pure transitive verbs to have intransitive counterparts.

It is noteworthy that middles are not alone in contributing to this move towards symmetry. As further evidence of how structural possibilities made available by the transitivity paradigm can be exploited, consider the following constructions:

- (20) This suggests he is worried that those who can might rather walk the dog or paint the house than work for minimal benefit. (*British National Corpus* (BNC), AHB 206)
- (21) One big mistake I made, being used to handling Dawn, was trying to walk the hawk all the way back to its perch. (BNC, CHE 1548)
- (22) Captain Ramirez called them to attention and marched them off to the main camp. (from Davidse and Geyskens 1998:155)

The existence of this type of construction has been noticed by a number of authors (Levin 1993:31; Levin and Rappaport Hovav 1994:70; Davidse and Geyskens 1998). The verbs *walk* and *march* are canonically unergative verbs, and should have a single argument, the Agent, occupying the external argument position (*I walked, I marched*). In these examples, however, the original Agent argument is occupying the object position, and a new external argument, the causal Agent, has been introduced. These sentences have a causative meaning, that of making the dog walk, or making the soldiers march, and are most systematically found with manner-of-motion verbs (*walk, jump, gallop, march, race...*), as noted in all the works mentioned at the beginning of this paragraph (especially in Davidse and Geyskens (1998), who offer a description of the sub-types in which this construction can appear with manner-of-motion verbs).<sup>5</sup> Examples (20)-(22) thus instantiate the structural possibility for unergative verbs to have transitive counterparts.

It should be noted that the 'transitive unergative' structural possibility can be used in ways that do not fully conform to the characteristics of the 'mother construction', as shown by the following data:

- (23) Ian's working me hard. He made me get up at seven...  
(Attested: On a postcard)
- (24) Yoko ran me to Tesco's. (Attested: Overheard conversation)
- (25) Walk the boat out until the water is deep enough for you to

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<sup>5</sup> A reviewer points out that the sentence *I walked the dog* has lost its causative meaning and has become lexicalized. It means *I took the dog out for a walk*, irrespective of whether the dog is actually walking.

- put the daggerboard down far enough so that you'll be able to sail away.  
(BNC, J3X 215)
- (26) Obviously the rig doesn't always conveniently lie in this  
position for you, so you must swim the rig into position with a strong leg  
action. (BNC, AT6 1041)

In example (23) we find a causative use of the verb *work*, which is not a manner of motion verb. Its object corresponds to the original Agent argument in its intransitive counterpart (*I/you work hard*). Sentence (24) involves a different type of causation from the one found in the previous set of data. It does not mean that Yoko made me run to Tesco's, but that she gave me a lift to Tesco's. It would correspond to a transitive sentence *Yoko ran the car*, itself a causative derived from *The car ran*. In our example, the original Agent, *Yoko*, remains in place, but a new participant is introduced in object position, *me*, yielding a double causative: Yoko caused me to go to Tesco's by causing the car to run.<sup>6</sup> Finally, examples (25) and (26) also diverge from the 'walk the dog' pattern. Clearly, they cannot be taken to mean 'cause the boat to walk' or 'cause the rig to swim'. Rather, it is the original Agent argument who does the swimming and the walking. The verbs *walk* and *swim* are motion verbs which involve a "manner" semantic component (Talmy 1985b). Their meaning becomes in turn "conflated" with what Talmy calls a "path" component, contributed by the directional phrases *out*, or *into position*. The introduction of an object transativises the sentence, introducing the 'cause' component, so that the whole thing comes to mean 'take the boat out by walking' and 'put the rig into position by swimming'; or rather, more accurately, 'cause the boat be out by walking' and 'cause the rig to become in position by swimming'.<sup>7</sup> From the structural point of view, they all represent genuine instances of the transitivity of an unergative verb.

To complete the parallelism with our discussion of middles, notice the following examples:

- (27) A curfew was imposed after nightfall, but it was ill-observed, and almost anyone who had a reasonable excuse was permitted to walk the streets without hindrance. (BNC, G17 20883)
- (28) Among the pioneers teaching before Pavlova's arrival, the most important one was Helen Webb (whose father was famous as the first man to swim the English Channel). (BNC, ASC 459)

<sup>6</sup> See Davidse and Geyskens (1998:167) for an account of a similar example with the verb *fly*.

<sup>7</sup> More generally, see Levin and Rappaport Hovav (1994:69ff.) for an account of the interaction of the causative use of verbs of manner of motion with a directional phrase, which seeks to account for the contrast in *The rider jumped the horse over the fence* vs *\*The rider jumped the horse* (their examples, p.70). It should be noted, however, that the presence of a directional phrase, though very typical, is not always required, as shown by (20), and that it can sometimes be replaced by a resultative phrase, like *hard* in (23).



In (27) *the streets* is a locative object (Greenbaum and Quirk 1990:212), just like *the English Channel* in (28). They do not introduce a new participant, and thus differ from our examples (23)-(26), which did instantiate the transitivity of an unergative verb, or what we could call the ‘unergative alternation’. Unergatives now are on a par with alternating unaccusative verbs and with pure transitive verbs in their ability to have both transitive and intransitive variants. The picture of the transitivity alternations in English is now one of great symmetry, and would look as follows:

	<b>Unergatives</b> ( <i>walk</i> )	<b>Alternating unaccusatives</b> ( <i>break</i> )	<b>Non-alternating unaccusatives</b> ( <i>die</i> )	<b>Pure transitives</b> ( <i>cut</i> )
<b>Transitive</b>	√ <i>I walk the dog</i>	√ <i>I broke the jar</i>	X	√ <i>I cut the bread</i>
<b>Intransitive</b>	√ <i>The dog walks</i>	√ <i>The jar broke</i>	√ <i>Paula died</i>	√ <i>The bread cuts (easily)</i>

**Table 2:** Revised version of the available transitivity alternations in English

Coming back to middles, what matters is that we have identified middles as a distinct and independent grammatical category which comes to occupy an otherwise empty slot in the picture of transitivity alternations in English. We thus depart from existing views (Condoravdi 1989; Lekakou 2002), according to which no such thing as a middle construction exists, ‘middle’ being only “a type of interpretation certain sentences receive and [can therefore be] seen as a notional category independent of its grammatical properties” (Condoravdi 1989:24). From a structural point of view, according to them, then, middles do not exist, and the sentences receiving a middle interpretation are subsumed under general transitivity alternations already existing in the language. Thus, Condoravdi does not distinguish middles from ergatives, whereas Lekakou asserts that what we call middle in English is nothing but an interpretation that unergative sentences receive. We argue that, in English, middles do constitute a distinct class of intransitive clauses in addition to the ones predicted by the Unaccusative Hypothesis, unergatives and unaccusatives, as reflected in Table 1. The differences between the three of them can be found in their underlying thematic structures. Unergatives are characterised by having a single Agent argument represented both underlyingly and on the surface as an external argument (*Isabel laughed*). Ergatives and unaccusatives are underlyingly represented as having also one single argument, a Patient/Theme, which occupies the internal argument position, and which then surfaces as an external argument at S-structure (*The cup broke*, or *Paula died*). Middles are represented having originally two arguments, an internal one, a Patient/Theme, and an external Agent argument. On the surface, the internal

argument appears in subject position. The Agent argument is left unrealised, but we know that it is a crucial, defining feature of middles that it is semantically present, and that no middle sentence could exist with an input verb which did not have an Agent as part of its thematic structure.

So far, so good. Confusion might arise, however, because of the existence of the superficially identical unaccusative, or ergative, alternation (*I broke the cup/The cup broke*), and some of the analyses it has received. On an analysis in which the intransitive (ergative) variant of the alternation is the basic one whereas the transitive variant is derived from it by inserting an Agent in subject position (see footnote 4), middles are still fundamentally distinct from ergatives in having one more argument (the Agent) than them. The confusion might come in on analyses of the ergative alternation in which the transitive variant (*I broke the cup*) is taken to be the basic one from which ergatives are derived, since then, as explained above, the ergative and the middle alternation would be apparently identical. The key to distinguishing ergatives (*The cup broke*) from middles (*This meat cuts well*) would then lie in the manner in which we deal with the Agent argument, which would need to be deleted in the case of ergatives, so as to obtain an intransitive sentence in which the action happens ‘all by itself’. No such deletion of the Agent could take place in the case of middles, as just noted. These issues will be developed further below, but, for present purposes, what is crucial is that it is this Agent argument that is inherent to middles that warrants the recognition of a ‘middle’ intransitive category, and that makes it distinct from both ergatives and unergatives. What is more, an approach to the ergative alternation in which the intransitive variant is more basic seems preferable to me, if only for theoretical reasons, i.e. to set the different classes of intransitive sentences apart from each other in a more simple and transparent way.<sup>8</sup>

We take all these issues forward to the next section. We will see how the differences between the various intransitive categories that we have just observed by looking at the number of arguments and their superficial configuration can be upheld by a more careful analysis in terms of underlying configurations, semantic structure and derivation.

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<sup>8</sup> This is in line with Williams (1981) and Brousseau and Ritter (1991:57-62), who take the intransitive variant of the alternation to be basic and the transitive variant derived from it by the addition of an argument. But accounts in the opposite direction have also been proposed. Amongst these we find Levin and Rappaport Hovav’s (1995:79-133), who posit that the causative (transitive) variant is more basic. In favour of this analysis they argue that the selectional restrictions on the set of subjects that the intransitive variant can appear with tend to be greater than the restrictions on the objects in the transitive variant (compare *The book will open your mind* vs. \**Your mind will open from this book* (their examples, p.85)). The variant with looser selectional restrictions is taken to be the basic one. Furthermore, they invoke evidence (from Nedjalkov 1969) that shows that, across languages, the transitive forms of verbs like *break* are morphologically unmarked, and hence considered to be more basic than the intransitive forms, which, in 22 out of the 60 languages included in the study, show derived forms (in 19 out of 60 languages both forms are identical). See also Mendikoetxea (2000).

### 3. THE DERIVATION OF ERGATIVES AND MIDDLES

Let us consider again the ergative and middle alternations, as exemplified in (29) and (30) respectively:

- |      |     |                        |
|------|-----|------------------------|
| (29) | (a) | I broke the jar.       |
|      | (b) | The jar broke.         |
| (30) | (a) | I cut the bread.       |
|      | (b) | The bread cuts easily. |

The differences and similarities in the way both ergative and middle sentences are obtained in the grammar have been most prominently dealt with in the works of Keyser and Roeper (1984) and Fagan (1988, 1992).<sup>9</sup> The debate usually revolves around whether their derivation should be lexical or syntactic. Both agree that ergatives (*The jar broke*) are obtained from the transitive variant of the alternation (*I broke the jar*) and that their derivation takes place entirely in the lexicon. The operations in question involve the deletion of the Agent theta-role and the externalisation of the internal argument. They also defend that both these operations happen prior to lexical insertion, in such a way that ergatives emerge from the lexicon as intransitives: the subject of an ergative sentence occupies the subject position at D-structure, from where it is mapped directly onto subject position at S-structure without any further mediating movement.

However, both authors offer competing analyses of the middle alternation. Keyser and Roeper argue that the middle transformation is a syntactic transformation, not very different from passive formation in English. Recall that generative analyses (Chomsky 1981:124ff, Jaeggli 1986) usually have it that the addition of passive morphology to a transitive verb (the *-en* suffix) ‘absorbs’ the external (Agent) theta-role and dethematizes the object, which is thus forced to move to subject position, yielding a surface structure like *The thieves were arrested*, in which the argument bearing the Patient theta-role appears in subject position and no Agent is present. Similarly, Keyser and Roeper (1984:401) argue, the middle verb fails to assign the external theta-role to its subject, and does not assign accusative Case to its object either. A middle sentence like *This book reads well* is represented underlyingly at D-structure as *\_\_ reads this book well*. The NP *this book* receives no Case and is forced to move to subject position in order to receive Case from Infl. Movement is allowed because the subject position is thematically empty. Unlike in passives, however, no verbal morphology can be invoked to account for these properties. Keyser and Roeper (1984:406) argue that English middles have an abstract and inexpressible *si* clitic that absorbs Case and

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<sup>9</sup> See also Levin and Rappaport Hovav (1995:79ff.) for an extensive analysis of the causative alternation in English.

the Agent theta-role. They reach this conclusion from the observation of Italian middles, where *si* is an overt clitic.<sup>10</sup>

Fagan (1988:195ff.), on the other hand, proposes a lexical treatment of the derivation of the construction. Middles are derived from their transitive counterparts by the application of two rules, both of which operate within the lexicon. One of them takes care of the original Agent theta-role, and the other of the original object. The rule that takes care of the external argument is formulated as ‘Assign *arb* to the external theta-role’. *Arb* means ‘arbitrary interpretation’. It is indeed the case that the implicit Agent in middles has a generic interpretation and can be interpreted as ‘people in general’, as noted by Levin (1982:624). The assignment of a generic interpretation to a theta-role has as a grammatical consequence that the theta-role is ‘saturated’ (Rizzi 1986:508). A theta-role is saturated when it is associated with referential content. This normally takes place in the syntax, when theta-roles are associated with NPs. But it can also occur in the lexicon, and when this happens, the theta-role in question is not projected onto the syntax. This is what happens when the rule ‘Assign *arb*...’ is applied. The external argument is ‘saturated’ with a generic interpretation, and so it is left unrealised. This account is elegant in capturing the fact that middles do have an Agent argument that is semantically present but not expressed. The second rule simply externalises the internal argument. The resulting situation is one in which middles are inserted at D-structure as intransitives, their subject already occupying the subject position.

Of the two approaches to the derivation of middles just reviewed, only the syntactic one is straightforwardly consistent with mapping principles like the UTAH. The UTAH (Baker 1988) requires that “identical thematic relationships between items [be] represented by identical structural relationships between those items at the level of D-structure”. This is true in the syntactic approach, according to which the argument bearing the Theme/Patient role occupies the same D-structure position, the object position, both in the active and the middle variants. The lexical approach, on the other hand, inserts the Patient/Theme argument in object position in the active variant, but in subject position in the middle variant of

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<sup>10</sup> They claim that Italian *si* middles share all the features of their English counterparts except for the overt *si* clitic. The example they give (p.406) is *Le mele si mangiano* ‘The apples *si* eat’. It is not clear to me, however, that such Italian middles are equivalent to what we have defined as the English middle construction. The example is identical to the Spanish ‘Romance middle’ example given by Roberts (1987:192) *Las manzanas se comen para adelgazar* ‘Apples eat (are eaten) to get slim’. This is clearly not a middle according to our criteria, since it clearly lacks the property reading that we took to be a key feature of the middle interpretation. More generally, see Mendikoetxea (1999) for a comprehensive account of the various types of middle, passive and impersonal constructions with *se* in Spanish. Note, on the other hand, that, at least in Spanish, proper equivalents of English middles, both formally and semantically, although extremely rare, do exist: *El algodón lava muy bien* ‘Cotton washes very well’ (attested, meaning ‘fabrics made of cotton’). Admittedly, as pointed out by a reviewer, these constitute calques based on the English construction.

the alternation, thereby violating the UTAH. The UTAH, then, as Baker (1988:49) remarks, points away from a lexical analysis of valency alternations and alternations in the realisation of arguments, and provides theoretical motivation for an analysis in terms of syntactic movement.

There is, however, a way in which the UTAH and the lexical approach can be reconciled. This can be done by positing that the object of an active sentence and the subject of the corresponding middle do not actually have the same theta-role. This proposal relies on a careful analysis of the semantics of the sentences involved. Baker himself (1997:87) investigates this possibility in an insightful article in which he puts the UTAH to the test. We review the relevant parts of it first and then consider whether his proposals are applicable to the middle alternation.

Baker considers the problem posed by the dative and locative alternations, exemplified in (31) and (32) respectively (Baker's examples, p. 86):

- (31)           a. I gave candy to the children.  
                  b. I gave the children candy.
- (32)           a. I loaded the hay onto the truck.  
                  b. I loaded the truck with hay.

These pairs of examples exhibit alternations in the realisation of their arguments. In the dative alternation, the argument bearing the Theme role (*candy*), appears in object position in (31a), but as an oblique argument in (31b), alternating with the Benefactive argument (*the children*). In the locative alternation something similar occurs. The Theme/Patient argument (*the hay*) occupies the object position in one of the variants, but the oblique argument position in the other. The argument bearing the Locative theta-role (*the truck*) also alternates between these two positions.

Baker considers three possible approaches to these alternations and assumes that the locative and dative alternations do not need to have a unified analysis. The first option is to say that either the (a) or (b) variant is basic and the other one is derived from it by some kind of movement. The second option is to claim that the theta-roles in (a) and (b) are subtly different, which would justify having two different syntactic structures. The third option is to say that the (a) and (b) variants do not differ in their theta-roles, but both are base-generated, as a result of different subcategorisation frames associated with the verbs in a partially idiosyncratic manner. The last option is clearly undesirable, for reasons that will be explained below.

Only the first option, which corresponds to our syntactic approach, is consistent with the UTAH. Baker concludes that this is correct for (31). For (32), however, Baker prefers the second option. He argues that, while both variants of the dative alternation mean the same thing, there is a difference in meaning between the two variants of the locative alternation. The direct object in both (32a) and (32b), whether it is *the truck* or *the hay*, is seen as totally affected by the action of the verb. Sentence (32a) implies that all the hay is loaded onto the truck, but the truck

need not be completely full. Sentence (32b), on the other hand, means that the truck is completely loaded, but there may be some hay left which has not been loaded. No parallel difference in meaning can be found between the two variants of the dative alternation. The thematic roles associated with *the candy* and *the children* remain constant in both variants of the dative alternation.

The dative alternation seems, therefore, a good candidate for a transformational approach. This is exactly what Baker claims. Both (31a) and (31b) have identical underlying configurations, (31b) being derived from (31a) by syntactic movement, more precisely by a combination of P-incorporation and NP-movement.

The locative alternation, on the other hand, results from two different conceptualisations of the event in question. The thematic roles associated with the NPs *the hay* and *the truck* vary from one variant to the other. In (32a) *the hay* is seen as primarily affected, whereas in (32b) it is *the truck* that is seen as primarily affected. As Baker (1997:87) points out (see also Gropen et al. 1991), “once the viewpoint is picked, the affected argument (i.e. the Theme) is consistently generated as the direct object at D-structure”. The relationship between both variants of the locative alternation is lexical rather than syntactic. The intricacies of the lexical derivation are not within the scope of Baker’s article.

What matters is that this approach to the locative alternation captures the essence of the difference between a lexical and a syntactic treatment of verbal alternations. Where there is little semantic difference between the two variants, their relationship should be syntactic. Significant semantic differences between both variants point to a lexical relationship between them. Baker’s solution also points to the systematic relations that hold between form and meaning, the syntactic alignment of arguments being fully predictable from their semantics.

Coming back to our discussion, it is indeed the case that, in both variants of the passive transformation, for example, the original internal argument bears the same thematic relationship to the verb, and should therefore occupy an identical position at D-structure, the object position. As Spencer (1991:69) points out, the active and corresponding passive sentences describe the same state of affairs and have the same truth-conditions. They are thus good candidates for a syntactic treatment. But the case of middles is different. As Jackendoff (1992:177) notes, the middle alternation is an example of a construction that violates the argument structure of its verb “while imposing characteristic and idiosyncratic changes of meaning.” As we noted above, the subject of a middle sentence exhibits semantic features which are not found in the object of its transitive counterpart. In *I cut the bread*, *the bread* is the participant undergoing a change of state and is thus clearly a Patient. In *the bread cuts easily*, *the bread* is not the participant that undergoes a change of state, or that is affected by the event denoted by the verb or that comes into existence as a result of it, which, if we turn to Dowty’s (1991:573) theory of ‘prototype-roles’, are the properties associated with the Patient proto-role. Rather, *the bread* in the middle sentence above refers to a participant about which a property is being predicated and that exists independently of the event named by the verb. It is,

therefore, closer to an Agent proto-role than to a proto-Patient. In sum, it would not be justified to have it occupy the same underlying position as the object of its transitive counterpart. Quite the contrary, the semantic peculiarity of the middle construction warrants a treatment of the construction in which the subject of the intransitive variant is derived lexically and comes to occupy the external position at D-structure.

Given the above, i.e. the recognition of the proto-Agent nature of the middle subject and of the fact that it should therefore occupy the external argument position at D-structure, a more radical lexical approach could be conceived, namely, a situation in which the transitive and middle variants of the verb constitute two distinct lexical entries, each with its own argument structure right from the beginning (Baker's third option). Along with transitive *cut* with an argument structure <Agent, Patient>, a middle verb *cut* would exist. Middle *cut* would select one single participant, which would have something like a 'property reading middle subject' role occupying the external argument position and then being projected onto the subject position. This approach has the important disadvantage that it posits an argument structure for the middle verb in which no Agent is present. If middles have an implied Agent, such an argument should be somehow present at some point of the derivation. It is also counter-intuitive. The verb *cut*, whether it is used transitively or in the middle mode, is felt to be the same verb in both sentences and does invoke the same basic scene (Payne 1997:170) in which two participants are involved.

In sum, Fagan's lexical account, unlike Keyser and Roeper's, seems to be on the right track. Yet, whereas it does take care of the structural changes that middle formation involves, it fails to account for the stativity and the special semantic features that characterise a middle sentence. I propose a set of four rules to account for the derivation of the middle construction:

1. Substitute Hold for Cul.
2. Assign *arb* to the external theta-role.
3. Externalise the direct theta-role.
4. Assign 'property reading' to the externalised argument.

All four rules operate in the lexicon, prior to lexical insertion at D-structure. Rules 2 and 3 are no different from the ones introduced by Fagan, as reviewed above.

Rule 1 employs Parsons' (1990:20ff.) analysis of the meaning of verbs in terms of their event structure. His theory employs the basic distinction between an eventuality's *culminating*, when it develops over an interval and culminates at a certain point, and that eventuality's *holding*, when at a given point, a state either holds or does not hold. Events, whether they have a development portion (*build a bookcase*) or not (*reach the summit*) 'culminate', whereas states (*know Fred*) 'hold'. Parsons (1990:184) also distinguishes a third category of verbs, processes (*run*), which are, however, viewed by him as a series or amalgam of culminated

subevents, and are thus subsumed under the ‘event’ category.<sup>11</sup> In the logical forms he uses to represent the decomposition of verb meanings, the notation Cul(e,t) is used to mean that e is an event and that it culminates at time t, whereas Hold(e,t) means that e is a state and e’s subject is in that state at t. Rule 1, therefore, captures the stativisation process involved in middle formation.<sup>12</sup>

Rule 4 is also a semantic rule and captures the thematic peculiarity of the subject of a middle sentence. Any qualms that we might have about altering the theta-role of an argument are unwarranted, given that we are simply introducing a new interpretation for an existing theta-role and we are doing it by means of a lexical rule prior to the projection of arguments into the syntax at D-structure. Such are the devices that the lexicon component of the grammar allows us. The lexicon is considered to be home to everything that is idiosyncratic or which involves a semantic peculiarity. The syntax, on the other hand, is related to productive transformations that are forced for structural reasons, such as the need for Case or the need to fill in a subject position etc. More generally, as Wasow (1970:331) points out, only lexical rules may have idiosyncratic exceptions, lexical rules must apply prior to all transformational rules, and only lexical rules may provide input to other lexical rules.

What matters for present purposes is that this account is clearly incompatible with proposals that deny the grammatical status of middles and that define ‘middleness’ merely as a notional category. In this account the semantic and structural features go together, and the application of this set of rules can only result in a middle sentence, as we have defined it. Neither rule 1 nor 4 apply in the derivation of ergative predicates, like *The cup broke*, which differ from middles in that they are eventive and lack a property reading. Crucially, rule 2 does not apply to them either. Ergatives could be derived by a rule that externalises the direct object and another that deletes the external argument, as formulated by Fagan, or, if we take ergatives to be the basic variant of the alternation, as we suggested, by a single externalisation rule that raises the underlying object into an empty subject position. What is more, contrary to standard assumptions, the ergative rule need not even operate in the lexicon. In fact, the derivation of ergatives should take place in

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<sup>11</sup> This classification is parallel to traditional aspectual classifications of verbs (Vendler 1967; Dowty 1979) into states, activities (Parsons’ series of events), accomplishments (Parsons’ events that culminate and also have a developing portion) and achievements (Parsons’ events that culminate without a developing portion). Comrie (1976:51) refers to essentially the same state/event distinction by referring to states vs dynamic situations, the latter including events proper (accomplishments and achievements) as well as processes (activities). It is this distinction that we want to capture by the *culminating vs holding* split.

<sup>12</sup> This seems to imply that all of the verbs that Parsons calls ‘events’ (accomplishments, achievements and activities) can produce middles. However, it has been suggested, as noted in the previous section, that only accomplishments and activities can produce middles. More research needs to be done to define exactly the aspectual class of verbs that can enter middle formation, but see García de la Maza (2005) for an account of middles in which achievements are not ruled out from the grammar of English.



the syntax, if, as pointed out by Roberts (1987:260), the UTAH is to be maintained. *The cup* in *The cup broke* has a Theme/Patient theta-role, and so should appear in object position at D-structure.<sup>13</sup> Positing a syntactic derivation of ergatives would in turn force us to take the intransitive variant to be the basic one since the deletion of the Agent argument in the syntax would lead to a violation of the Projection Principle. This provides theoretical motivation to support our preference to treat ergatives as more basic. Recall that this makes it possible to obtain a theoretically very elegant picture, summarised in Table 3, of the – now clearly distinct – intransitive categories, in which middles can be identified as an independent grammatical category, characterizable in terms of their argument structure, fundamentally different from the rest in having an original Patient/Theme argument in subject position (whose newly acquired semantic idiosyncrasy can be indicated with the ‘Prop’ (property reading) subindex), and in having an original Agent argument that is unexpressed but semantically present. Middles have also been shown to constitute a lexical class of intransitives sentences, a feature that distinguishes them from both types of unaccusatives (for which we have been able to reach a unified, syntactic, analysis) and from passives.

	Argument structure	D-structure	S-structure
<i>Mary laughed</i> (Unergative)	V [ <u>Ag</u> ]	Mary laughed	Mary laughed
<i>The cup broke</i> (Ergative)	V [__, Pat]	__ broke the cup	The cup <sub>i</sub> broke t <sub>i</sub>
<i>Paula died</i> (Unaccusative)	V [__, Pat]	__ died Paula	Paula <sub>i</sub> died t <sub>i</sub>
<i>The meat cuts</i> (Middle)	V [(Ag <sub>Arb</sub> ) <u>Pat</u> <sub>Prop</sub> ] (<V [ <u>Ag</u> , Pat])	The meat cuts	The meat cuts
<i>The meat was cut</i> (Passive)	V <sub>Pass</sub> [Pat] <sup>14</sup> (< V [ <u>Ag</u> , Pat])	__ was cut the meat	The meat <sub>i</sub> was cut t <sub>i</sub>

**Table 3:** English intransitivity

<sup>13</sup> This is not to say, by the way, that *I broke the cup* cannot be formed by the addition of an Agent argument to the theta-grid of the verb while in the lexicon. It should also be clarified that middles formed from alternating unaccusative verbs, like *This vase breaks easily*, would be obtained from their transitive counterparts (*I broke the vase*) following the standard procedure described in this section.

<sup>14</sup> We have already explained that this results from the addition of passive morphology, and not from lexical rules proper as in the case of middles.

#### 4. CONCLUSION

Building on the Unaccusative Hypothesis, and on a careful interpretation of the Universal Theta-Assignment Hypothesis, this paper has departed from some views proposed in the literature, according to which no such thing as a middle structural category exists, and has shown middles to constitute an independent lexical class of intransitive structures in English. In so doing, we have reached a sounder picture of the intransitivity paradigm in English, in which middles, passives, both types of unaccusatives and unergatives can be clearly set apart from each other both because of their underlying configuration and the derivational process by which they are obtained.

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