Verbs of cutting in the middle construction: Examining the compositional cospecification of patientive vs. Agent-instrument middles

Verbos de corte en la construcción media: examinando la co-especificación composicional de las medias pacientes y agentivo-instrumentales

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Abstract

The purpose of this paper is to examine both prototypical Ergative-like middles (e.g. *The cake cuts well*) and their metonymically-motivated extensions, called Agent-Instrument middles (e.g. *The saw cuts like a dream*). The former incorporate as subjects patientive entities and the latter instruments. Both structures allow the incorporation of verbs of cutting, but they represent divergent portions of the action chain, and thus, they differ in the nature of their subject entities and their processes of compositional cospecification in terms of *qualia* structure. On the whole, on the basis of the prototype effects of the middle construction analysed here, they should be considered proper middles. This paper is based on a corpus study of contextualised examples (1700+) to examine their collostructional schema in the English middle construction (cf. Stefanowitsch and Gries 2003). Particularly, we explore the

Resumen

El propósito de este trabajo es examinar tanto las medias prototípicas de tipo ergativo (e.g.: *El pastel se corta bien*) como sus extensiones de motivación metonímica denominadas medias agentivo-instrumentales (e.g.: *La sierra corta de ensueño*). Las primeras incorporan entidades pacientes como sujeto, y las segundas, instrumentos. Ambas estructuras permiten la incorporación de verbos de 'cortar', pero representan porciones divergentes de la cadena de acción y, por tanto, difieren en la naturaleza de sus entidades sujeto y en sus procesos de cospecificación composicional en términos de estructura de qualia. En general, ambas deben considerarse medias propias en virtud de los efectos prototípicos de la construcción media que aquí se analiza. Este trabajo se basa en un estudio de corpus de ejemplos contextualizados (más de 1700) para examinar el esquema colostruccional en la construcción media inglesa (cf. Stefanowitsch y Gries 2003). En particular,

Verb + Adverb collocation found in middles by focusing on 29 predicates belonging to Levin's (1993: 156) class of verbs of cutting, in combination with facility-/quality-oriented adjuncts (*cf.* Davidse and Heyvaert, 2007). Following a cognitive perspective, this paper examines the semantic roles of the subject referents analysed (patients and instruments), as well as their distinct processes of compositional cospecification as factors that contribute to the prototype effects of the middle construction. On the basis of corpus data, despite the syntactic, semantic, and pragmatic common schemas found in prototypical Ergative-like middles and Agent-Instrument middles, the prototype effects of the middle construction highlight the divergent processes of compositional cospecification that these two types of middles follow. More specifically, a shift of semantic weight from a telic to a constitutive value occurs in Agent-Instrument middles, while there is lack of such a semantic shift in terms of *qualia* structure in prototypical Ergative-like middles with patientive subjects. Thus the middle construction cannot be considered as a discrete category of its own, but rather a prototype category (*cf.* Taylor, 1995; Hundt, 2007) that permits the accommodation of central and peripheral members. Consequently, in addition to the traditionally accepted structures in which the subject referent is a patientive entity, other less archetypal nominals can occur as middle subjects, particularly, instruments whose action affects implied and patientive entities.

KEYWORDS: middle construction; compositional cospecification; Ergative-like middle; Agent-Instrument middle; prototype effects; verbs of cutting

exploramos la colocación Verbo + Adverbio que se encuentra en las medias, centrándonos en 29 predicados pertenecientes a la clase de verbos de 'cortar' de Levin (1993: 156), en combinación con adjuntos orientados a la facilidad/calidad (cf. Davidse y Heyvaert 2007). Siguiendo una perspectiva cognitiva, este trabajo examina los roles semánticos de los referentes temáticos analizados (pacientes e instrumentos), así como sus distintos procesos de cospecificación composicional como factores que contribuyen a los efectos prototípicos de la construcción media. Sobre la base de los datos del corpus, a pesar de los esquemas sintácticos, semánticos y pragmáticos comunes que se encuentran en las medias prototípicas de tipo ergativo y en las medias agentivo-instrumentales, los efectos prototípicos de la construcción media ponen de manifiesto los procesos divergentes de cospecificación composicional que siguen estos dos tipos de estructuras. Por lo tanto, se produce un cambio de peso semántico de un valor télico a uno constitutivo en las medias agentivo-instrumentales, mientras que no hay tal cambio semántico en términos de estructura de qualia en las medias prototípicas de tipo ergativo con sujetos pacientes. Así, la construcción del medio no puede considerarse como una categoría discreta propia, sino como una categoría prototípica (cf. Taylor 1995; Hundt 2007), que permite la acomodación de miembros centrales y periféricos. En consecuencia, además de las estructuras tradicionalmente aceptadas en las que el sujeto referente es una entidad paciente, pueden darse otros nominales menos arquetípicos como sujetos medios, en particular, instrumentos cuya acción afecta a entidades implícitas y pacientes.

PALABRAS CLAVE: construcción media; cospecificación composicional; media de tipo ergativo; media agentivo-instrumental; efectos prototípicos; verbos de 'cortar'

1. INTRODUCTION

Middle structures have been largely examined in the traditional literature (Van Oosten, 1977 & 1984; Keyser & Roeper 1984; Fellbaum 1986; Fagan 1992; Levin 1993; Kemmer 1993; Ackema & Schoorlemmer 1994; among many others), always with the aim of trying to narrow down the essence of middlehood by restricting the conditions of well-formedness and grammaticality of this construction. Middability has generally been associated with the following

features: (i) transitive verbs in their one-argument intransitive use (*cf.* Fagan 1992; Levin 1993); (ii) non-agentive and affected participants occurring in Subject position, thus, fulfilling the role of Patient (*cf.* Van Oosten 1977 and 1986; Keyser and Roeper, 1984; Fagan, 1992); (iii) implicit agentive participants with an arbitrary and generic nature (*cf.* Ackema & Schoorlemmer 1994; Fagan 1992; Keyser & Roeper 1984); (iv) the need to incorporate Subject-oriented adjuncts whose Experiencer arguments are necessarily identified with the implied Agent (*cf.* Dixon 1982; Hoekstra & Roberts 1993); (v) non-eventive situations which lack a specific time reference (*cf.* Ackema & Schoorlemmer 1994); and (vi) Subject referents with certain letting/facilitating (or hindering) properties leading to the conduciveness of the event denoted by the predicate (*cf.* Fawcett 1980; Kemmer 1993; Davidse & Heyvaert 2007). In accordance with these core features, a traditionally accepted middle structure is illustrated in (1) below:

(1)   *Crystal vases break easily*. (Marín Arrese, 2011: 37).

In this example, the Subject referent 'crystal vases' has a patientive nature since it is affected by the 'breaking' event. The implied Agent (either a person acting deliberately or any spontaneous event such as a gust of wind or a ball hitting the vases in question by accident) is syntactically absent, but is semantically and/or contextually recoverable. The vases in question are characterised by being prone to breaking 'easily'. In fact, it is the speaker who evaluates the breaking event easily occurring, basing their evaluation on the inherent properties of the Subject referent. Therefore, the natural disposition or breakability of the vases in question is seen by the speaker as being conducive to the action denoted by the predicate in the way indicated by the adjunct.

Formalist/projectionist verb-centred approaches to the process of middle formation (Levin 1993; Hale & Keyser 2002; Pinker 1989, and others) merely focus on structural information in order to restrict the conditions for acceptability, but such a rigid view does not always capture the essence of middlehood. This is so because these approaches advocate for the idea that the syntactic behaviour of verbs is determined by their meaning, and they therefore assume that verbs with common semantic features need to participate in the same syntactic alternations. However, these verb-centred approaches to the process of middle formation do not successfully take into account the process of lexical-constructional interaction, and thus they fail to recognise that "the constructions in which verbs occur are meaningful in and by themselves" (Lemmens 1998: 38). In fact, in line with Goldberg's (1995, 2006, 2019) constructionist model, a verb and its arguments are necessarily determined by the construction itself, because it is the construction (understood as a conventional pairing of form and meaning) which determines the combinatory possibilities of a verb and its arguments.

A cognitive/constructionist perspective on the process of middle formation might, therefore, shed light on this issue, particularly, through applying the notions of 'family-resemblance' (*cf.* Wittgenstein 1985) and 'prototype effects' (*cf.* Taylor 1995; Lakoff, 1987; Langacker 1987, 2008; Goldberg 1995, 2006 and 2019). Thus, in considering the middle construction as a radial network or category (rather than a discrete category of its own), in this paper we can examine it as enabling the accommodation of central and peripheral members (see also Hundt 2007 and Palma Gutiérrez 2022).[1]

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1   Along the lines of Hundt's (2007: 63) ideas, and also by extending the corpus sample from previous research projects (*cf.* Palma Gutiérrez, 2022), this paper argues that instrumental middles involve the occurrence of subject

In this paper, we focus on the nature of verbal predicates and the notion of 'affectedness' in non-agentive Subjects as a restricting factor for middlehood as proposed by the traditional literature (Van Oosten 1977, 1986; Keyser & Roeper 1984; Fagan 1992), and we provide a reanalysis of it. To do so, we compare two types of middle structures incorporating Levin's (1993) class of verbs of cutting and we examine them in terms of *qualia* structure (*cf.* Pustejovsky 1991, 1995) and their processes of compositional cospecification (*cf.* Yoshimura 1998; Yoshimura & Taylor 2004). These two types of structures are the so-called prototypical Ergative-like middles (like *This cake cuts easily*) and the metonymically-motivated extensions of the prototype, known here as Agent-Instrument middles (like *The saw cuts like a dream*).

The theory of *qualia* structure postulates the idea that *qualia* roles are idiosyncratic, lexical-semantic features that "structure our basic knowledge" about an entity (Pustejovsky 1991: 427). The *qualia* structure of an entity lets us conceptualise it by means of its cognitively-activated inherent properties, namely, its *formal* features (Qf), its *constitutive* features, or internal parts, (Qc), its *agentive* features, which depend on the factors involved in its origin or bringing about (Qa), and its *telic* features, or purpose and function (Qt).[2] The *qualia* structure, in this sense, refers to semantic constraints "based on the idea that there is a system of relations that characterises the semantics of nominals"; and notably, "serves to specify the reading of a verb" (Yoshimura 1998: 115). This is fundamental in cospecification phenomena, since "middles will be licensed only insofar as there is a proper matching between the verb's meaning and one of the *qualia* of its subject" (Cortés-Rodríguez & Mairal Usón 2013: 234).

The process of cospecification implies that "semantic information of the complement (of a verb) contributes to the specification of a unique and appropriate meaning of the verb" (Yoshimura 1998: 114). This idea is based on the fact that "just as a verb can select for an argument-type, an argument itself is able to select the predicate that governs it" (Yoshimura 1998: 114). In compositional analysis, the *qualia* structure of middles might lead to a shift in semantic importance when the value of the adjunct is added to that of the match between the meaning of the verb and the semantics of the Subject (*cf.* Yoshimura, 1998; Yoshimura & Taylor 2004).

In order to clarify this notion of compositional cospecification, consider a middle structure like *This book reads easily*.[3] Any arbitrary person can read a book due to their own skills (*i.e.,* literacy). Nevertheless, if the speaker specifies that the reading event was 'easily' performed, the abilities of the Agent (the reader) are being backgrounded and the responsibility of the inherent properties of the book in question (like its clarity and liveliness of

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entities fulfilling the semantic role of Instrument, in combination with omitted patientive entities in Object position. The latter, despite their lack of syntactic projection, rely on an absolute interpretation at the semantic level of analysis, exhibiting more agent-like features associated with the Instrumental role of subject entities than prototypical middles (which characterised by a higher level of affectedness). These ideas are further elaborated in this section, as well as in Section 2.

2   According to Yoshimura (1998: 119-120) and Yoshimura and Taylor (2004: 308), telic and constitutive *qualia* modes (Qt and Qc) are the most relevant types regarding the process of compositional cospecification in middles. These two types of *qualia* roles are the ones explored in this paper, although formal and agentive *qualia* (Qf and Qa) are also found in middles (*cf.* Cortés-Rodríguez & Mairal Usón 2013: 234).

3   This is an Action-oriented middle, as explained in section 3. In this paper, this type of middle is not examined but it is mentioned here as an illustrative instance to convey the notion of 'compositional cospecification'.

style) are being foregrounded and assessed as being conducive to the action denoted by the predicate in the way specified by the adjunct. In terms of *qualia* structure and compositional cospecification, then, we can affirm the following: the meaning of the nominal 'book' is cospecified by virtue of the semantics of the predicate 'read', reflecting a telic value (Qt). That is, books are meant to be read (by an implied Agent, a reader), as this is their purpose or function. However, when the semantic value of the adjunct 'easily', in this case, is added in compositional analysis, we understand that the book in question can be read 'easily' because it possesses certain inherent or contingent properties that enable any implied reader (independently of their literary abilities) to carry out the reading event with ease. Therefore, in the process of compositional cospecification of the middle structure '*This book reads easily*', a shift in semantic importance from telic to constitutive *qualia* occurs (from Qt to Qc).

In this paper we explore the extent to which the process of compositional cospecification is different in the two types of middle structures examined here. Usage-based data is used to support the idea that a shift of semantic weight from a telic to a constitutive value occurs in Agent-Instrument middles (QtàQc), whereas there is a lack of any such shift in prototypical Ergative-like middles, since the constitutive value is maintained throughout the process of compositional cospecification (QcàQc).

This paper is organised as follows: section 2 focuses on the distinction between prototypical Ergative-like middles and extensions of the prototype called Agent-Instrument middles, based on the prototype effects displayed in the construction; section 3 shows the usage-based methodology employed in this work; section 4 presents the data and results obtained; and section 5 offers some final remarks.

2. PROTOTYPE EFFECTS IN THE MIDDLE CONSTRUCTION: PROTOTYPICAL ERGATIVE-LIKE MIDDLES AND AGENT-INSTRUMENT MIDDLES

According to the traditional approaches to middle formation, it is generally assumed that the Subject entities found in middle constructions fulfill a patientive role, which is provided by their affectedness or change of state and their non-agentive value (*cf.* Van Oosten 1977, 1986; Keyser & Roeper 1984; Fagan 1992). However, this phenomenon, called 'Affectedness constraint on middle formation' fails to account for canonical examples that are frequently cited in the literature as proper middles and which contain other than a Patient entity as Subject. Consider the following instances in this regard:

(2)   *I am more than satisfied with this card stock. <u>The paper cuts easily</u> and cleanly, scores and folds well too. I am using this in conjunction with the Taupe brown card stock for wedding invitations.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(3)   *The installation looks better than if the factory had done it and <u>the car drives like a dream</u>. It will break the tires loose easily in third gear.* (enTenTen13 corpus, Concordance section, Sketch Engine)

In example (2) above, the 'paper' in question is patientive as it suffers from a change of state due to the cutting action in the way indicated by the adjunct (*i.e.*, 'easily'). However, no change of state occurs in the case of the 'car' in (3) above. That is, the 'car' in question is not affected at all by the driving activity. These two instances have something in common,

though: the profiling of the non-agentive Subject and the defocusing of the Agent. In both cases, the speakers assess the inherent properties of the Subject referents as being conducive to the actions denoted by the predicates in the way indicated by their adverbs, independently of the skills of any implied agentive participant. Therefore, the cutting of the 'paper' in (2) does not depend on the abilities of any implied Agent, but rather, it relies on the internal constitution of the 'paper' in question: the materials that compose it and other internal features like its flexibility, rigidity, etc. Similarly, the fact that the driving event in (3) is easily carried out does not depend on the driving abilities of any implied driver, but rather, it has to do with the inherent properties of the 'car' in question: the car body, the braking system, the steering wheel, the tyres, etc.

Apart from this pragmatic commonality between examples (2) and (3) by which there is a process of non-agentive Subject-profiling and Agent-defocusing, these two examples also share syntactic and semantic underlying schemas. The syntactic schema that both examples undergo is that of intransitive structures: [N – V – (Adv)]. In terms of semantic analysis, both examples follow the pattern [X (by virtue of some property P) Is Subjectively Assessed By The Speaker As Being Conducive To Act].

Based on the theory of prototypes (*cf.* Taylor, 1995) and the contrast between middles with affected participants (as in example (2) above) and middles with non-affected entities in Subject position (as in example (3) above), Sakamoto (2001) proposes the distinction between Ergative-like middles (like (2)) and Action-oriented middles (like (3)).[4] As the author explains it, Ergative-like middles incorporate ergative verbs (like 'open', 'close', 'break', and 'cut') since they "specify how the change of state proceeds"; whereas Action-oriented middles are constructed with unergative verbs (like 'read', 'translate', 'drive', and 'handle'), since they "specify the manner of action" (Sakamoto, 2001: 101).

As detailed in Palma Gutiérrez (2021b), prototypical Ergative-like middles and Action-oriented middles can also be distinguished by the divergent processes of compositional cospecification that the two structures undergo. In terms of *qualia* structure, the semantic relation that specifies the meaning of the predicate 'drive' in example (3) above by virtue of the semantics of the entity 'car' has a telic nature (*i.e.*, Qt). In other words, the final purpose or function of a 'car' is to be 'driven'. However, when the semantic charge of the adverb 'like a dream' is considered, the inherent properties of the 'car' (its Qc) are foregrounded as being responsible for the conduciveness of the driving activity, backgrounding the role of the implicit Agent, the driver. Thus, a shift in semantic importance from a telic to a constitutive value occurs in compositional analysis in the case of Action-oriented middles. This phenomenon is captured in the formula [QtàQc].

On the other hand, in the process of compositional cospecification in prototypical Ergative-like middles, there is a lack of an initial telic relation between the nominal entity occurring as Subject and the verb of the middle construction. In the case of (2) above, for example, there is no telic relation between 'paper' and 'cut'. The fact that the 'paper' in question cuts at all relies on its inherent properties (its Qc), and the addition of the adjunct 'easily' does not suppose a shift of semantic importance. In fact, the adverb intensifies the responsibility of the inherent properties of the 'paper' in question (its Qc) as letting the

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4   In this paper, the term 'Ergative-like middle' is used instead of the actual term found in Sakamoto's (2001) work, 'unaccusative-based middle'. See also Palma Gutiérrez (2021b).

cutting action occur in an easy way. Thus, prototypical Ergative-like middles follow the formula [QcàQc] in compositional analysis.

Once argued that there are middle structures that do not follow the traditional restriction of affectedness (as occurs in Action-oriented middles), it is possible to think of the middle construction as a prototype category, rather than as a discrete category. That is, the middle construction can be understood as a radial category or network in which some exemplars are more prototypical and others are more marginal or peripheral, but they have in common the fact that they instantiate the same syntactic, semantic, and pragmatic underlying schemas. In this way, the middle prototype category can be analysed as a family of related but diverse structures. Besides, other less prototypical middles can be accommodated into this family of structures.

Following Sakamoto (2001) as well as the theory of prototypes (*cf.* Taylor 1995; Lakoff 1987; Langacker 1987, 2008; Goldberg 1995, 2006), in this paper we argue that a restricted set of middles, referred to here as Agent-Instrument middles, are identified as a hybrid combination of certain features of prototypical Ergative-like middles and Action-oriented middles. Consider example (4) below in this regard:

(4)   *A lot of people call this a sharpening steel. It doesn't actually sharpen your blade. Its purpose is to hone the blade. When everything is lined up straight, your knife cuts smoothly. When it is not, it feels like there is something dragging while making your cut.* (enTenTen13 corpus, Concordance section, Sketch Engine)

According to the core aspects traditionally accepted as middle-forming, example (4) displays most of the fundamental features of middles: (i) the predicate 'cut' occurs in its one-argument intransitive use; (ii) the Agent is implicit and has an arbitrary and generic nature; (iii) the adverb 'smoothly' is Subject-oriented, as its Experiencer argument is necessarily identified with the implied Agent; (iv) a non-eventive situation lacking a specific time reference is denoted; and (v) the Subject referent 'knife' is subjectively assessed by the speaker as being conducive to the action denoted by the predicate due to its letting/facilitating properties.

However, there is one feature generally associated with middles which is not present in example (4): the affectedness of the Patientive Subject referent. In this case, the 'knife' in question does not suffer from any change of state due to the cutting event. Instead, the 'knife' has an Instrumental role in semantic analysis, as it is seen as an artifact used by an implicit Agent to perform the cutting activity, and thus, as affecting an implied Patient (for instance, vegetables). Therefore, a different portion of the action chain is described in middles like (4) in contrast to prototypical Ergative-like middles like (2). Consider the following instances with regards to this contrast:

(5)   *Use a type of wood that does not require the use of power tools. Basswood carves easily and is lightweight, but it should be painted or stained because it's rather plain.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(6)   *Certain tapping processes require that the Sawing Molybdenum be heated to above 325 degrees Fahrenheit, however it should not be heated above 500 degrees unless in a protective, non-oxidizing atmosphere. The Sawing Molybdenum saws easily with power bend saws and hacksaws.* (enTenTen13 corpus, Concordance section, Sketch Engine)

Example (5) instantiates a prototypical Ergative-like middle containing a Patientive Subject ('basswood'), a Subject-oriented adverb whose Experiencer participant coincides with the implied Agent ('easily'), and a transitive verb used in its one-argument intransitive form ('carve'), the predicate 'carve' belonging to Levin's (1993) class of verbs of cutting, within her set of 'carve verbs'. In addition, example (5) involves an implied Agent who carries out the carving event, producing a change of state on the 'basswood' with ease.

In contrast, instance (6) is an example of an Agent-Instrument middle, as the Subject entity (the 'Sawing Molybdenum') is not affected at all by the sawing activity. In fact, it is the Instrument used by the implied Agent to perform the action denoted by the predicate in the way indicated by the adjunct ('easily') in order to affect an implied Patient ('metal'). The predicate 'saw' in (6) does also belong to Levin's (1993) class of verbs of cutting, specifically, to her set of 'cut verbs'. Example (6), therefore, focuses on a different portion of the action chain than do middles like (5) above. This can be illustrated in the following instance:

> (7)   *This type of metal saws easily <u>with the Sawing Molybdenum</u>.* (enTenTen13 corpus, Concordance section, Sketch Engine)

Example (7) is a paraphrase of (6) that results from the altering of the order of participants in the action chain being described. On this occasion, the Subject entity, the 'type of metal' in question, is Patientive, that is, it is affected by the sawing activity and its change of state occurs 'easily' due to its inherent properties. The implied Agent carries out the sawing event by using the 'Sawing Molybdenum'. Thus, example (7) constitutes an instance of a prototypical Ergative-like middle. However, when the argument focus is moved from the Patient to the Subject position (in this case, the Instrument used by the Agent), another portion of the action chain emerges, resulting into a less prototypical type of middle: an Agent-Instrument middle, like in (6) above.

Regarding the type of predicates allowed in Agent-Instrument middles, only a restrictive set of Ergative-like verbs (*i.e.*, those focused on "how the change of state proceeds" (Sakamoto, 2001: 101)) can occur. This is the case of Levin's (1993) class of 'verbs of cutting' (including 'carve verbs' and 'cut verbs'). In contrast, prototypical Ergative-like middles allow a more ample range of predicates besides these, like the class of 'break verbs', for example (see Palma Gutiérrez (2021b) for a detailed explanation in this regard).

So far, we have shown the similarities and divergences between prototypical Ergative-like middles and Agent-Instrument middles. In addition, Agent-Instrument middles do also possess some of the features found in Action-oriented middles, and that is why they are considered here to be hybrid structures.[5] Consider the following instances in this regard:

> (8)   *On the track, where it is legal to push a car like this to the limits, <u>the car handles well</u>. It has a solid sports suspension that keeps all four wheels on the ground even in the hardest cornering, and it breaks as smoothly and as well as it accelerates.* (enTenTen13 corpus, Concordance section, Sketch Engine)

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5   In a constructionist framework, constructions that have partial similarities with others are connected via subpart inheritance links, referred to as multiple inheritance constructions (*cf.* Goldberg 1995: 78; see also Hilpert 2019).

(9)   *The saw* *has been sharpened and* *cuts like a dream*. (enTenTen13 corpus, Concordance section, Sketch Engine)

Example (8) above instantiates an Action-oriented middle. The Subject entity (the 'car' in question) is not affected at all by the handling activity, and the predicate "specifies the manner of action", rather than focusing on "how the change of state proceeds", as happens in prototypical Ergative-like middles (Sakamoto 2001: 101). In addition, as proposed in Palma Gutiérrez (2021b), Action-oriented middles follow the pattern [QtàQc] in compositional cospecification, which differs from the pattern found in prototypical Ergative-like middles, [QcàQc]. Therefore, Action-oriented middles are characterised by a telic relation that cospecifies the reading of the verb by virtue of the semantics of the nominal, and this telic value is lacking in prototypical Ergative-like middles. In Agent-Instrument middles like (9) above, we observe the same pattern occurring in Action-oriented middles: there is a telic relation between the predicate 'cut' and the nominal 'saw'. Besides, in both Action-oriented middles and Agent-Instrument middles, the addition of the semantic value of the adjunct provokes a shift in semantic weight towards a constitutive value (Qc) which highlights the fact that the inherent properties of the Subject entity are responsible for carrying out the action, irrespective of the abilities of any implied Agent.

In addition, as previously mentioned, Agent-Instrument middles incorporate other than Patientive Subjects, the same as happens with Action-oriented middles. In the case of Agent-Instrument middles, the particular type of non-Patientive entity they employ is an Instrument.[6]Finally, in contrast with Action-oriented middles, Agent-Instrument middles cannot be construed with verbs that 'specify the manner of action'. Instead, they are construed with a restrictive set of verbs that show 'how the change of state proceeds'; *i.e.*, those belonging to Levin's (1993) class of 'verbs of cutting'.

Basically, the hybridity of Agent-Instrument middles is due to the fact that they coincide with the collostructional schema of prototypical Ergative-like middles (Inanimate Subject + Verb of cutting + Adverb), but they project non-Patientive Subjects and have a telic value that cospecifies the meaning of the predicate by virtue of the semantics of the nominal, as happens in Action-oriented middles, following the pattern [QtàQc] in compositional cospecification. Therefore, Agent-Instrument middles can be considered as metonymically-motivated extensions from prototypical Ergative-like middles which profile an Instrument instead of a Patient. This divergence in the order of the elements of the action chain triggers a metonymic interpretation of the Instrument as an extension of the implied Agent: the Agent physically manipulates an artifact and produces a change of state in an implied Patient (see also Hundt, 2007: 63). Notably, the semantic relation between the Instrumental Subjects and the set of verbs allowed in Agent-Instrument middles has a telic value, as occurs in Action-oriented middles. In both cases, though, the addition of the semantics of the adjunct provokes a shift in semantic importance towards a constitutive value (Qc). Thus, both types of peripheral middles are characterised by the pattern [QtàQc] in compositional cospecification.

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6   In the case of Action-oriented middles, as stated in Palma Gutiérrez (2021b), the type of entity occurring in Subject position fulfils the semantic role of 'Enabler'.

3. METHODOLOGY

This paper is based on a corpus study of contextualised examples which is used to analyse the collostructional schema of the English middle construction.[7] The corpus consulted was the enTenTen13 within the *Sketch Engine* tool (last accessed 02/05/2022). By using the Concordance section of this corpus, we explore the combinations of Inanimate Subject referents (Patientive and Instrumental entities) when in conjunction with a Verb + Adverb collocation, specifically focusing on: (i) affirmative and negative occurrences of 29 predicates belonging to Levin's (1993: 156) class of verbs of cutting, as listed in Table 1;[8] and (ii) adjuncts belonging to the facility- and quality-oriented subtype (Heyvaert 2003, 2001; and Davidse & Heyvaert 2007), as also detailed in Table 1. The total sample of instances analysed is 1703 examples, distributed as shown in Figures 1, 2 and 3 in section 4.

As mentioned in previous sections, Levin's (1993: 156) class of verbs of cutting is made of two sets of verbs: *cut* and *carve* verbs. There are 10 predicates belonging to Levin's class of *cut* verbs, and 33 predicates in the set of *carve* verbs. In this paper, the 29 predicates appearing in Table 1 were selected (6 predicates within the class of *cut* verbs and 21 predicates within the set of *carve* verbs). The rest of the predicates from Levin's classification had no entries in the corpus consulted which adjusted to the collostructional schemas examined here.

According to Heyvaert (2003: 136), facility-oriented middles specify how easy (or difficult) it is to perform the action denoted by the predicate through the incorporation of adjuncts like 'easily', whereas quality-oriented middles comment on the way in which the process can be carried out through the addition of adverbials that express a quality judgement (like 'smoothly') or a comparison of quality (such as 'like a dream').

Verbs of cutting (*cut* and *carve* verbs)	Facility-/Quality-oriented adjuncts
(i) <u>Cut</u> verbs: 'clip', 'cut', 'saw', 'scrape', 'scratch', and 'slash'.	(i) <u>Facility-oriented adjuncts</u>: 'easily', 'with ease', and 'effortlessly'.
(ii) <u>Carve</u> verbs: 'bore', 'bruise', 'carve', 'chip', 'crush', 'dent', 'drill', 'file', 'fillet', 'grate', 'grind', 'mash', 'mince', 'mow', 'nick', 'perforate', 'pulverise', 'punch', 'prune', 'shred', 'slice', 'squash', and 'squish'.	(ii) <u>Quality-oriented adjuncts</u>: 'well', 'smoothly', 'quickly', 'fast', 'rapidly',[9] 'like a dream', 'like butter', and 'like mad'.[10]

Table 1. Collostructional schemas examined: Verbs of cutting + Facility-/Quality-oriented adjuncts.

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7   Even though in present-day corpus linguistics there are other more complex and reliable techniques that can be used to measure the association or attraction between lexical items and constructions, as well as the combinatory patterns of co-occurring lexemes and constructions throughout large amounts of data (*cf*. Stefanowitsch & Gries 2003, 2005), this paper uses a raw frequency data analysis due to the difficulties of implementing a lexico-grammatical attraction technique in the specific corpus used and the low frequency of occurrence of the middle construction in general terms.

8   This paper extends Palma Gutiérrez's (2002) corpus by incorporating not only affirmative but also negative structures containing both Present Simple 3rd person (singular and plural) occurrences of these 29 predicates, as well as verbal phrases with auxiliary verbs (will/would/may/might) followed by these 29 verbs.

9   Middle constructions with the adverbials 'quickly', 'fast', and 'rapidly' are considered time-oriented, a subtype within the quality-oriented group in Davidse and Heyvaert's (2007: 68) work. The facet of the interaction between the non-agentive Subject and the process that these middles highlight refers to the time it takes to carry out a certain process as influenced by the (inferable) properties of the Subject entity.

10   The adjuncts 'like a dream', 'like butter', and 'like mad' are referred to as like-phrase adverbials in the tables in section 4.

The collostructional units examined in this paper, therefore, contain an Inanimate Subject referent[11] (manually identified, as *Sketch Engine* does not have a model to identify semantic notions like ±Animate, ±Patientive, or ±Instrumental), namely one of the 29 verbs of cutting that appear in Table 1, and one of the facility- or quality-oriented adverbials specified in the same table.

4. RESULTS

In this section we present the results of the corpus analysed, taking into account the combinatory possibilities of the collocated items and the frequency of occurrence of the elements conforming the collostructional schemas examined here. Figures 1 and 2 focus on the Verb + Adverb combinations and frequency of occurrence of prototypical Ergative-like middles that include Levin's (1993) classes of 'cut' verbs and 'carve' verbs, respectively. Figure 3 shows the Verb + Adverb combinations and frequency of occurrence of Agent-Instrument middles which incorporate Levin's (1993) class of verbs of cutting (which involves both, the set of 'cut' verbs and the set of 'carve' verbs).
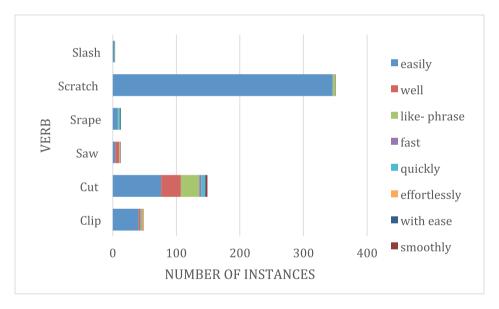

Figure 1. Frequency of occurrence of prototypical Ergative-like middles with 'cut' verbs.

The total sample of prototypical Ergative-like middles which incorporate 'cut' verbs is 579. The collostructional schema examined in this paper with regards to this type of middles is illustrated in the following [FORM] ↔ [MEANING] pattern: [SUBJ $_{inanimate\ patient}$ V$_{enabling\ event}$

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11 The Inanimate entities examined have either a Patientive or an Instrumental nature. No +Animate entities were considered in this paper, as they are a less archetypal type of subject entity in middles (*cf*. Yoshimura, 1998: 123). See Palma Gutiérrez (2021a) on non-prototypical middles containing +Animate Subject entities in combination with Levin's (1993) class of 'amuse verbs' and facility-oriented adjuncts.

~(cut)~ ADV ~facility/quality-oriented~] ↔ [X (by virtue of some property P) Is Subjectively Assessed By The Speaker As Being Conducive To Act]. As shown in Figure 1, the set of 'cut' verbs found in the corpus examined (in combination with the adjuncts included in the same table)[12] are the following: 'clip', 'cut', 'saw', 'scrape', 'scratch', and 'slash'. With regards to the results shown in Figure 1, the most productive middle structures are those which incorporate the verbs 'scratch', 'cut', and 'clip' in combination with the facility-oriented adjunct 'easily', followed by those which combine the predicate 'cut' with quality-oriented adjuncts (particularly, 'well' and the *like*-phrase 'like butter'). Consider the following instances in this regard:

(10) *[About food containers] Some people prefer to avoid plastic containers as <u>plastic scratches easily</u> and then it becomes difficult to keep clean.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(11) *Mat board is very tough to cut – a large paper cutter, mat board cutter, or even a scalpel will be necessary to work with it, but <u>the foam core board cuts easily</u> with a hobby knife.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(12) *Ideal for areas of heavy pedestrian and vehicle traffic or when it's dark outside, <u>the LED taillight clips easily</u> to your belt or backpack.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(13) *The vanilla sugar cookie recipe from Cookies and Brownies is a cookie standard – and heavy on the vanilla flavor. This is <u>a fun, flexible cookie that cuts well</u>, maintains its shape, and is great to decorate with all sorts of things.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(14) *It is open for lunch, dinner and Sunday brunch. I would strongly remember <u>the grilled swordfish</u>, which <u>cuts like butter</u>. It comes with vegetables, but you can switch this for the mashed potatoes.* (enTenTen13 corpus, Concordance section, Sketch Engine)

In examples (10) – (14), the Inanimate entities occurring as Subjects are Patientive: the plastic container in (10), the foam core board in (11), the LED taillight in (12), the cookie in (13), and the grilled swordfish in (14) experience a change of state due to the actions denoted by their respective predicates in the way indicated by their adjuncts. The affectedness of these entities is not due to the skills of any implied Agent, but rather, it is triggered by the inherent properties of these entities. In fact, the role of the Agent is backgrounded and the responsibility of the Patient is foregrounded. For instance, the grilled swordfish of example (14) is not cut because the Agent (the eater) has the ability to do so; instead, this is due to the tenderness of the fish in question, its Qc. Besides, the addition of the semantic value of the adjuncts does not suppose a shift of semantic importance. In fact, the Qc mode is maintained, as it intensifies the responsibility of the inherent properties of the Subject entity in the carrying out of the action. Therefore, the grilled swordfish of example (14), for instance, 'cuts like butter' due to its inherent properties, its tenderness. Hence, in terms of the process of compositional cospecification, this type of middle illustrates the schema [QcàQc].

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12   The adverb 'rapidly' is not included within the set of prototypical Ergative-like middles which incorporate 'cut' verbs due to the lack of corpus entries which fix the collostructional schema examined here.

As shown in Figure 2, the corpus data reveal that similar results are obtained with regards to the prototypical Ergative-like middles which incorporate the 'carve' verbs examined in this paper.
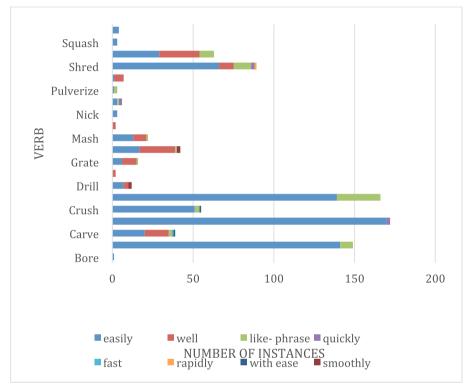

Figure 2. Frequency of occurrence of prototypical Ergative-like middles with 'carve' verbs.

The total sample of prototypical Ergative-like middles which incorporate 'carve' verbs is 856. The collostructional schema examined in this paper with regards to this type of middles is illustrated in the following [FORM] ↔ [MEANING] pattern: [SUBJ $_{inanimate\ patient}$ V $_{enabling\ event}$ $_{(carve)}$ ADV $_{facility/quality-oriented}$] ↔ [X (by virtue of some property P) Is Subjectively Assessed By The Speaker As Being Conducive To Act].[13] With regards to the results shown in Figure 2, the most frequent middle structures are those which incorporate the verbs 'bruise', 'chip', and 'dent' in combination with the facility-oriented adjunct 'easily'. Other frequent structures are those which combine the predicates 'crush', 'shred', and 'slice' also with the adverb 'easily'. Consider the following instances in this regard:

(15) *A simple way of dealing with excess basil is to chop it fine with a very sharp knife (basil brui-*
       ses easily) and whirl it in a food processor with a few tablespoons of olive oil. (enTenTen13
       corpus, Concordance section, Sketch Engine)

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13 The adverb 'effortlessly' is not included within the set of prototypical Ergative-like middles which incorporate 'carve' verbs due to the lack of corpus entries which adapt to the collostructional schema examined here.

(16) *Paint and peel nail polish is not recommended for prolonged wear – <u>the nail polish chips easily</u>.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(17) <u>*Vinyl siding*</u> *requires little maintenance and can be matched to the siding of your home, but <u>it dents easily</u>. Cedar siding is a more expensive choice, but cedar wood is resistant to rot and insects.* (enTenTen13 corpus, Concordance section, Sketch Engine)

In examples (15) – (17), the Inanimate entities occurring as Subjects are Patientive: basil in (15), the nail polish in (16), and the vinyl siding in (17) are affected by the actions denoted by their respective predicates in the way indicated by their adverbial modifiers. The change of state of these entities is not caused by the abilities of the implied Agent, rather, it is due to the inherent properties of these entities. For instance, the vinyl siding of example (17) tends to get dented due to its inherent properties (its Qc), not because of the action of the implied Agent, and the semantic value of the adjunct intensifies this condition. As previously explained in the case of prototypical Ergative-like middles with 'cut' verbs, those which incorporate 'carve' verbs follow the same pattern in the process of compositional cospecification: [QcàQc].

Figure 3 shows the combinatory possibilities, distribution, and frequency of occurrence of the Agent-Instrument middles with verbs of cutting examined in this paper. On this occasion, both 'cut' verbs and 'carve' verbs are in the same table because only two predicates within the set of 'cut' verbs ('cut' and 'saw') adjusted to the constructional schema analysed at this point.
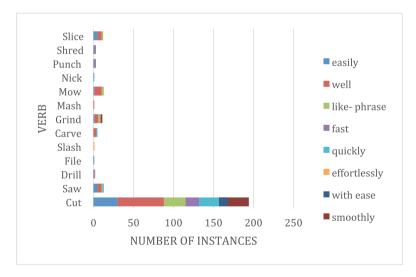

Figure 3. Frequency of occurrence of Agent-Instrument middles with verbs of cutting.

The total sample of Agent-Instrument middles which incorporate verbs of cutting is 265, of which 207 instances incorporate a 'cut' verb and 58 instances include 'carve' verbs. As shown in Figure 3, the most productive middle structures are those which incorporate the verb 'cut' in combination with the adjuncts 'well' and 'easily'. Other salient structures in terms of frequency are those which combine the predicate 'mow' with the quality-oriented adjunct 'well'. Consider the following instances in this regard:

(18) *This saw cuts well and is simple to use. It is also light weight. Women enjoy doing home projects, and finding the right tool can be hard. Black and Decker offers the Project Mate. It is a three in one tool featuring a scraper, detail sander, and a screwdriver.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(19) *One of the coolest new tools we've had in the last couple of years is the Cheese Knife! This cleverly shaped hard plastic blade cuts easily thru hard or soft cheeses WITHOUT the cheese sticking to the knife.* (enTenTen13 corpus, Concordance section, Sketch Engine)

(20) *[About a lawn mower] It cuts great, bag doesn't let much dust out, light weight and easy to handle, I love this mower, stated first pull, mows well, clean cut, and I love the bagger, it mulches beautifully and the job was done in record time. This lawn mower (almost) makes me want to go out and mow the lawn.* (enTenTen13 corpus, Concordance section, Sketch Engine)

In examples (18) – (20), the Inanimate entities occurring as Subjects are non-Patientive, indeed, they fulfill an Instrumental role: the 'saw' in (18), the 'knife' in (19), and the lawn mower in (20) do not experience a change of state due to the actions denoted by their respective predicates. In fact, following Hundt's (2007: 63) analysis, it is the implied Agent that physically manipulates the Instrument, and consequently, the implied Patient is affected by the action denoted by the verb in each case. Because the argument that occupies the Subject position in this type of middles has an Instrumental role and the Agent is still implicit, the same pragmatic schema is represented in Agent-Instrument middles like (18) – (20) as in other types of middles such as prototypical Ergative-like middles. Thus, the Agent is backgrounded and another argument, in this case the Instrument, is profiled and occupies the Subject position. In terms of semantic analysis, this implies that the Subject entities have certain inherent properties which are subjectively assessed by the speaker as being conducive to the actions denoted by the respective predicates in the way indicated by their adjuncts. The main difference between Agent-Instrument middles like (18) – (20) and prototypical Ergative-like middles is that in the former there is a telic value that cospecifies the reading of the Subject by virtue of the semantics of the predicate, as happens in Action-oriented middles: a 'saw' is made to 'cut', the purpose of a 'knife' is to 'cut', and the function of a 'lawn mower' is to 'mow'.

However, as argued in section 2, this Qt mode is backgrounded in the process of compositional cospecification, and the Qc mode referred to the inherent properties of the Instrument is foregrounded due to the addition of the semantic value of the adjunct. The 'saw' in (18) 'cuts well' because of its lightweight and versatile nature; the 'knife' in (19) 'cuts easily' due to its 'cleverly shaped hard plastic blade'; and the 'lawn mower' in (20) 'mows well' because its blades produce clean cuts. Thus, Agent-Instrument middles illustrate the schema [QtàQc] in compositional cospecification, just as Action-oriented middles do.

5. CONCLUSIONS

In this paper, we have examined both prototypical Ergative-like middles and their metonymically-motivated extensions called Agent-Instrument middles. Both structures allow the incorporation of Levin's (1993) class of verbs of cutting, but they represent divergent portions of the action chain, and thus, the semantic role of their Subject referents and their processes of compositional cospecification are different. However, these two types of

middles have common syntactic, semantic, and pragmatic underlying schemas, as shown by the prototype effects displayed by the middle construction and the family-resemblance analysis provided here (cf. Palma Gutiérrez 2022). It has thus been demonstrated that Agent-instrument middles are hybrid structures which combine features of both prototypical Ergative-like middles and also properties of Action-oriented middles. The common property that Agent-Instrument middles share with prototypical Ergative-like middles refers to the fact that both can be formed with verbs of cutting. On the other hand, the features that Agent-Instrument middles share with Action-oriented middles refer to the fact that both incorporate non-patientive subject referents, and their process of compositional cospecification is reflected in the formula [QtàQc].

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