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English middles with mental and verbal predicates

Towards a typology*

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In this article we investigate whether verbs of perception, affection, cognition and verbalization can be construed in the English middle voice against (at least partial) claims to the contrary such as Fellbaum (1986), Keyser and Roeper (1984), Quirk et al. (1985). We view the middle as a modal statement about the conduciveness of the subject entity to action on or with it by the implied agent in the way specified by the predication (Heyvaert 2003, Davidse and Heyvaert 2007). Examples with mental and verbal predicates that correspond to this definition were found in data extracted from the COBUILD corpus as well as from the Internet.

We then propose that, on the basis of Halliday's (1994) description of process types and their participant roles, mental and verbal middles can be classified into five subtypes, containing respectively: (1) verbal predicates, e.g. *The stories narrate easily*, (2) please-type mental predicates, e.g. *You astonish easily*, (3) like-type mental predicates, e.g. *Two-line display sees easily*, (4) perception predicates used in attributive mode, e.g. *That cheese smells nice*, and (5) verbal predicates used in identifying mode, e.g. *Xitaqua pronounces chi-ta-qua*. We also investigate to what extent these subtypes instantiate the characteristics of core middles, viz. letting modality, conducive subject and specification by the predication of the way the process is carried out.

1. Introduction

In this article we will investigate the neglected and controversial issue of middle constructions with predicates depicting mental and verbal processes. The basic questions we will seek to answer are: can the middle voice be constructed with verbs depicting processes of verbalization, cognition, affection, and perception in

English? And if so, which constructional subtypes should be distinguished, and how do they relate to core middles with verbs depicting actions?

The English middle voice¹ constitutes a construction in between active and passive clausal voice, in which a non-agentive subject is integrated with an active verb phrase, or more precisely, with a predication that has the syntactic characteristics of the active voice. That is to say, the predication can contain complements and adjuncts, as illustrated by (1) and (2), but never agentive *by*-adjuncts (3), which are restricted to the passive voice (4).

- (1) Their organic, whole wheat bread flour bakes extraordinary bread! (Google)
- (2) [about a children's coat] Outer flap wraps around little hands and secures with Velcro. (CB)
- (3) *Their organic, whole wheat bread flour bakes extraordinary bread by the baker.
- (4) Extraordinary bread is baked by that baker from organic, whole wheat flour.

The examples of middles discussed in the literature generally contain material verbs (as defined by Halliday 1994), designating actions by human actors in the physical world. With regard to middles, Halliday (1967) himself has always posited that they can also be construed with mental predicates, i.e. verbs depicting a conscious being processing a phenomenon of perception, affection or cognition, as in:

- (5) She felt warm. (in the sense of 'she felt warm to my touch') (Halliday 1967:65)
- (6) The bass notes don't hear very clearly. (Halliday 1967:49)

Fellbaum (1986:15), by contrast, has explicitly claimed that "[v]erbs of perception, understanding, doubt, emotion, etc. are all excluded from this type" [i.e. the middle construction, K.D. and N.O.], as illustrated by

- (7) *Crickets hear / see / watch on summer evenings. (Fellbaum 1986:15)
- (8) *His mathematical papers explain / understand / grasp / learn / comprehend / question / doubt / refute / (dis)prove / believe easily. (Fellbaum 1986:15)

She ascribes this alleged ungrammaticality to the fact that these verbs require agents with specific mental properties or temporary states of mind and that such properties cannot be attributed to agents in middles, which are inherently non-specific.² She also states that the implied non-specific agent in middles cannot be an experiencer, which, she claims, accounts for the unacceptability of examples such as

(9) *White cadillacs impress easily. (Fellbaum 1986:18)

(10) *Garlic tastes easily. (Fellbaum 1986:18)

Halliday and Fellbaum thus make opposed claims about English middle formation with mental predicates — witness their contradicting grammaticality judgements of examples with *hear* — which reflect the controversy surrounding this domain. However, neither supports their claims with extensive empirical evidence. In contrast with this, we believe that it is essential to work with large corpora and attested data. Middles are an evolving category, the newest extensions of which may already be overheard in spontaneous spoken language but may not yet be attested in available corpora. However, as we will show, searching extended data bases, including the World Wide Web, helps to settle many, if not all, questions regarding the occurrence of certain subtypes of mental verbs in middles.

The issue of middle formation with mental predicates inevitably involves some dimensions of variation inherent in them. The most important of these is, as pointed out by Halliday (1994:112), whether the experiencer is construed as the active or affected participant. With verbs such as *see*, *learn*, *know*, *fear*, *like*, the experiencer is the subject of active clauses, viz. the ‘seer’, ‘learner’, etc., and the phenomenon being experienced is construed as object. With verbs such as *impress*, *frighten*, *please* by contrast, the experiencer is the affected participant, the one ‘impressed, frightened, pleased’, etc., and the phenomenon of experience is construed as subject of the active clause. This distinction is not taken into account by Fellbaum (1986) in her starred examples quoted as (7)–(10) above. Leaving aside the question of its actual occurrence at this stage, an example like (8) *His mathematical papers learn easily* implies an active experiencer, as shown by the corresponding active *People learn his mathematical papers easily*. The subject of (8) is the *non-agentive* phenomenon, which confirms that *His mathematical papers learn easily* is truly middle. By contrast, in (9) **White cadillacs impress easily* the subject is an *agentive* phenomenon. Therefore, *White cadillacs impress easily* is in any case not an instance of middle voice as Fellbaum (1986) claims: it is simply a truncated form of active *White cadillacs impress people easily*. Another relevant distinction is that between action-like (*listen*, *watch*, etc.) versus non-action-like predicates of perception (*hear*, *see*, etc.). The experiencer controls the act of perception in the former, but not in the latter. Finally, predicates depicting verbalization such as *say* and *explain* (Halliday 1994:140) share many semantic and grammatical features with mental verbs such as *think* and *learn*. With both verb classes, the feature consciousness is associated with the entity doing the mental/verbal processing and the content of this processing can be made explicit by a complement clause, e.g. *He thought/said that the sky was falling down*. As Halliday (1994) puts it, mental verbs describe inner processes of consciousness, whereas verbal predicates describe the exchange of meaning.

In this article, we set out to identify and characterize all subtypes of English middles with mental and verbal predicates. First, in Section 2, we will discuss our understanding of the middle as an interpersonal, modal construction (Davidse and Heyvaert 2003 and 2007, Heyvaert 2003). Then, in Section 3, we will show that English does form middles with mental and verbal predicates, which, basing ourselves on Halliday's (1994) typology of verb classes, we will classify into five subtypes. We will also consider the question to what extent these different subtypes have the criterial properties of the middle construction discussed in Section 2. In Section 4, some conclusions and perspectives for further research will be formulated.

2. The middle construction: Subjective assessment of an entity's conduciveness to a process

In this section we will set out the definition of middle voice adhered to in this study. The main challenge is how to characterize the relation between the non-agentive subject and the active VP, the very relation that contains the activopassive mix typical of the middle. This question can be formulated more precisely in terms of the two distinct layers of clausal organization recognized in functional frameworks such as Halliday (1967, 1994), Davies (1979, 2001) and Hengeveld (1989), viz. the *representational* and the *interpersonal*. The representational layer, which has the lexical verb and its nominal complements as its nucleus, depicts process-participant configurations such as an action and the agent performing it, or an action performed by an agent on a patient. The interpersonal layer construes a proposition, i.e. a claim made about the subject, with the finite element of the verb indicating the "reality status" (McGregor 1997:224), temporal location or modal value, attributed by the speaker to the proposition (Davies 2001). The central question with regard to the middle voice is then whether its activopassive component has to be situated at the representational level, i.e. in the way the entity depicted by the subject participates in the action, or at the interpersonal level, i.e. in the type of propositional claim imposed on the subject-predication relation. The literature on the middle has tended mostly to representational generalizations about the middle voice (Section 2.1), but, against these, we will recapitulate the main arguments for an interpersonal characterization (Section 2.2).

2.1 Representational approaches to middle clauses

Claims identifying the middle voice with the way the subject entity participates in the process are found, amongst others, in Lakoff (1977) and Van Oosten (1977,

1986). According to them, middles represent the subject entity as both affected by the action and as instigating it. On the one hand they attribute true agentive status to the middle subject. They claim that the event or the change-of-state depicted by the verb takes place without the participation of an external agent. At the same time, they analyse the middle subject as a “patient/subject”. The mixedness of the middle voice is thus located in the representational relation between the action expressed by the lexical verb and the role of the subject entity.

However, viewing the subject as causative agent of the action is untenable, as shown by the impossibility of adding expressions such as *all by itself*, and *on its own* (Keyser and Roeper 1984:405).

(11) *Bureaucrats bribe easily all by themselves. (Keyser and Roeper 1984:405)

(12) *The bike is handling well on its own.

Arguing in terms of the conceptualization of the action evoked by a middle such as (13),

(13) This ice cream scoops out quite easily. (Langacker 1991:405)

Langacker (1991:405) points out that the subject/patient in this example is *not* agentive. We are not led to picture the ice cream scooping itself out: rather, an agent scooping it out is necessarily implied.

In the literature on English middles, we also find another common claim, viz. that the middle subject has to be genuinely affected (Levin 1993) and that intransitive verbs are excluded from this construction (Halliday 1967, Fellbaum and Zribi-Hertz 1989, Fagan 1992). The claim that the middle subject is always the patient of transitive action is also reflected in the semantic gloss most commonly proposed for the English middle (e.g. Jespersen 1927, Halliday 1967, Fagan 1992), viz. ‘the subject entity can be V-ed’, in which the verb V is necessarily transitive. Despite using a modal auxiliary in their semantic paraphrase, most of these authors regard the middle as a coding option that is part of the transitivity system.

By contrast, the literature on the Dutch middle, which is morphosyntactically fully analogous with the English middle, has long recognized the existence of middles that take intransitive verbs (e.g. De Vries 1910; Van den Toorn 1982; Hoekstra and Roberts 1993; Ackema and Schoorlemmer 1994; Peeters 1999), as in

(14) *De Matterhorn klimt gemakkelijker dan de Mt Everest.* (Ackema and Schoorlemmer 1994:75, cf. Peeters 1999:363)

“The Matterhorn climbs more easily than Mt Everest.”

in which *klimmen* (‘climb’) is incontestably intransitive, as the transitive variant of this verb takes the prefix *be-*: *beklimmen*, and in which the subject is a location.

Davidse and Heyvaert (2003) found that English also construes middles with intransitive verbs and locations as subjects, particularly in specific registers where there are special reasons for focusing on the qualities of a location and linking these to actions performed on them. For instance, sports commentaries of horse racing sometimes contain middles commenting on the state of the track and its relation to slower or faster riding on it, e.g.

- (15) A middle for diddle draw on Yarmouth's straight course means a fancied runner can switch to either rail depending on which side is riding faster.
(Google)

It thus becomes clear that English middle formation is not correctly delineated by the transitivity constraint, with the affectedness constraint on the subject as corollary. In conclusion to this section, the notion that the middle can be characterized as a specific transitivity option is rejected. In the next section, it will be proposed instead that semantic generalizations about the middle have to be made at the level of interpersonal clause structure, involving the proposition constituted by the subject-predication relation, and the propositional attitude construed by the finite (Davies 2001). These interpersonal semantic generalizations will be discussed in the following order: the modal value of the finite in Section 2.2.1, the semantic and pragmatic value of the middle subject in Section 2.2.2, and the functions that can be fulfilled by the predication in Section 2.2.3.

2.2 Interpersonal analysis of the middle construction

2.2.1 *The middle finite: modality of conduciveness*

The central element in the elucidation of middle semantics is the modal value of the finite. That the middle finite expresses a modal relation has been hinted at by a number of authors who paraphrase the meaning of middle voice as a 'can be V-ed' relation (e.g. Fagan 1992). Other linguists (e.g. Quirk et al. 1985:229) have analyzed *will* + negative polarity found in a middle such as

- (16) ... her wedding gown was SO tight, that it wouldn't zip with the undershirt under it. (Google)

as 'volition/refusal' attributed to the inanimate subject via personification.

Against this, Davidse and Heyvaert (2007) argue that the traditional notions of ability and volition cannot very well capture the modal value of the middle finite, but that Talmy's (2000) force dynamics, which are less biased to human causative agents, allow a more adequate analysis. Force dynamics refers to the opposition of two forces with different roles and different strengths. One force-exerting

entity has the role of an agonist inclined to action; linguistic construals focus on whether or not this entity is able to manifest its tendency toward action (or inaction). The second force-exerting entity has the role of antagonist: it is considered for the effect it has on the inclination to action of the first, overcoming it or not (Talmy 2000:413). According to Talmy's approach, the modal categories of ability and volition have a typically human agonist. In clauses with positive polarity, this agonist force is assessed as being stronger than any implied antagonistic forces (such as physical obstacles or psychosocial pressure), as in

- (17) Because of his age people want to do things for him, but he can/will take care of himself.

Viewed in this light, middles clearly do not assess the agonist force of the human agent in ability or volition.

Talmy (2000:441–442) points out that there are also 'converse' types of modality, neglected in traditional approaches, which construe the modal force interaction from the perspective of the inanimate antagonistic force. Davidse and Heyvaert (2007) propose that the middle is such a converse modal construal: in its evaluation of force interaction, it focuses on the antagonistic force exerted by the inanimate entity designated by the subject. This antagonistic force interacts with the implied agent's tendency to action, described in the middle's predication. Importantly, the force interaction in middles is not one of 'causing' but of 'letting'. Talmy (2000:419) characterizes the letting relation in general as 'ceasing' to exert a force blocking action, in contrast with causing, which involves 'beginning' to exert force resulting in action. The semantics of middles can thus be glossed as assessing whether and to what extent the subject entity lets the implied human agent carry out the action, or prevents him from doing so. The *activopassive* mix typical of the middle is located in the modal relation between subject and predication. On the one hand, the subject *lends itself* to the agonist's action, which accounts for a semantically 'passive' feature in the relation between subject and predication. On the other hand, contextually invoked properties of the subject entity are construed as *positively conducive* to or *actively barring* the action envisaged, which adds an active element. In for instance an example like (15) above, certain properties of the track, such as its softer surface, are implied to be conducive to slower riding on it.

Modalized clauses are frequently used about an action or event that remains purely hypothetical and is not actualized, but may also be used about situations that are actualized (Declerck 1991). Middles, likewise, often do not imply actualization of the action described, but some middles assess the subject's letting relation, while also depicting a specific instance of that action taking place, as in (18).

- (18) We wrote on the surface ... and it erased easily. (Google)

In the way outlined above, Talmy's force dynamics thus allow us to give a general characterization of middle voice as a modal construal.³

2.2.2 *The middle subject: subjective evaluation of conduciveness*

The modality expressed by the middle also determines the semantic-pragmatic value of the subject (Heyvaert 2003): it depicts an entity subjectively evaluated by the speaker as conducive to an action carried out by the implied agent,⁴ because of its specific qualities. These qualities may be explicitly mentioned in the discourse context, as in

(19) I think she photographs well because of her big, expressive eyes. (Google)

or it may be left to the hearer to mentally fill in the relevant qualities, as in example (13) above, in which certain properties of the track are implied to be conducive to slower or faster racing. Fellbaum (1985) makes the important observation that pragmatic information about the qualities of the subject entity may also be added by elements of the predication, which may refer to more inherent or to more surprising properties. For instance, an example such as *The door opened easily* falls into the inherent category as doors are normally meant to open, but *The new Holden Berlina handles like a junior sports sedan* refers to a surprising property, as a Holden Berlina is not a sports car. In this context it is noted by Fellbaum (1985) that the communicative effect of the predication often boils down *pragmatically* to an *evaluation of the subject entity*.

2.3.3 *The predication in middles: Foregrounding different aspects of the action that properties of the subject entity are conducive to*

While the conducive relation between subject and modal finite is common to all middles, they may differ from each other as to which aspect of the process the qualities of the subject are conducive to. Which facet is foregrounded depends on which element in the predication the information focus (Halliday 1994:296) is on. The focus as signalled by tonic prominence may for instance be on the polarity value of the VP, as in *Browning's plays WON'T act*, on the facility of carrying out the action, e.g. *the window opens EASily*, on the means with which to carry out the action or on the location targeted by it, e.g. *Outer flap wraps around little HANDS and secures with VELcro*, or on the result of carrying out the action, e.g. *She does not photograph WELL*. As argued by Heyvaert (1997) and Heyvaert and Davidse (2002), these different foci in fact define distinct subtypes of middles, which are summarized in the following grid.

Table 1. Typology of middles (based on Heyvaert and Davidse 2002)

Types of middle	Semantic characterizations	Examples
process-oriented	express how qualities of the subject entity are (not) conducive to the agent performing the action	<i>Browning's plays won't act.</i> (Google)
facility-oriented	express whether qualities of the subject are conducive to the agent carrying out the action easily or with difficulty	<i>Make sure the window opens easily and is wide enough for students and teachers to exit through.</i> (Google)
manner-oriented	express how qualities of the subject are conducive to the agent performing the action in a certain way	<i>This car handles superbly.</i> (CB)
location-oriented means-oriented	indicate how certain features of the subject entity determine the location onto which the agent's action is targeted or the means used by the agent in carrying out the action	[about a children's coat] <i>Outer flap wraps around little hands and secures with Velcro.</i> (CB)
result-oriented	express the outcome of carrying out a certain process on the subject entity in view of the latter's qualities	<i>She does not photograph well.</i> (CB)

3. Descriptive analysis of English middles with mental and verbal predicates

In this section, we first describe how a representative data sample was compiled (Section 3.1). These data were subjected to close analysis led by the following two research questions (3.2). Firstly, which constructional subtypes have to be set up to cover all mental and verbal middle data? Secondly, to what extent does each of these subtypes instantiate the criterial features of the middle voice as set out in Section 2.2, and in what way are they similar to or different from core middles?

3.1 Compilation of data collection

As noted in the introduction, the conflicting claims about middles with mental and verbal predicates in the literature have remained unresolved due to a lack of real language data. In contrast with this, our analysis is based on a collection of English middles with mental and verbal predicates compiled by Olivier (2003) from the COBUILD corpus⁵ and from the Internet.

For the extraction from the tagged COBUILD corpus, either verbal/mental predicates or typical adverbs such as *easily* and *well* were included in the queries. To

ensure maximal coverage, Olivier worked with *Webster's thesaurus*, which led her to include, besides for instance *smell*, also *sniff* and phenomenon-oriented *scent*, *stench*, *stink*. These verbs were then combined with query characters, for example “NN+reads+RB” or “NN+feels+JJ”, in which “NN” stands for noun, “RB” for adverb, and “JJ” for adjective. Queries were also formed with the adverbs *well* and *easily*, which typically occur in middle constructions, to net in verbs that might otherwise have been missed. Even though Olivier performed many such searches, she managed to extract only relatively few mental and verbal middles, which reflects their relatively uncommon nature. It thus proved necessary to add examples from the Internet, using mainly combined searches such as *frighten easily*, *read well*, etc. The result of literally hundreds of searches in the COBUILD corpus, as well as on the Net, was a data set totalling approximately 777 verbal and mental middles. This collection gives us a good general idea of the frequency of the various subtypes. However, because the Internet data do not form a finite corpus, we cannot compare the tokens obtained for subtypes in terms of relative frequency or relate them to the total size of the corpus.

3.2 Primary subclassification of mental and verbal middles

While sharing the features of a non-agentive subject and an active VP with mental or verbal predicates, Olivier's data collection also manifested a number of clear pragmatic-semantic, collocational and constructional differences. In this section we will argue that the main dimensions of variation can be captured in terms of Halliday's (1994) general classes of verb uses and the process-participant configurations associated with them. The recognition criteria for these classes as described for English are grammatical patterns directly reflecting semantic characteristics, such as the verbs' behaviour with regard to aspect and complementation, and selection restrictions on the participant roles such as 'animate', 'intentional', etc.

3.2.1 Subtype I: middles with verbal predicates

The core middles on which the literature has concentrated so far typically contain verbs depicting actions by human agents. These are mostly material, such as *scoop out* and *zip up* in examples (13) and (16) above, but they may also be verbs such as *narrate*, *read* (used both in the sense of 'decoding' text and 'speaking' lines), *sing*, *pronounce*, *translate*, *explain*, as illustrated by (20)–(29). An example such as (29) shows, against Fellbaum's claim to the contrary, that *explain* does lend itself to middle formation.

- (20) The stories are short enough to narrate easily and rich enough in language and content to inspire a good retelling by the child. (Google)
- (21) It [the poem] reads nicely — the lines actually read. (CB)
- (22) Dwight noted with disdain that Michael, even at Exeter, was using a revised version and ‘it reads horribly’. (CB)
- (23) The other side of the menu reads very well, set out in types of food rather than courses. (CB)
- (24) It [the typeface Excelsior] reads easily in small sizes like 8pt. (Google)
- (25) An easy, gentle nature characterizes this sensitive work that sings easily for the developing choir. (Google)
- (26) Greek translates easily. (Google)
- (27) I ... have a name that pronounces easily in English and doesn’t contain any of the unique consonant sets that the Italian language is chock full of. (Google)
- (28) Provocative ‘Crucible’ translates well to the screen. (Google)
- (29) The other way is to get a kiddie size bike tube and cut it at an angle through the tube. I might have to draw that out later in the night, as it doesn’t explain easily without pics. (Google)

The predicates that occur in the above examples are action-like as shown by the fact that, like material verbs, they can naturally be used in the progressive to represent ongoing actions (Halliday 1994:115), as in *I’m currently reading the revised version*. They are elaborated in these examples by nominal complements such as *the stories*, *the lines*, *Greek*, *a name*, etc., which according to Halliday (1994:146), “specif[y] the range or scope of the process”. These complements denote “an entity which exists independently of the process but which indicates the domain over which the process takes place” (Halliday 1994: 146). Just as the processes depicted by the verbs in (20)–(29) are non-material, entities such as stories, lines, languages, etc. are not purely material, but semiotic, entities. They are all in one form or other symbolically coded entities lending themselves to semiotic activities such as reading, narrating, pronouncing, etc. The human coding agent may engage with the meaning of the symbol (as in 20, 23), with its form or style (as in 22), or with the ‘material’ side of the linguistic sign, either its phonetics (example 27) or its graphetics (example 24). Moreover, the processing of the semiotic entity may go either in an encoding direction, as in (20, 25, 27) or in a decoding direction as in (23), (24).

In that the interactions depicted in (20)–(29) involve conscious processing and require a human agent capable of semiotic activity, these middles have to be ranged in the mental/verbal, rather than material, domain. This is why we classify them as the first subtype of mental and verbal middles in our typology.

The question remains whether the predicates of this subtype belong to one verb class with consistent grammatical behaviour, and if so, which one. There is no doubt that the verbs depicting the encoding of sounds, forms, and meanings, such as *sing*, *narrate*, etc. are verbal predicates. It is the verbs depicting the decoding of semiotic entities such as *read*, *translate* (as used in 26),⁶ etc. whose class membership is at first sight less obvious. However, in our view the decoding verbs share central grammatical and semantic patterns with the encoding ones. Firstly, like verbal predicates, they can occur in reporting clauses of represented speech: compare *You've told me / I've read that John is throwing in his job*. Halliday (1994:250) further points out that represented speech can refer not just to the general meaning of the speech being represented, but also to its actual words and structures. As observed by Leech (1980:34ff), quoting verbs may even be used with an emphasis on the most outer stratum of the linguistic sign, the phonetics. Decoding verbs can also refer to all the aspects of the linguistic sign such as the meaning (as in example 26) and the form (example 24). Moreover, the decoding verbs also have the 'action'-characteristics typical of verbal predicates, as shown by the unmarked progressives *I'm reading*, *translating*, etc. These distinguish them from mental predicates such as *know* and *understand*, with which use of the progressive is marked (Halliday 1994:116). For all these reasons, we conclude that decoding verbs like *read* and *translate* share enough central grammatical and semantic characteristics with encoding verbal predicates to be also put in the class of verbal predicates — verbs which, according to Halliday's (1994:129) general semantic gloss, are concerned with the "symbolic exchange of meaning".

Subtype I middles instantiate all the constructional characteristics of core middles discussed in Section 2.2. Recall that these grammatico-semantic generalizations were formulated at the level of the 'interpersonal' relations between *subject* — *finite* — *predication*. According to this characterization of the middle construction

- i. the finite expresses conduciveness modality
- ii. the subject is subjectively assessed as conducive to the realization of the process by the implied agent
- iii. the predication indicates in what way (facility, manner, result, etc.) the subject entity lets the implied agent realize the process.

Moreover, the semantic roles of subtype I middles are mapped onto subject — finite — predication in analogous ways as in material middles. This explains why

examples of this subtype have often been unproblematically cited in the literature as middles.

In subtype I middles the properties of a semiotic entity are construed as being (not) conducive to the implied agent decoding or encoding that entity in a specific way. The implied agent may be anyone involved in encoding or decoding that semiotic entity. As in material middles, the implied agent is non-specific (Fellbaum 1985). However, pragmatically it seems to be mostly implied that the speaker is the primary decoder/encoder. The speaker's implied role in the process tallies with the speaker's position as evaluator of the subject entity. The general properties of that entity which help the decoding/encoding along are sometimes explicitly mentioned in the middle subject or may be hinted at by clues in the surrounding discourse. Often, the precise nature of the properties at stake has to be inferred by the reader. Examples (21)–(24) illustrate that middles stating that some entity 'reads or does not read well' may contextually refer to such various properties as the content, organization or style of a text, as well as to aspects of the layout such as font, etc. It is these inferred properties that are pragmatically central to the subjective evaluation conveyed by the middle, as represented in Figure 1.

Figure 1. The conducive relation between subject and VP in subtype I verbal middles

The predication in this subtype relates to the subject-finite unit in the same way as in core middles. That is, the predication specifies what aspects of the verbal process (ease, result, etc.) the qualities of the subject are conducive to. As illustrated by the above examples, we recognize many of the different foci of predications found in core middles, mainly process- (21), facility- (20), manner- (22) and result- (28) oriented predications. This confirms the run-of-the-mill nature of these middles.

3.2.2 Subtype II: Middles with mental predicates with affected experiencer

To characterize the following two types of mental middles, we have to recall that mental verbs may have the experiencer either as active or affected participant, as in *frighten* — *fear*, *strike* — *notice*, *assail* — *see*, *convince* — *accept*, *please* — *like*, a distinction Halliday (1966: 166; 1994:112) refers to as please-type versus like-type mental verbs. Middles with please-type mental verbs will be discussed in this section and those with like-type mental verbs in the next.

In older stages of English, the experiencer with please-type verbs was realized by a dative of “personal involvement or interest” (Mitchell 1985:565). However, in

Present-day English, the experiencer has lost the features of an oblique nominal. The postverbal NP has no residual dative feel as shown by the fact that it cannot take the preposition *to*:

- (30) Neither idea pleased me. / *Neither idea pleased to me.

Currently, please-type verbs share many characteristics with transitive material verbs. If they have an animate and intentional agent, they instantiate the transitive prototype of a human agent intentionally directing action onto the experiencer as onto a goal, e.g. *He deliberately shocked/frightened her.*⁷ When the causer in clauses with please-type verbs is a 'phenomenon' affecting the experiencer, as in *The show shocked the audience*, the process-participant configuration resembles that of a transitive clause with an inanimate agent such as *Lightning struck the roof*. Both types of structure foreground the notion of 'goal-achievement': the transitive construal can be used because the house was effectively struck and the audience really shocked (Davidse 1999:Ch.3).

Middle construal with please-type verbs is commonly attested in English, e.g.

- (31) The card, and all the others she'd constructed, had astonished him. She laughed. "You astonish easily," she said. (Google)
- (32) Bob Peeters is a tough coach who doesn't please easily. (Google)
- (33) My son just turned 5 months and he scares easily. (Google)
- (34) The viewing group included five gay men, all of whom are worldly when it comes to gay sexuality. None of us shocks easily. (Google)

The frequency of this middle construction is probably due to the high degree of transitivity of please-type verbs in English. In particular, the strong affectedness of the experiencer (Kemmer 1993:136) licences the construal of unmarked passives (Halliday 1994:169, Langacker 1991) and, by extension, middles, in which the direct object of the active becomes the subject.

At a schematic constructional level, subtype II middles instantiate the criterial characteristics of the middle voice, viz. letting modality and conducive subject. However, the mapping of semantic roles onto this interpersonal constructional template constitutes a departure from core middles, which may explain why, despite its relative frequency, examples are not often quoted in the middle literature.

In subtype II middles an experiencer is construed as being, so to speak, inclined or resistant to being affected by mental processes, typically emotional ones. These middles are the only ones which do *not* have an implied agent that is necessarily animate, but is typically a phenomenon just happening to affect the experiencer. There is, therefore, no default coincidence between implied agent and speaker/evaluator, as there is in the other types of middles.

Subtype II mental middles also differ from core middles in that they always have a patient and never a location or instrument as subject. Their subject is, of course, the experiencer affected by the mental process. These middles often contextually invoke personality traits, psychological features and dispositions of the experiencer which are conducive to that type of mental process having such an impact, as in

- (35) At 83, Maurice Phillips doesn't surprise easily any more. (Google)
- (36) This is a hard dog with a strong personality and who doesn't frighten easily. (Google)
- (37) The Jabiru frightens easily and could be scared off its nest, leaving the young to die. (Google)

Examples (36)–(37), which invoke — and evaluate — specific etological features of animals, such as the shyness of the Jabiru in (37), remind us that the selection restriction on the experiencer role is 'animacy' rather than 'humanness'.

Figure 2 represents the conducive relation between the experiencer/subject and the VP.

Figure 2. The conducive relation between subject and VP in subtype 2 mental middles

The focus of the predication in these middles hardly ever varies and is almost always expressed by *easily*. Rather than expressing the facility of carrying out a specific action on the subject, it expresses that it does not — or does (see example 38) — take much for the subject to be emotionally affected in a certain way, e.g.

- (38) I don't astonish easily (especially after flying helicopters in combat in Vietnam for a year) ... (Google)

Because of all its semantic restrictions, this subtype is strongly geared towards pragmatically attributing a psychological/etological trait or disposition to its subject.

3.2.3 Subtype 3: Middles with mental predicates with active experiencer

The third subtype that we distinguish has mental predicates with active experiencer, predominantly perception verbs, which are less transitive than the please-type ones. With verbs such as *hear* and *see* the objects, which are the phenomena

of experience, are not full patients in the sense that they are not affected by the process. They are, like the complements of verbal predicates such as *narrate* and *read* (see Section 3.2.1), pre-existing entities specifying the domain over which the process takes place (Halliday 1994:148). However, when we bring Hopper and Thompson's (1980) more comprehensive transitivity parameters into the picture, it becomes clear that the perception verbs with active experiencer in subtype III middles are lower in transitivity than the verbal predicates found in subtype I middles. Both types have a low value on the parameter 'affectedness of object', but the verbal predicates score high on the parameters 'action' and 'volitionality', whereas the perception predicates score low on both of these.

This low degree of transitivity is probably an explanatory factor for the infrequency of middles with these verbs. Olivier's data collection contained only a few attested examples, e.g. (39), but further Internet searches threw up more examples like (40)–(43).

- (39) The OMNI VI-Plus hears easily as well, is a lot cheaper, can be worked on by an experienced ham operator, and the service is better by far. (Google)
- (40) [of a portable mini disc] "Two-line display liquid crystal Nabis remote control 1" which sees easily and is comprehensible ... (Google)
- (41) [of a cellular phone] Moreover, time etc. are practicably displayed by the organic EL that sees easily. (Google)
- (42) [of a transportable music system] When I fly it sees easily and can get sprung around. (Google)⁸
- (43) [of a radio] This setup hears nicely, has plenty of dynamic range, ... (Google)

The infrequency of these examples confirms the highly marked nature of these middles and explains to a certain extent the differing grammaticality judgements pronounced on them by Halliday (1967) and Fellbaum (1986) (see Section 1).

Subtype III mental middles may be infrequent but they approximate core middles both in their interpersonal constructional semantics and in terms of how semantic roles are mapped onto these. The subject may not only be the phenomenon defining the range of the perception (example 6) but also, and more typically, the instrument involved in the perception process, as in (39)–(43). The agent implied in the predicator is the experiencer. Just as in subtype I middles, this implied agent coincides in the default interpretation with the speaker. Type III middles thus assess how conducive a specific phenomenon is to the experiencer perceiving it, or how conducive an instrument is to a certain type of perception. Predications can be either facility-oriented (e.g. 40) or result-oriented (e.g. 43). In all these examples the subject entity is clearly being evaluated in the process: the hearer is

instructed to infer for him- or herself which specific qualities of the subject entity are responsible for the claims made about easy or pleasant perception. In this context it can be noted that the examples were found either in advertisements or in consumer evaluations on the Internet. The middle predication *sees easily*, for instance, is found in a number of examples about display areas on gadgets.⁹

Figure 3. The conducive relation between subject and VP in subtype III middles

3.2.4 Subtype IV: Middles with perception verbs expressing attribution

The final two subtypes of mental and verbal middles that we distinguish are further removed from core middles. In them the predicate is not elaborated by an adverbial but by an adjective (example 44) or NP (example 45) which functions as complement to the subject.

- (44) Much of the wood panelling is painted white, so the house feels fresh and sunny. (CB)
- (45) Steve Gulley registered the baby as Carmel Anita Margaret Bridget Rebecca Irene Deirdre Gaynor Evelyn Una Nicky Isobel Terry Erica Davida which spells Cambridge United. (CB)

Concomitant with this constructional difference, the VPs in these middles seem to have acquired a semantic value analogous to that of copular verbs. As we will see, these two subtypes can be related to two types of relational clause (Halliday 1994:119f), viz. attributive and identifying clauses. Attributive clauses attribute a general quality to the entity designated by the subject, e.g.

- (46) Sarah is wise. (Halliday 1994:119)

or classify the subject entity as an instance of the type designated by the complement (Langacker 1991: 64–71), as in

- (47) Paula is a poet. (Halliday 1994:120)

Identifying clauses either equate an entity with its more abstract value, as in example (48), where Tom is identified in terms of his role in the group,

- (48) Tom is the treasurer. (Halliday 1994:124)

or they equate an entity with its more concrete form, as in example (49), which might be uttered to identify Tom on a photograph:

- (49) Tom is the tall one. (Halliday 1994:124)

Halliday (1967:67–69) refers to (48) as a decoding identifying clause, because it identifies the subject by decoding its value or meaning, and to (49) as an encoding clause, because it identifies the subject in terms of the form realizing it. We will discuss the attributive type of middle in this section and the identifying one in the next.

In the fourth subtype of mental/verbal middles that we distinguish verbs of perception are elaborated by adjectives (50)–(51), NPs (52–54), or PrepPs (55).

- (50) All matter can absorb energy (this is why an iron roof, or for that matter a sunbather or a raisin, feels hot in the sun). (CB)
- (51) My tummy looks better to me now. (CB)
- (52) On inspection, he looks a rogue. (Google)
- (53) It looks just the kind of restaurant for that special occasion. (CB)
- (54) You know the type: their breath smells like Colgate first thing in the morning. (CB)
- (55) Our Fresh 8 Vegetable Juice tastes rich and clean, without the salt and processing you'll find in canned products. (CB)

Middles of this type have many characteristics of attributive clauses (or predicative copular clauses, as they are also commonly called, e.g. in Declerck 1980), and have often been analysed in this way (e.g. Sinclair et al 1990:174). The VP functions as a link-verb, which attributes the quality or class membership expressed by the postverbal complement to the subject. However, in our view Halliday (1967:65) correctly points out that the grammatical relations in them are, in origin, middle: a non-agentive subject is integrated with an active VP, whose predicator implies an agent. The subject is the percept and the perceiver the implied agent. Halliday (1967:65) seems to refer to this implied perceiver when he paraphrases the middle meaning of *She felt warm* as 'she felt warm to my touch'. Note that in (51) the perceiver is also made explicit by *to me*. In further support of the middle analysis of these examples both diachronic and typological arguments can be given.

In earlier stages of English, this type of construction often had adverbs rather than adjectives, even though adjectives also occurred from the start (Davidse, Heyvaert, Olivier and Cuyckens 2005), e.g.

- (56) Gods goodness smelleth most fragrantly (1555) (OED)
- (57) It looks prettily ... (1653) (OED)

- (58) Aluminous waters taste very astrictively (1634) (OED)

In this earlier variant, the conduciveness of the subject to a quality (coded adverbially) of perception by the implied experiencer is foregrounded more, and its constructional similarity to core middles is clearer. In time, adjectives became more frequent than and finally supplanted adverbs in this construction type. Davidse, Heyvaert, Olivier and Cuyckens (2005) also found that perception middles used to feature a greater variety of verbs than is the case in Present Day English, in which they are restricted to *look*, *smell*, *taste* and *feel*. Earlier on, they also contained verbs such as *smacke* ('taste') and *hear*, e.g.

- (59) This veneson smaketh to moche of the pepper. (1530) (OED)

- (60) National corruption, for which England hears ill abroad. (1644) (OED)

Moreover, middles with verbs such as *drink* and *eat* seemed at one stage to belong to this constructional subtype, e.g.

- (61) It drinketh fresh, flowreth and mantleth exceedingly. (1626) (OED)

- (62) If the cake eats short and crisp, they were made by Olivia. (1710–1740) (CLMET)

In these examples, the savouring by the implied experiencer of foods and drinks — as induced by their inherent properties — is qualified by adjectival complements. The use of concrete perception verbs such as *drink* and *eat*, which unlike for instance *look* have no copular feel, also foregrounds the middle nature of these examples more clearly.

In typological studies, counterparts with clear middle features of these English constructions can be found. Kemmer (1993:136) discusses German examples such as *es fühlt sich gut* ('it feels good'), and *es hört sich gut* ('it sounds good'), which, she notes, are "middle-marked" by *sich*. Ameka (2002:323) looks in some depth at a one-place construction in Ewe, a Kwa language of West Africa, which also seems a counterpart of the English attributive perception middle, e.g.

- (63) Nyónu-a nyá kpóná
 woman-DEF MOD see-HAB
 'The woman is beautiful'

Interestingly, it contains an overt modal, viz. *nyá*, expressing the complex dynamic modality of "ability and disposition" (Ameka 2002:349). This characterization seems compatible with Davidse and Heyvaert's (2007) analysis of the conducive modality of the middle finite. According to Ameka (2002:323), this one-place construction with a verb meaning 'see' is "paradigmatically related" to a causative two-place construction, but "the preverbal auxiliary *nyá* has the effect of enabling

an Object nominal phrase to move from after the Verb to occur before the Verb as Subject. This process could be called inversion or passivization“; These observations are also compatible with a middle analysis of (63), which can then be seen as an equivalent of the English attributive perception middle, but with the conducive modality expressed overtly.

As suggested by the above observations about their historical development, subtype IV middles are further removed from core middles, because their VPs have acquired copular meaning, and their postverbal elements are always complements to the subject rather than adverbial modifiers. Moreover, not only did their range of lexical verbs narrow over time,¹⁰ but the collocational sets associated with the four remaining verbs show that they have delexicalized to varying degrees. Table 2 lists the most frequent collocates cooccurring in complement position with each of the four verbs.

Table 2. Verbs of perception and their collocates in subtype IV middles

smell	taste	feel	look
good	good	dry	good
lovely	delicious	warm	terrific
nice	great	good	easy/difficult
wonderful	nice	hot	different / similar
sweet	wonderful	great	real
great	awful	bad	marvellous
gorgeous	disgusting		nice
bad	terrific		likely (to+verb)
			inevitable

Strikingly, the positive collocates noticeably outweigh the negative ones. If we concentrate on the number of collocates, *look* has the most frequent and the most varied collocates. The adjectives this verb takes belong to diverse lexical fields, and are at times remote from the sensory adjectives that one associates with the visual field. This collocational variety can be taken as an indication that *look* has delexicalized to a large extent.¹¹ By considering the collocational range of the perception verbs found in type IV middles, we can place them on a scale reflecting the degree to which they have been delexicalized, as in Figure 4. The verb *look* takes the place closest to the verb *be*, and is followed by *feel*, while *taste* and *smell* are still more strongly tied to their original sensory domains.

Figure 4. Continuum of delexicalization

All this suggests that the VP in subtype IV middles has undergone decategorialization, defined by Traugott and Dasher (2002) as the process by which a linguistic item becomes a more peripheral member of the class or shifts to another class. The decategorialization of the perception verbs in this middle use is confirmed by their intonational behaviour: like copular *be* (Halliday 1994:173), they are non-salient:

/ /

(64) This cheese smells nice.

/ /

(65) This cheese is nice.

In their agentive use, and in their subtype III middle use, by contrast, they are salient:

/ / /

(66) The mouse smelled cheese.

/ / /

(67) This setup hears nicely.

As for the criterial middle properties, there is clearly an attenuation of the modal VP. Langacker (2000: 297–301) defines attenuation as a decrease of the control exerted by an agentive participant, which may manifest itself, amongst others, as a change in the locus of activity or potency of the agent. In core middles, subject and predication are integrated with each other by the VP, which expresses conducive modality and implies the agent of the predicate. Thus, an example like *This setup hears nicely* makes a modal statement about how, due to certain design properties, this radio lets the implied perceiver hear pleasant sounds. The implied perceiver is the agonist of the process designated by the whole predication. In Present-day English subtype VI middles like *This cheese smells nice*, the middle relation obtains only between the subject and the lexical verb. Semantically, this relation still has a general value such as ‘Due to its characteristics, this cheese lets the implied perceiver smell’. The agentive perceiver is implied in the conceptual base of the predicator only; the perceiver is not activated for his or her role in the whole predication. As a result, the elements elaborating the predicator do not further specify the conduciveness relation, e.g. how easily or in what manner the perceiver perceives the subject, but they relate directly to the subject. With this narrowing of the scope of the middle relation, the finite largely loses its value as a modal integrating subject and predication.

The activopassive mix associated with the finite does not modalize the whole proposition, but applies strictly to the relation between the percept and the implied perceiver. *Smells* in *This cheese smells nice* is basically a converse of *smell* in its

original lexical sense: rather than expressing the perceiver's sensory experience it depicts the entity's giving off a smell. The residual reference to an entity being processed by the senses contributes a subjective value to these clauses as attributive constructions. Note in this context that the various perception modes have to be incorporated in the paraphrase of class membership. *This cheese smells nice* means that it is a member of the class of nice-smelling cheeses and *John looks good* means that he belongs to the class of 'good-looking', i.e. handsome, men.

Subtype IV middles can in fact be seen as constituting the subjective option in the system of attributive clauses, as opposed to the objective ones with *be*. The subjective semantics of this attributive type of middle results from the perceiver implied in the conceptual base of the active predicator. This implied perceiver typically coincides with the speaker and attributor of the quality. Halliday's contextualization of middle *She feels warm* as 'she feels warm to my touch' makes the speaker as perceiver explicit in adjunct position. Even though in the unmarked case the implied perceiver is associated with speaker-stance, it may also be associated with third person stance, as in example (68).

(68) That theory feels very threatening to most women. (Google)

The type of subjective meaning we have here can be captured well in terms of Langacker's (2002:15) notion of subjectivity, according to which the speaker is part of the meaning but not of the scope of linguistic predication. In attributive perception middles, the speaker (which can be shifted to a third person), is part of the semantics of the VP, but is not — and cannot be — explicitly expressed as a direct element (such as the subject) of the VP.

3.2.5 Subtype V: Middles with verbal predicates expressing identification

In the last type of mental/verbal middle the predicate is elaborated by a NP (70), or a clause (69), rather than by an adjective.

(69) A sign on the curtained store reads: "Come in. We're open". (CB)

(70) [...] the government is quite happy to sell C one N D Y because it spells Cindy [...]. (CB)

The verbs found in these middles are verbal predicates as defined in Section 3.2.1. viz. verbs designating either the decoding (e.g. *read*) or encoding (e.g. *spell*) of semiotic signals. However, unlike in subtype I middles, the predication in subtype V does not express in what way or with what result the encoding or decoding can be carried out. Rather, the predication identifies a decoding (example 69) or encoding (example 70) value of the semiotic entity designated by the subject. In many ways, the elements of these clauses are related to each other as in copular

identifying clauses. In (69) the subject *a sign on the curtained store* is related to its message, or semiotic value, '*Come in. We're open.*' In (70) subject *C one N D Y* is related to its appearance, or semiotic form. Examples (69) and (70) thus appear as a decoding and encoding identifying clause respectively. However, in contrast with ordinary identifying clauses such as (48) and (49), the middle VP implies a decoding or encoding agent.

We now have to investigate to what extent subtype V middles such as (69)–(70) instantiate the criterial elements of middle constructions. As with subtype IV, the conducive modal VP is attenuated (Langacker 2000:297), though the middle relation can be recognized to a certain extent. For instance in *Cat spells C-A-T*, the graphological characteristics of the word *cat* are such that they lead the implied agent to spell it C-A-T. Or, in (69) the letters on the sign are such that they lead the implied reader to the reading '*Come in. We're open.*'. Arguably, some examples with *spell* and *pronounce*, as in

(71) Xitaqua pronounces chi-ta-qua. (Google)

have an invited inference of obligation. Unlike in core middles, like e.g.

(72) The Waves, whose poetic prose now reads very awkwardly.... (Google)

the complement of the predicate does not specify how the process is carried out; the complement is related to the subject. Subtype V middles are not statements about the easy, successful, etc. execution of a process, but about the symbolic relation between subject and complement. The entities referred to by subject and complement are situated on different coding strata, which is characteristic of identifying clauses (Halliday 1994:124). The subject is always the entity to be identified and the complement the concept bringing about identification, i.e. the identifier.

More strongly than in subtype IV middles, the lexical meaning of the decoding and encoding verbs in subtype V 'persists' (Hopper 1991). They are more easily recognizable as middles, because their verbs have delexicalized less than those in subtype IV middles. The encoding or decoding orientation of the identification is lexically specified by verbs such as *spells* and *reads* in (69) and (70), whereas it has to be contextually inferred for examples like (48) and (49) above with *is*. The agent implied in the decoding or encoding predicates does not contribute a subjective evaluative feel as in subtype IV. Rather, this implied agent has a non-specific, or even generalized, value: the semiotic properties of the subject (such as its spelling or its reading) impose themselves for any decoder or encoder.

4. Conclusion: Towards a fuller picture of the middle constructional network

In this article we have argued that, in addition to the generally discussed core middles with material verbs, five middle subtypes with mental or verbal predicates have to be recognized. While some of these, such as subtype I, *this book reads well*, are often quoted in the literature, the middle status of others, particularly subtype IV, *the iron roof feels hot*, is more controversial. In Section 3.2, the constructional and pragmatic features which all these subtypes share with core middles have been systematically discussed, showing that they all do belong to the middle constructional network. In this final section, we will recapitulate the main lines of this picture.

Subtype I middles, *this book reads easily*, are constructionally and pragmatically core middles. They are a prototypical instance of the interpersonally defined middle construction, in which the finite expresses letting modality and implied properties of the subject entity are judged as being conducive to the realization of the process in the way specified by the predication (Section 2.2). Their verbs, which depict the encoding or decoding of the various strata of the linguistic sign, are actional and imply a volitional human agent. They specify the facility, ease, result, etc. with which the semiotic entity in subject position can be processed and thus pragmatically evaluate this entity. The implied agent is mostly non-specific, while including the speaker. The agentive semantic role of the speaker ties in with his pragmatic function as evaluator of the subject entity.

Subtype II middles, *I shock easily*, also fully instantiate the conduciveness schema of core middles, but the representational semantics mapped onto it are very fixed and constitute a certain departure from core middles. Their subject is always the experiencer affected by emotion and their predication almost always contains the adverb *easily*. Unlike with all other middles, the implied agent is not an animate human, but the typically inanimate, unintentional phenomenon. The conducive subject is the animate experiencer, who is characterized as being — or not being — very susceptible to being affected by certain emotions. Pragmatically, the attribution of psychological traits or dispositions to the subject is strongly foregrounded and the implied agentive phenomenon can be argued to be ‘de-emphasized’ (Kemmer 1993:136) more strongly in this subtype than in core middles.

Subtype III middles, *My Comet GP-9 hears nicely up on 460*, are constructionally and pragmatically core middles, but contain weakly transitive verbs. A phenomenon or instrument is construed as being conducive to perception by the implied human experiencer, which mostly includes the speaker. Pragmatically, implied qualities of the conducive subject are thus being evaluated. However, examples of this subtype are not frequently encountered due to the very low transitivity of the verbs used in it.

Subtype V middles, *cat spells C-A-T*, are still recognizably middle, because the verbs in them have not delexicalized strongly. For instance, the decoding/encoding activities described by *spell* and *read* are still clearly evoked. However, the letting modality of the VP is attenuated in them, and its scope restricted to the lexical verb with implied generalized agent. The postverbal NPs are not adjuncts but complements to the subject.

Subtype IV perception middles are furthest removed from core middles with action verbs, which explains why a number of discussions, in contrast with Halliday (1967), do not recognize them as middle. However, we believe that, particularly in view of the diachronic evidence their middle origin can be assumed to have been established. Their VP has decategorized from imposing letting modality on the lexical verb into the more grammatical category of a copula. The posited reanalysis is an emergent (Hopper 1991) rather than a fully completed category shift. On the lexical level, the four verbs that are still used in this construction, *look*, *feel*, *taste* and *smell*, have different collocational ranges, which correlate with different degrees of delexicalization. On the grammatical level, the modal value of the middle has attenuated. The VP links the complement to the subject, but, because a perceiver is still implied at a schematic level, the attributive relation is more subjective than that expressed by *be*.

In our view, subtype IV middles are an important component of the full picture of middle formation, both systemically and diachronically. They are an interesting example of the pragmatic value of a construction becoming its coded meaning (Traugott and Dasher 2002:84–87). The pragmatic meaning of (perceptive) quality-attribution to the subject has impacted on the form of the construction and has become its coded semantics. This is why this subtype is often analysed as an attributive clause in Present-day English grammars. Detailing the complex path of its diachronic development is a task left for future research. Moreover, the clear semanticization manifested by attributive perception middles alerts us to less advanced instances of it in the whole network of middle constructions. For instance, in a number of material middles with locations as subject and intransitive verbs (see Section 2.1) we also find adjectival complements and verbs acquiring a more copular feel, as in

- (73) Monday's racing bulletin. The emphasis will be on stamina with the ground riding soft with some heavy places on the hurdles course. (Google)

Such specific instances, and the subtle relation between coded and pragmatic semantics of middles in general, will have to be investigated further in future research.

Notes

* Parts of this study were published in “The middle voice with mental and verbal predicates in English and Dutch” by Nele Olivier and Kristin Davidse in *Leuvense Bijdragen* 94 (2005), 189–234, and are republished here with the permission of the editor, Luk Draye. This research was supported by the Interuniversity Attraction Pole (IAP) P6/44 of the Belgian Science Policy on ‘Grammaticalization and (Inter-)Subjectification’. We would like to thank Hubert Cuyckens and Lieven Vandelanotte for their very helpful comments on an earlier version of this material. We are also grateful to the participants in the 3rd Workshop of the Systemic Functional Workshop on Ideational and Interpersonal Grammar (University of Gent, November 2003) for their feedback to the presentation of the central ideas of this paper. Special thanks are due to Liesbet Heyvaert for her continued dialogue with us about the middle voice. Finally, we are very grateful for the perceptive and generous comments of Geoff Thompson and the anonymous referee.

1. Other terms used for this construction in the literature include: activo-passive (Jespersen 1914–1929: vol.III:347), medio-passive (Declerck 1991:203), process-oriented passive (Halliday 1967), patient-subject construction (Van Oosten 1977:459), facilitative middle (Kemmer 1993:147).

2. Quirk et al (1985:735–736) also hold that verbs of perception (e.g. *see, look, hear, listen*) are excluded from middles in English, but they attribute this to their ‘stativity’.

3. It is interesting to note that, whereas English only uses the overt modal *will not* in the middle voice, its modal nature is more explicit in other languages. For instance in Hungarian (p.c. Hubert Cuyckens & Veronika Szélid), the middle construction with positive polarity takes the modal corresponding to English *may*, as in

(i) Ez egy konny-en, tíz perc alatt fel-ver-het-o sator.
this an easy+ADV ten minutes in up+beat+may+PRES.PART tent

(ii) Ez egy konny-en ki-nyit-hat-o ajtó.
this an easy+ADV out+open+may+PRES.PART door

The overt presence of the modal distinguishes the middle clearly from intransitive clauses with lexically ergative verbs like

(iii) Ki-nyit-t az ajtó
out+open+PAST TENSE the door

4. This is a different generalization from that proposed by Van Oosten (1986:93), who claimed that the middle subject “brings about the action of the predicate independently”, thus cancelling any involvement of an external agent.

5. The COBUILD corpus, accessed via the Wordbanks service, contains an extensive amount of data taken from varied written and spoken sources. Examples are reproduced with the kind permission of HarperCollins.

6. As pointed out to us by Geoff Thompson, *translate* intrinsically has both decoding and encoding meaning components. Arguably, (26) foregrounds the ease with which Greek can be

decoded, while (28), in which *translates* means ‘transposes’, foregrounds the cinematic encoding potential of the play *The Crucible*.

7. The difference between an intentional agent and a (non-intentional) phenomenon of please-type verbs is not explicitly made by Halliday (1994), but was pointed out to us by Willy Van Langendonck (p.c.).

8. We thank Geoff Thompson who was justifiably cautious about accepting Internet examples of this type as native English middles and pointed out this attested example to us.

9. Other Internet examples of this type had subjects such as *wide access LED/panel that sees easily, display which sees easily in backlight*.

10. As pointed out to us by Geoff Thompson, the non-occurrence of a verb depicting auditive perception in attributive middles in Present-day English can be argued to be compensated for by the pattern ‘X sounds Y’, as in *That sounds good*. However, *sound* is not in origin a verb describing perception with an active experiencer, and therefore we have not included it in this section.

11. Extension of collocational range of a lexical item seems to be an important — and hitherto neglected — symptom of ongoing delexicalization and decategorialization. Brems (2003) has also shown that the delexicalization and grammaticalization of nouns such as *bunch of*, *heaps of*, which are in the process of developing a quantifier use, manifests itself in the extension of their collocational range. These nouns have extended their collocational sets from concrete entities occurring in specific (e.g. ‘bunch’ or ‘heap’) constellations to include more abstract entities as well as animate beings.

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