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The English Auxiliary Clusters as a Case of the Grammatical Category Concentricity

Abstract: The English auxiliary clusters are unique among similar clusters in Indo-European languages in their structure, which is characterized by sequentiality. The lack of any possibility of reversing the sequence auxiliaries in such clusters begs the question concerning this strict ordering as the reflection of mutual relations obtaining between grammatical categories rendered by periphrastic formations based on those auxiliaries. As will be indicated in the present article, this strict sequentiality characterizing the position of auxiliaries is the reflection of the relations between the grammatical categories signalled by periphrastic formations participating in auxiliary clusters, which is characterized by concentricity in the sense that one grammatical category is embedded in another category.

Keywords: auxiliaries, proposition, passive voice, aspect, tense, epistemic distalness

1. Preliminary remarks

What makes the English language unique among Indo-European languages is the possibility of forming elaborate auxiliary clusters. The late Prof. Jan Cygan in his 1976 publication entitled *Strukturalne podstawy gramatyki angielskiej* in the chapter devoted to verb groups observed that the English maximum verb group can consist of as many as five elements, and corroborates this claim by presenting such a structure as *(it) might have been being eaten*. One of the features characterizing the English auxiliary clusters is their sequential invariability. While the first auxiliary, i.e. the one opening such clusters, will carry the tense specification and thus can be treated as a sort of ‘privileged’ constituent in the sense that it may not swap its position with other auxiliaries, it is not clear why the remaining auxiliaries cannot swap their positions. In other words, it is not clear why such a combination as *they might have been laughing* is the only option, while such a formation as **they*

might be having laughed is unacceptable.¹ It will be argued here that this strict sequentiality characterizing English auxiliary clusters reflects mutual relations obtaining between the grammatical categories whose exponents are the said auxiliaries on the one hand and, on the other, the relation of these categories to the meaning of the verb lexical item forming the lexical core of such clusters. It will be indicated in the subsequent parts of this article that such grammatical categories as voice and aspect are closer to the lexical core of the whole predicate as regards the sequence of the exponents of grammatical categories in the maximum auxiliary cluster, while the categories which are rather loosely related to the meaning of the lexical core and are more related to the pragmatic and modal specification of the clause—and thus are further from the lexical core—are closer to the specification of grammatical categories associated with T(ense) and C(omplementiser) as regards the structure of the whole clause.

The article is organized as follows: first, the sequentiality of the English auxiliary clusters will be analyzed in detail. Then, a brief characterization of each grammatical category signalled by auxiliary combinations will be presented. The characterization of the grammatical categories will be followed by a presentation of the meaning of the verb lexical item functioning as the lexical core of the whole predicate. This will provide the point of departure for an analysis regarding the relation between the sequentiality of the English auxiliary cluster and the meaning of the verb lexical item functioning as the lexical core of the predicate. It will be argued that this strict sequentiality characterizing English auxiliary clusters is closely related to the semantic properties of the lexical core on one hand and the propositional properties of sentences on the other. The relations between grammatical categories signalled by auxiliary clusters will be shown through postulating the derivational properties of auxiliary clusters set in the minimalist program theory.

2. The English auxiliary clusters

For the purpose of the analysis presented in the subsequent parts of this publication, prof. Cygan's original example will be slightly modified and the structure to be analyzed is *they might have been being eaten by tigers*. This section will be devoted to a characterization of grammatical categories featuring the above example and a brief description of their formal exponents. The auxiliary cluster *might have been being eaten* features a modal auxiliary as well as non-modal ones, i.e. *have* and *be*, which, along with participial forms, will function as the formal exponents of

¹ A similar problem is signalled in Quirk et al. (152). However, no explanation is offered therein as to why such formations as **have been being examining* and **is having been examined* are unacceptable. In normative grammars of English, such as e.g., Biber et al., Huddleston, or Huddleston et al., such auxiliary clusters are presented in a detailed way; however, the problem voiced above is not raised, mainly due to the didactic angle adopted in the above works.

diverse grammatical categories. Since modal auxiliaries collocate with infinitival forms, it can be said that, as is generally presented in the literature on this issue, the English infinitive can assume quite an elaborate form consisting of the exponents of various grammatical categories. This claim can be corroborated by the following comparison:

- (1) *They might have been being eaten by tigers*
- (2) *They are believed to have been being eaten by tigers*
- (3) *Some people expect them to have been being eaten by tigers*

As can be noticed from the above examples, *(to) have been being eaten* can be analyzed as a periphrastic infinitive consisting of exponents of three grammatical categories which can function as a constituent following a modal auxiliary, as well as an infinitival predicate in a raising construction as in (2), or a predicate in Exceptional Case Marking (ECM) construction as presented in (3).

Cygan (102) notices that the sequences of auxiliaries in such an auxiliary cluster is as follows: 1. *m* 2. *have* 3. *be* 4. *be* 5. *v*.² The first position is occupied by a modal auxiliary (*m*) whose paradigms pattern with lexical verbs as regards the tense specification, i.e. *v* : *v-ed*,³ as in, e.g.

- (4) *work/works* : *worked*
stay/stays : *stayed*
sleep/sleeps : *slept*
write/writes : *wrote*
go/goes : *went*
can : *could*
may : *might*
shall : *should*
will : *would*

It may be a bit surprising that verb lexical items and modal auxiliaries should share similar paradigmatic distinctions; however, as will be argued in the subsequent parts of this article, this paradigmatic similarity is not coincidental. As will be argued later on, the English formal distinction *v* : *v-ed* is not the exponent of the deictic specification attributed to the grammatical category ‘tense’ but should be related rather to epistemic, i.e. modal, than deictic specification.

With the interpretational particulars connected with modal auxiliaries aside for a while, let us concentrate on their formal properties. In contrast to other West

² In the traditional literature on the English verb phrase, auxiliaries are treated as auxiliary verbs, and as such are contrasted with full, lexical verbs, as in Cygan or Kaplan. Palmer (*Mood*), just like Quirk et al., treats auxiliaries as a class which is distinct from lexical verbs. If one adopts the characterization of verbs as lexical items capable of forming a predicate, then such a property cannot be attributed to auxiliaries in Modern English. Hence, auxiliaries and verbs, as regards the English grammar, should be kept apart.

³ In the case of modal auxiliaries, there is no 3rd p. sg. ind. marking *-es*, due to the preterit-present character inherited from the Old English modal paradigms.

Germanic languages, English does not allow for modal auxiliaries featuring perfect formations. Such Dutch and German formations as:

(5) Dutch

*Hij heeft ziek kunnen zijn*⁴

He has ill can-inf be-inf

‘He has been able to be ill’

(6) German

*Er hat das Lied nicht singen können*⁵

He has the song not sing-inf can-inf

‘He has not been able to sing the song’

are examples of modals in perfect formations.

In German, modals can also be found in perfect formations as in, e.g.:

(7) German

Er hat das Lied nicht gekonnt

He has the song not could-past part.

‘He could not sing the song’

These examples show that what in English is classified as an auxiliary, in Dutch and in German merits the status of a verb. Examples (5), (6), and (7) show that modals can feature perfect formations, due to the fact that their paradigms comprise such non-finite forms as infinitive as well as past participle. Moreover, (7) shows that the German modal *können* ‘can, be able to’ can behave like a transitive verb, due to the ability to take direct object in form of noun phrases. Thus, it can be assumed that the first position occupied by modals in the English auxiliary clusters is the only possible location of modals because of their paradigmatic deficiency, i.e., modal auxiliary paradigms are deficient in the infinitival as well as participial forms. This means that the English modal auxiliaries must be characterized as functional units whose main function, apart from signalling modality, either root, deontic, or epistemic, is also the indication of finiteness through the specification of tense. The only constituents they collocate with are infinitival expressions, to which we now pass.

Examples (2) and (3) show that what follows modal auxiliaries should be treated as complex infinitival formations consisting of other auxiliaries. Analyzing the organization of the infinitival formations in (2) and (3), one can notice the following formations signalling grammatical categories which are to be analyzed in the subsequent parts of this article. These periphrastic auxiliary formations can be presented as follows:

⁴ Dutch and German examples come from Boogaart and Helbig and Buscha.

⁵ According to Helbig and Buscha (115) the infinitival form of a modal is a ‘substitute infinitive’ (*Ersatzinfinitiv*) which: “[i]n der Verbindung mit dem Infinitiv wird bei den Modalverben die Partizip II-Form durch die Infinitiv-Form ersetzt” ‘in connection with the infinitive, the form of the past participle is substituted for the infinitival form as regards modal verbs’ [translation—J.M.]. The same seems to be the case as regards Dutch. The only difference between such Dutch and German formations is the sequence of the infinitival forms of the lexical verb and the modal.

(8) *have + x-en, be + x-ing, be + V_{trans}-en*

where the notation *x-en* or *V-en* stands for the past participle either of a lexical verb, i.e. *V* or *V_{trans}* in the case of transitive verbs, or some other auxiliary; hence, the categorically neuter symbol *x*. The symbol *x* in that case will stand for the copulative auxiliary *be*, whose paradigm contains such non-finite forms as *being* and *been*. For some reason this constituent appears to play a most important role in English auxiliary clusters. If one assumes that the periphrastic formations presented in (8) are two element formations in which the auxiliary stands for the exponent of the grammatical category and the other constituent carries information vital for the interpretation of the whole proposition as well as of a sentence, the organization of the infinitival formations presented in (2) and (3) can be schematically presented as follows:

(9) (I) *have + x-en*
 (II) *been + x-ing*
 (III) *being + V_{trans}-en*
eaten
have been being eaten

The analysis of (9) shows that non-modal auxiliaries in contrast to modal ones, as mentioned earlier, are characterized by full paradigms embracing non-finite participial forms, which makes them licit constituents of periphrastic formations whose exponents are such non-modal auxiliaries as *have* and *be*.

The inspection of (9) reveals one more thing. The periphrastic formations listed in (8) seem to be embedded in one another, i.e. the relations obtaining between them appear to be characterized by asymmetry. The fact that (II) *be + x-ing* is embedded within (I) *have + x-en* partly explains why the formation *be having laughed* is unavailable in English. In order to fully explain the sequence of embedding periphrastic formations as presented in (9), one should have a closer look at the grammatical categories signalled by these periphrastic formation.

3. Grammatical categories—voice

The survey of the grammatical categories rendered by the English periphrastic formation presented in (8) and (9) will start with a brief and cursory characterization of the meaning of the verb as the lexical core of the whole predicate. This step is necessary in order to determine the hierarchy of grammatical categories related to the meaning of the verb Lexical Item (LI). In other words, it would be advisable to have a cursory look at the meaning of the verb in general in order to find out which aspects of the meaning of this lexical category are signalled by the periphrastic formations dealt with in this article.

The meaning of the verb is characterized by a greater complexity in comparison to the meaning of the noun. The meaning of nouns, which appears to be

correlated with the function expressions headed by them play in the structure of proposition, makes them licit heads of referential expressions. Such formations refer to beings, either concrete, observable, or abstract, unobservable, which are asserted to exist in extralinguistic reality.⁶ The meaning of the verb can be best described, after Bach, as an ‘eventuality’, which, according to Parsons, can be classified into four types: events (accomplishments), events (achievements), states, and processes.⁷ These four types are coded lexically through a category which is known as lexical aspect or *Aktionsart*. What is, however, essential in the meaning of the verb is the assumption that: “eventualities have participants of various kinds” (21). These participants are nothing but arguments of verb LIs, which are rendered by nominal phrases or prepositional phrases. Thus, it can be assumed that the meaning of a verb will be characterized by a sort of relational character, which manifests itself in the form of relations obtaining between beings referred to by the arguments if the meaning of a given verb lexical item is characterized by more than one argument.⁸ The meanings of arguments must be combined with the sense of the verb into a structured construct through forming a proposition and it is this notion that is vital in analyzing the category of voice.

In the literature on voice, three voices are distinguished, active voice, passive voice, and middle voice.⁹ For obvious reasons, the last case will not be taken into account. Since the analyzed example (1) features passive voice, we will be mainly concerned with the relation between the two voices and their relation to proposition. Generally speaking, a proposition, in very broad terms, can be characterized as a mental construct based on two units, i.e. subject and predicate. The latter unit is formed due to the relational character of the meaning of a verb. As regards the locus of noun phrases in propositions, they may assume the function of a subject or feature a predicate as a part of a verb phrase in case the number of arguments presupposed by the meaning of a given verb is higher than one. Availing ourselves of the idea presented in Liebesman (“Predication” and “Sodium-free”), we will postulate that what is essential as regards the organization of a proposition is the

⁶ Here we will ignore the issue of nominalisations, i.e. nominal expressions derived from verbs, as it is presented and analyzed in Abney and Rozwadowska.

⁷ A similar classification of verbs can be found in Pustejovsky. See also Borer.

⁸ This remark appears to be a gross oversimplification. Verbs will differ in the number of arguments. There is a group of verbs whose meaning is characterized by no arguments, *to rain*, *to snow*, *to hail*. Such verbs as *to yawn*, *to sigh* have one argument. It would be difficult to attribute any relational interpretation to these two groups of verb. It could be argued that propositions featuring verbs belonging to these two groups do portray a kind of one argument relation. In the former group, it would be associated with the expletive *it* while in the latter it would be associated with DP functioning as the subject. Still other verbs such as *to write*, *to build*, *to read* will be characterized by two arguments, while such verbs as *to give*, *to show* will have as many as three arguments. It is the last two groups, i.e. monotransitive and ditransitive, that will be taken into account because of the possibility of forming the passive voice. All other verb classes will be ignored here.

⁹ In the case of ergative language one distinguishes between ergative and antipassive.

relation of ascription obtaining between a VP functioning as a predicate and the NP functioning as a subject and being one of the arguments of a given verb. This ascriptional relation between the two constituents of a proposition is signalled in languages with rich inflection through the phenomenon termed in the literature as ‘Subject–Verb Agreement’. It will be assumed here that a proposition is not a configurational, but a hierarchical, formation with the sequence of the constituents forming a given proposition being the result of linearisation obtaining at some realisational plane, e.g. Phonological Form (PF) in the minimalist program.

Let us suppose that lexical item $Z_{(Rel)}$ is characterized by a relational meaning which calls for two arguments realised by two noun phrases, i.e. expressions which are referential. The two types of meanings will be signalled by means of relational and referential indexes. Thus the formation of a proposition will consist in combining lexical items and phrases with relational and referential indexes. Thus, we could say that the meaning of $Z_{(Rel)}$ is characterized by two slots that must be filled by two constituents with referential indexes, i.e. $X_{(Ref)}$ and $Y_{(Ref)}$. The slot filling operation is referred to by Frege as saturation and in the case of a two argument $Z_{(Rel)}$ the saturation will be a two-step process. The first step is the saturation of the slot in which a constituent with the referential index $Y_{(Ref)}$ forms with $Z_{(Ref)}$ a constituent which reflects a highly intimate semantic relation between the sense of $Z_{(Rel)}$ and $Y_{(Ref)}$. This step corresponds to the formation of VP in the narrow syntax with $Z_{(Rel)}$ corresponding to V and $Y_{(Ref)}$ corresponding to its complement. With $\{...\}$ standing for an unordered set and ‘>’ standing for the semantic relation between the senses of two constituents characterized by intimacy, the first step can be presented as $\{Z_{(Rel)} > Y_{(Ref)}\} = VP$. The other nominal expression with the referential index, i.e. $X_{(Ref)}$, will be coded, due to the fact that $\{Z_{(Rel)} > Y_{(Ref)}\}$ acquires the ascriptional index partly due to the relational meaning of Z. The ascriptional index of this formation indicates that the contents of $\{Z_{(Rel)} > Y_{(Ref)}\} = VP$ will be ascribed to $X_{(Ref)}$, thus forming the whole proposition. What has so far been said can be presented as follows:

$$(10) \text{ Prop} = \{X_{(Ref)} < \{Z_{(Rel)} > Y_{(Ref)}\}_{(Ascr)}\}$$

with the symbol ‘<’ standing for ‘is ascribed to’. In the literature on predication, this relation of ascription is said to be mediated by a functional head Prp in Bowers (1993), or through the predication operator $\langle \pi, \langle e, p \rangle \rangle$ in Åfarli and Eide.¹⁰ For the purpose of the analysis presented in this article, what is of significance as regards proposition is what is the subject and what is ascribed to it. As has already been signalled, the relation of ascription is signalled through inflectional means, i.e. nominal grammatical categories such as Number and sometimes Gender are additionally signalled on either the auxiliary or lexical components of the predicate.

¹⁰ More on the relation between predicate, proposition, and predication can be found in Davidson.

If the above analysis is on the right track, then it could be assumed that two such sentences as

- (11) a. *Tigers eat people*
 b. *People are eaten by tigers*

are based on two different propositions, despite that fact that the lexical material is the same.¹¹ The difference is in which constituent functions as the subject and what is ascribed to it. In (11 a) *eating people* is ascribed to *tigers*, while *being eaten by tigers* is ascribed to *people*, which can be shown in (12).

- (12) a. [tigers_(Ref) < [eat_(Rel) > people_(Ref)]_(Ascr)]
 b. [people_(Ref) < [[be eaten_(Rel)]-by tigers_{(Ref)]]_(Ascr)]}

In (12 b) [...] stands for the ordered sequence of constituents derived due to the linearisation syntactic rules of the English grammar operating at PF, while ‘-’ signals that the prepositional phrase *by tigers* functions here as an adjunct whose presence is not obligatory in passive formations, but, if present, it also participates in the relation of ascription.

The above analysis leads to the conclusion that the grammatical category of voice is a grammatical device related to the formation of a proposition through determining which of the referential expressions being formal realisations of arguments induced by the meaning of a verb characterized by the relational meaning is to be coded as the subject as an ascribable constituent and what should be ascribed to this constituent in form of predicate. It is noteworthy that the formal exponent of passive formations in English is the periphrastic formation consisting of the auxiliary *be* and the past participle *v-en*.¹² It could be cautiously assumed that past participles featuring passive formations are actually adjectives, which share with verbs the property of forming predicates, i.e. ascribable constituents. What makes past participles and adjectives different from verbs is the fact that past participles and adjectives are deficient in inflectional means of expressing finiteness of a clause.¹³ Hence the presence of the auxiliary *be*.

¹¹ Thus, we do not subscribe to the point of view widely represented in the generative grammar, that the passive voice is the result of transforming an active verb into the correspondent passive participle whose ending *-en* is characterized by the property of Case-absorption, as it is presented in Jaegli.

¹² There is one more expression through which passive voice can be formed, i.e. *get + v-en*. However, this formation will be ignored in the present article.

¹³ In Polish, for instance, this relation of ascription in passive formations is signalled on the auxiliary constituent as well as on the form of the past participle, e.g. *ja zostalem pobity* (masc. sg. 1st p. past tense), *ja zostalam pobita* (fem. sg. 1st p. past tense), *(ty) zostales pobity* (masc. sg. 1st p. past tense), *(ty) zostalas pobita* (fem. sg. 1st p. past tense), *(on) zostal pobity* (masc. sg. 3rd p. past tense), *(ona) zostala pobita* (fem. sg. 1st p. past tense), *(ono) zostalo pobite* (neut. sg. 3rd p. past tense). Ignoring the plural number forms, it can be noticed that the past participle in Polish passive formations carries the gender specification in the past tense, i.e. *pobity* (masc.), *pobita* (fem.) and *pobite* (neut.). Such forms pattern with adjectival forms, e.g. *dojrzały* (masc.), *dojrzała* (fem.), *dojrzałe* (neut.).

On the basis of what has been said above, it could be concluded that only DPs rendering arguments of a given verb can feature active and passive formations, which would point to the conclusion that such a semantic property of verbs as transitivity is crucial for the relation between active and passive voice. The English proposition is characterized by one property which may appear unexpected; namely, transitivity as one of the properties of the meaning of verbs appears not to be crucial as regards the relation between the active and passive formations. In English it is possible for DPs featuring prepositional phrases functioning as adjuncts to play the role of the ascribable constituents in passive propositions, which would imply that transitivity does not play a leading role in forming passive formations as regards English.

Kageyama makes a distinction between regular passives and peculiar passives. Regular passives are formed on the basis of the past participle of either mono- or di-transitive verbs. Peculiar passives are based on DPs functioning as the subject, which in the active version would function as complements of prepositions forming PPs functioning as adjuncts. The latter formations are also characterized by preposition stranding. Peculiar passives can be formed on the basis of intransitive as well as transitive verbs, with the complement DP being intact by the process of forming the proposition as in, e.g.

- (13) *This building was always/often walked in front of by the Japanese emperor.* (past participle of an intransitive verb)
- (14) *This bridge has been walked under by generations of lovers.* (past participle of an intransitive verb)
- (15) *This cup has been drunk beer out of.* (past participle of a transitive verb)
- (16) *This hall has been signed peace treaty in.* (past participle of a transitive verb)¹⁴

The above examples point to one important property of the English predicate. Namely, nominal expressions functioning as arguments as well as non-arguments can participate in forming passive propositions through being coded as subjects.

The above implies that the category of voice is responsible for forming a proposition either active or passive through selecting the DP which is to function as the subject to which a VP functioning as the predicate is to be ascribed. With the factors responsible for assigning grammatical role to NPs functioning as arguments of a given verb LI aside, it can be said that, as regards passive propositions in English, a NP functioning as the subject in passive proposition must be within a VP or vP irrespective of its derivational history, i.e. being e-merged as an object of a given verb LI or being adjoined to VP in the function of an adverbial. The common

Semantic considerations aside, it can be assumed that past participles and adjectives function in the analogical way as regards their role played in the formation of proposition. The role of the auxiliary in Polish passive formation appears to be signalling the role of ascription through agreement and the specification of tense and modality.

¹⁴ Examples (13), (14), (15), (16) are from Kageyama.

denominator for arguments and non-arguments featuring a given VP is the fact that two types of nominal expressions featuring a VP functioning as the predicate can function as the subject of passive propositions because in active propositions, the two kinds of nominal expressions would be a part of a predicate which in syntactic terms is realised as VP. Thus, the grammatical category of voice could be analyzed as a proposition-forming strategy based on the nomination of one of the NPs functioning as the arguments of a given verb or the complement of PP functioning as an adjunct appended to VP, as the subject of a proposition, either active or passive. The problem that arises with the above observations is whether or not the active proposition is the canonical formation on the basis of which passive formation can be derived. A solution to this problem could be an assumption that active and passive sentences are based on the same Lexical Array (LA) but the distinction between active and passive is the result of two different derivations within the narrow syntax hence reflecting two different propositions.

4. Grammatical categories—aspect

Comrie (*Aspect* 3) characterizes aspect as: “different ways of viewing the internal temporal constituency of a situation”. Smith maintains that a situation is presented from a particular perspective, which she dubs ‘viewpoint’, and this is the main role of the category of aspect. Moreover, those different ways of viewing the internal temporal constituency of a situation or presenting the said viewpoint must be expressed through grammatical means for, as Brinton (3) notices, “[a]spect is grammatical because, broadly speaking, it is expressed by verbal inflectional morphology and periphrases”. In other words, aspect must be grammaticalized. Now the relation between voice and aspect becomes obvious. The object of such viewing is a situation that is interpretationally and intensionally rendered as a proposition, and as such is a mental construct responsible for combining the referential senses of arguments induced by the relational character of the sense of verbs, i.e. the core of the predicate. As mentioned above, the category of voice is responsible for coding which of the arguments or part of the VP/vP is to be coded as subject and which, in the case of other arguments and possibly adjuncts, are to be moulded as a part of the predicate. Thus, a formed proposition presenting a state of affairs, or a situation, is an input to aspectual viewing.

The majority of Indo-European languages make distinctions between perfective and imperfective aspectual distinction, e.g. French, Italian, Polish, Russian, to mention just a few. Not going into further details concerning aspect and its relation to tense, it can be said that perfective and imperfective are two ways of viewing the eventuality as a point or as a segment respectively (cf. Brinton and the literature therein; Comrie, *Aspect*; Molendijk). A good example of such an aspectual distinction as regards infinitival forms, i.e. not related to tense, is the infinitive

forms of the Polish lexeme ‘ROBI-v’, i.e. *robić*—segment, *zrobić*—point. It may appear plausible to assume that such aspectual analogies can be found in English. As will be presented shortly, the similarities between imperfective and perfective in the languages mentioned above and the means of signalling aspect in English are only apparent ones.

It can be assumed that the main formal exponent of the category of aspect as regards English is the paradigmatic formal opposition between the simple form V and the periphrastic formation *be+V-ing*, where V stands for the lexical component of this periphrastic formation. The periphrastic formations, which are formally and interpretationally marked in relation to simple verb form V, is dubbed ‘continuous’ or ‘progressive’. It can be treated as a subtype of imperfective because it shares with imperfective the sense of duration and incompleteness of the state of affairs denoted by a proposition, but the English progressive does differ from the imperfective aspect in French, Italian, or Polish. Molendijk claims that, as regards past tense, the English progressive and the French imperfective are characterized by the same interpretation in the cases when clauses containing those verb formations present situations as incomplete and ongoing in relation to some point in time expressed either by adverbials or another clause with simple past for English and *passé simple* for French, e.g.

- (17) a. *Quand la police interrogea Jean, Marie jouait dans le Jardin.*
 When the police interrogated-ps John, Maire played-imprf. in the garden
 b. *When the police interrogated John, Mary was playing in the garden*
 Simple past Past Progressive

However, what distinguishes the French imperfective from the English progressive is Molendijk’s observation that the French imperfective can be used in frequentative contexts, while the English progressive cannot because frequency contrasts with ongoingness attributed to this periphrastic formation. An analogous relation between the perfective and imperfective and the English progressive seems to be the case in Polish, e.g.

- (18) a. *Kiedy Janek wszedł do pokoju, jego siostra czytała książkę.*
 When John entered-perf. the room his sister read-imperf. a book
 ‘When John entered the room, his sister was reading a book’
 b. *Kiedy siostra Janka była młodsza, czytała wiele książek.*¹⁵
 When John’s sister be-past tense younger, she read-imperf many books
 ‘When John’s sister was younger, she read many books’

As can be noticed, imperfective forms in both Polish and French can be used in contexts indicating the ongoingness of a given eventuality, as well as in frequentative occurrence. The English progressive is characterized by the former interpretation only.

¹⁵ We ignore here the habitual form *czytywała* ‘used to read’.

Incompleteness and ongoingness seem to not be the only components of the interpretation induced by the English progressive formation. It can be said that the English progressive form *be+V-ing* is a grammatical means of presenting a given state of affairs/situation as incomplete, ongoing or of temporarily-limited character, which can be illustrated by (19):

(19) *Susan is drinking lots of coffee these days.*

With the interpretation and the use aside, such two propositions as

- (20) a. [$\text{She}_{(\text{Ref})} < [\text{write}_{(\text{Rel})} > [\text{a letter}]_{(\text{Ref})}(\text{Ascr})]$
 b. [$\text{John}_{(\text{Ref})} < [\text{be}_{(\text{Rel})} > [\text{a fool}]_{(\text{Ref})}(\text{Ascr})]$

may have two realisations, i.e.

- (21) a. *She writes a letter* or *She is writing a letter*
 b. *John is a fool* or *John is being a fool*

The simple form can be classified as non-progressive form with the perfective, i.e. point-like interpretation, which is used solely to name the eventuality without pointing to any procedural or temporal properties of a given verb lexical item.

The same analysis can be adopted for active and passive voice formations. Active voice formations are analyzed in (20 a, b) and (21 a, b). The passive voice formations will be compared with formations based on propositions featuring an adjective. Thus, such propositions as:

- (22) a. [$\text{John}_{(\text{Ref})} < [\text{be childish}]_{(\text{Ascr})}$
 b. [$\text{They}_{(\text{Ref})} < [\text{be punished}]_{(\text{Ascr})}$

can have two realisations each, i.e.

- (23) a. *John is childish* or *John is being childish*
 b. *They are punished* or *They are being punished*

The above examples seem to corroborate the claim that the category of aspect seems to be superordinate in relation to the category of voice. The category of voice being responsible for combining the constituents with referential and relational indexes into propositions seems to be responsible for forming an input for aspectual evaluation. Thus formed, a mental construct can serve as an input for aspectual viewing.

5. Grammatical categories—perfect

The English perfect is a most controversial English formation. The formation consisting of the auxiliary *have* and past participle containing the lexical core is treated as an aspect as in e.g. Radford, Huddleston, Quirk et al. Other scholars are prone to treat this periphrastic formation as a manifestation of tense, as in Comrie (*Tense*), Kaplan, Jespersen. The dual character of the English perfect is alluded to in Jespersen, Comrie (*Tense*), or Kaplan. According to Jespersen (269), the English perfect

is characterized by the property which: “besides the purely temporal element it [i.e. the English perfect—J.M.] contains the element of result”. Kaplan claims that the tense character of the English perfect manifests itself in referring to two temporal points, i.e. the time of the occurrence of the eventuality referred to by the proposition and the moment of speaking, i.e. tense like characterization of this formation. The perception of the span between these two points makes the aspect-like interpretation of this periphrastic formation. Comrie (*Tense* 25) claims that “[t]he perfect indicates that the past situation has current relevance (i.e. the relevance at the present moment)”. This relation between the past situation and its relevance at the moment of speaking is also reflected in the *Extended Now* approach to the perfect in Germanic languages as presented in Rothstein.

Taking into account the definition of aspect presented in 3, a question could be posed as to whether or not such elements of the interpretation of the English perfect as the span between the time of occurrence of a situation and the moment of speaking, or the relevance of a past situation at the moment of speaking could be treated as elements of the temporal organization of a given situation rendered by a proposition. The latter term especially, i.e. the current relevance as a characteristic feature of the category under consideration, offers a rather poor explanation as regards the aspect status of the English perfect because it is rather loosely related to the interpretation of a proposition. It is more a pragmatic category with some epistemic colouring, i.e. it is the speaker who decides what is of current relevance on the basis of his knowledge of the reality in which he is immersed.

In fact, there are three arguments against treating perfect as an aspect. First, with the category of aspect being defined as a grammaticalized way of viewing the temporal organization of a situation denoted by the proposition, it would be difficult to explain why one situation should be viewed in two different ways in the case when a sentence features both perfect and progressive. Second, if the perfect is treated as an aspect, it is not clear why the progressive is subordinated to the perfect, not vice versa, which is illustrated by examples presented in 1., i.e. *they might have been laughing* and **they might be having laughed*. Third, what makes the progressive appear as an aspect in contrast to the perfect is its lexical sensitivity.¹⁶ It is assumed above that the progressive in English is grammaticalized as the formal opposition V : *be+V-ing*. It is observed in Malak (“Aspect”) that the periphrastic formation *be+V-ing* is lexically sensitive in the sense that a certain group of verb lexical items will never be found as the lexical core of the progressive formation, as in

(24) *He owns the car* vs. **He is owning the car*.

¹⁶ The problem becomes more interesting if one takes into account Verkyul’s characterization of the English progressive as a manifestation of outer aspect in opposition to inner aspect evidenced e.g. in Polish.

Propositions formed on the basis of such verb lexical items as *own*, *possess*, *contain*, *belong*, *consist of*, are not likely to make an input to the progressive way of viewing the situations presented by such propositions. The criterion of the division into propositions licit ones for the progressive viewing and the illicit ones appears to be the temporal character of the situation itself. The suitability of propositions for progressive viewing is determined by the limited duration of a situation denoted by a given proposition, irrespective of stativity inherent in the meaning of such verbs as *sit*, *lie*, *remain*, *stand*, dynamicity, momentariness, or telicity. Thus, such verbs as *own*, *possess*, *contain*, etc. will feature propositions which present situations characterized by the temporally-unlimited duration, thus unsuitable for progressive viewing.¹⁷

Thus taking into account a considerable number of the types of eventualities denoted by the lexical category ‘verb’ and the way in which aspect is grammaticalized in English, i.e. due to the privative opposition V vs. *be+V-ing*, it can be concluded that not all types of the eventualities denoted by the meaning of the verb can be viewed in the same manner, hence the lexical sensitivity of the English progressive formation. As regards the English perfect, no such relation can be noticed between the periphrastic formation *have + V-en* and the lexical aspect, i.e. Aktionsart. All verb lexical items can make the lexical core the English perfect, which points to the conclusion that the English perfect is not any means of viewing a situation presented by a given proposition through making one of the procedural features of the eventuality denoted by a verb more prominent, as is the case with the progressive. Thus, the English perfect cannot be treated as an aspectual formation.

Since the interpretation of the formation dubbed ‘present perfect’ is a bit problematic because of the [-past], i.e. present tense, specification of the auxiliary *have*, we will tackle the problem of the interpretation of the perfect in modalized and non-finite predicates. Thus, in such examples as:

- (25) a. They will have left by five o’clock
 b. They may have left (a couple of hours ago)
 c. They seem to have left (a couple of hours ago)

the interpretation shared by the perfect formation (*to have left*) is the relation of preceding obtaining between the state of affairs denoted by the proposition [$\text{they}_{(\text{Ref})} < [\text{leave}]_{(\text{AScr})}$] and some orientational point in time. While the interpretation of (25a) is fairly straightforward, i.e. at the point referred to by the expression *by five o’clock* placed in the future, ‘their leaving’ is supposed to be in the relation of

¹⁷ Actually, states are also characterized by a temporally limited duration, however, in contrast to eventualities denoted by non-state verbs, the duration of a given state will be determined by the relevance of its arguments. For example, the situation presented by such a sentence as *his family possesses an impressive mansion* can be said to be true as long as one of the arguments of the verb *possess*, i.e. *his family* or *impressive mansion*, are relevant as regards the mental reality of the speaker as well as of his or her interlocutor. Thus, it can be seen that relevance seems to be an epistemic category rather than a pragmatic one.

precedence as regards that point. The interpretation of (25b) and (25c) is more complicated. The analogue of the point denoted by *five o'clock* in (25a) is the moment of speaking, i.e. what is traditionally treated as the present.¹⁸ Thus, the interpretations of (25b) and (25c) can be presented as:

- (26) b. It is probable that they have left/that they left a couple of hours ago
 c. It seems that they have left/that they left a couple of hours ago.

The above analysis shows that the interpretation of the English perfect appears to be more deictic rather than aspectual, thus making it an exponent of tense, rather than aspect. The paraphrases of (25b) and (25c) show that the perfect formation (*to have left*) corresponds to present perfect *have left* or simple past *left* if the sentence has a non-modal or finite predicate. Thus, the periphrastic formation *have + V-en* seems to place the state of affairs denoted by the whole proposition in the relation of anteriority to some orientational point on the time-line, be it some point referred to by a clause, an adverbial expression, or a moment of speaking. Such a constata-tion would make the formal opposition V vs. V-ed dubious as the main exponent of the category of tense as regards English. This problem will be dealt with in the subsequent parts of this article.

6. Grammatical categories—modal auxiliaries

The last element of the English auxiliary cluster dealt with in this article is the modal auxiliary *might*. As indicated in Section 2, modals pattern with lexical verbs as regards what is in the literature treated as the tense distinction, V vs. V-ed as illustrated by (4). As signalled in Section 2, the fact that the paradigm of lexical verbs and of certain modal auxiliaries is based on the formal distinction V vs. V-ed is not coincidental. In the example under consideration, i.e. *they might have been being eaten by tigers*, the past tense form of *may*, i.e. *might* is an exponent of epistemic modality. According to Palmer (*Mood* 51), the term ‘epistemic’: “should apply not simply to modal systems that basically involve the notions of possibility and necessity, but to any modal system that indicates the degree of commitment of the speaker to what he says”. It will be assumed in this article that the degree of commitment of the speaker to the contents of his utterance can be graded from full commitment as regards factuality, corresponding to the indicative in the linguistic tradition, via partial commitment reflected in the subjunctive expressed, among others, by modal auxiliaries, down to full commitment as regards

¹⁸ Associating the moment of speaking with the present tense seems not to be justified. If it were the case, then sentences with the present tense specification should exclusively refer to the situation obtaining at the moment of speaking, as is the case with *Susan is drinking coffee now*. However, *Susan drinks lots of coffee* is also specified as present, despite the fact that the state of affairs referred to by this sentence need not be the case at the moment of speaking. Hence the need to revise the status of tenses not only in the deictic dimension but also in the epistemic dimension.

contra-factuality where the English form *V-ed* plays a crucial role. Non-factuality is also a gradable category ranging from certainty, i.e. logical necessity, via probability, down to the quantifier ‘hardly likely’.

The above epistemic gradation will be illustrated by variations of the formation *they might have been being eaten by tigers* along with correspondent interpretations.

(27) a. *They had been being eaten by tigers* = It is a fact, i.e. the speaker is fully committed to the truth contents of the underlying proposition, that, some time before the moment indicated in the text, they were being eaten by tigers.

(Factuality)

b. *They must have been being eaten by tigers* = It is not a fact that they had been being eaten by tigers. It is only the speaker’s conviction verging on certainty that the eventuality expressed by the proposition took place in the past.

(Non-factuality)

c. *They may have been being eaten by tigers* = It is not a fact that they had been being eaten by tigers. The speaker considers the occurrence of the eventuality denoted the proposition as probable.

(Non-factuality)

d. *They might have been being eaten by tigers* = It is not a fact that they had been being eaten by tigers. The speaker considers the occurrence of the eventuality denoted by the proposition as hardly probable.

(Non-factuality)

e. *They would have been being eaten by tigers* = It is a fact that they were being eaten by tiger in the past in an alternative reality, i.e. a reality different from that in which the speaker is producing his utterance.

(Contra-factuality)

What seems to be crucial as regards the interpretation of the whole sentence is the functional head Tense (T). It is the locus of the opposition presented in (4). A question could be posed at this point, namely, whether or not the opposition V vs. *V-ed* should be exclusively associated with any deictic specification. What has been presented above leads to the conclusion that all assertive utterances should be characterized by epistemicity, as well as by deixis. Malak (“Deictic-Epistemic”) postulates that sentences are characterized by Deictic-Epistemic Hierarchy (DEH) and this hierarchy is different in various languages. In English, the leading information in the tense specified verb form is of epistemic character with the deictic specification being of secondary importance, while in Polish, this relational hierarchy is reversed, with the deictic specification being more prominent and epistemic interpretation being retrieved from the context. This observation seems to offer an explanation, among others, for the phenomenon of Sequence of Tenses in English and the absence of this phenomenon from Polish.

To make a long story short, it is assumed in Malak (“Deictic-Epistemic”) that verb forms with the past tense specification, i.e. *V-ed*, feature propositions denoting epistemically distant states of affairs as regards the reality in which the speaker is producing an utterance and verb forms without such a specification, i.e. V, make

the core of propositions referring to eventualities epistemically proximate to the reality in which he is making an utterance. Thus examples (27a), (27d) and (27e) present this epistemic distalness. (27a) and (27e) are examples of full commitment on the part of the speaker as regards the truth contents of his utterance, with (27a) signalling factuality while (27e) denoting contra-factuality. The only difference between them is in the Mood specification. (27a) features the indicative mood while (27e) the subjunctive mood. It could be assumed that epistemically distant probability as presented in (27d) and contra-factuality presented in (27e) are similar in presenting a given eventuality as epistemically distant from the reality in which the utterance is being produced. The only difference between the two cases is the degree of the speaker's commitment to the contents of his utterance. In the case of (27a), the speaker's full commitment to the truth contents of his utterance and epistemic distance from the reality in which he is making the utterance places the state of affairs denoted by the proposition before the moment of speaking, i.e. in the past.¹⁹

If the above analysis is on the right track, then it can be assumed that the functional head T which in the literature is treated as a constituent pertaining to deictic information, as far as English is concerned, appears to be the means of conveying epistemic information. Thus the formal opposition V : V-*ed* characterizing the paradigms of four modals, and of all verbs signals the epistemic proximity and epistemic distalness, respectively. This would explain the isomorphism of paradigms in the case of modals and verb presented in (4). At the same time, the role of *have* + V-*en* becomes obvious. The perfect is a means of signalling the relation of precedence between the state of affairs denoted by a proposition and some orientational point, i.e. the moment of speaking or some other point in time referred by adverbials or adverbial clauses.

7. A category within a category

With all the grammatical categories featuring an English auxiliary cluster described, it is now possible to have a look at the conditions which are responsible for the hierarchy of grammatical categories presented in (9). If it is assumed that the English auxiliary cluster reflects the relation of containing-obtaining between the above described grammatical categories, then the category of voice appears to the most deeply-embedded category. Such an assumption seems to be logically sound, since the material for aspectual viewing must be characterized

¹⁹ This also seems to offer an explanation to the problem of the form of the verb in past-tensed sentences and conditional clauses signalling contra-factuality. In the case of two such sentences as *Tom had money* and *if Tom had money* the form *had* signals that one of the elements of the reality in which the two sentences are uttered is the fact that Tom does not possess money. Thus, the leading specification in the case of V-*ed* appears to be epistemic with the deictic specification being of secondary importance.

by some kind of structure, i.e. a proposition in the case under consideration. As suggested above, one of the characteristic properties of a proposition is the organization of units characterized by two different types of senses, i.e. referential and relational, into a construct consisting of the subject rendered by a constituent with referential interpretation and the predicate whose core is a unit with relational interpretation. Thus, what is vital for the active and passive voice distinction is which of the arguments of a given verb lexical item will be the subject in a proposition with a referential expression corresponding to Agent in the case of the active voice or a referential expressions corresponding to Theme in the case of the passive voice.²⁰ Therefore, it could be assumed that the category of voice which reflects a proposition is subordinated to the category of aspect, thus functioning as an input to aspectual viewing. What has been postulated above can be presented as:

- (28) a. $[tigers_{(Ref)} < [eat_{(Rel)} > people_{(Ref)}]_{(Ascr)} > Progressive = [tigers [be\ eating\ people]] = Progressive\ Active\ Cluster\ (PAC)$
 b. $[people_{(Ref)} < [[be\ eaten_{(Rel)}]-by\ tigers_{(Ref)}]_{(Ascr)} > Progressive = [people [[be\ being\ eaten]-by\ tigers]] = Progressive\ Passive\ Cluster\ (PPC)$

Thus formed auxiliary clusters, which could be treated as two aspectually-viewed propositions, make an input for deictic valuation, i.e. placing their contents in time in relation to some orientational point, through associating the two formation with the English perfect. Hence PAC and PPC as one cluster come into interaction with *have* + V-*en* and this operation is presented in (29):

- (29) a. $[tigers [be\ eating]] > Perfect = [tigers [have\ been\ eating\ people]] = Perfect\ Progressive\ Active\ Cluster\ (PPAC)$
 b. $[people [[be\ being\ eaten]-by\ tigers]] > Perfect = [people [[have\ been\ being\ eaten]-by\ tigers]] = Perfect\ Progressive\ Passive\ Cluster\ (PPPC)$

This is the point where the formations of clusters end because they may be associated directly with T and in such cases it is the first auxiliary, i.e. the auxiliary of the highest formation *have* which is undergoes such an operation in formations signalling Factuality. In the case under consideration, T is lexicalized as *might*, which signals Non-factuality and epistemically-distant probability. This last step could be characterized as the modal (epistemic in this case) valuation of the contents of the whole sentence. What is also noteworthy is the observation that both PPAC and PPPC can also function as infinitival forms as shown in (2) and (3).

²⁰ We do not subscribe to the point of view in which the direct object of an active sentence becomes the subject of a passive one. A direct object is an object because it is a part of the predicate, i.e. a constituent which is ascribed to the subject. The subject is the part of a proposition to which the predicate is ascribed. Thus, maintaining that a part of a predicate, i.e. a constituent to be ascribed to the subject, becomes the subject to which a predicate is ascribed would be characterized by a kind of structural and logical inconsistency. It is assumed here that an active sentence and a passive sentence based on the same lexical material present two different states of affairs and thus are based to two different propositions.

8. English auxiliary clusters and the minimalist program—concluding remarks

Adopting minimalist theorising as regards the English auxiliary clusters, one can see more clearly the mutual relation between the grammatical categories represented by auxiliary clusters. First, it can be said that the successive forming of non-modal auxiliary clusters is placed in a different fragment of the derivation than that responsible for lexicalizing T through introducing *might*. It could be further hypothesized that the place within the derivation in the narrow syntax is an extended v*P with v_{Pass} , v_{Progr} and v_{Perf} as heads which must be lexicalized as an auxiliary and functioning as head of a phrase whose Spec must be filled by a nominal expression with a referential index possibly due to the uninterpretable nominal feature of v_{Pass} , v_{Progr} and v_{Perf} . The problem is with the identification of heads. It is assumed here that the said functional heads form phrases of their own, i.e. $v_{Pass}P$, $v_{Progr}P$, and $v_{Perf}P$ with their own Specifiers and Complements. The term ‘Complement’ corresponds to ‘being an input to’. Specifiers are those places in which nominal features of a given head are valued and matched.

Component auxiliary formations characterizing the English Auxiliary Clusters presented in (8) and repeated here for convenience as (30)

- (30) *have* + *x-en*, *be* + *x-ing*, *be* + $V_{trans-en}$

could be analyzed as formations consisting of two constituents which play different roles within a given functional projection. The first element could be analyzed as the representative of a given functional projection, which is raised to a higher projection filling the location *x*. What is left behind is an *x*-non-finite participial form which is the expression functioning as the signal of predicate identity. The predicate identity is preserved through the successive raising of a referential nominal expression to which the contents of extended vP is ascribed and raising the representative constituent of a given functional projection which inherits the predicate identity specification. Finally, the nominal expression is moved to Spec TP, and it is in this position where the relation of ascription between the raised nominal expression and lexicalized T is mediated. Thus the whole derivational history of *they might have been being eaten by tigers* can be presented as follows:

- (31) [_{CP} C [_{TP} *they*_i [_{T'} *might* [_{VP}PerfP *t*_i [_{VP}Perf' *have been*_j [_{VP}ProgrP *t*_i [_{VP}Progr' *t*_j *being*_k [_{VP}PassP *t*_i [_{VP}Pass' *t*_k *eaten* [_{VP} *tigers* { v_{TV} , [_{NP} F]_i}]]]]]]]]]]]]/ where /.../ stands for a phase.

A few comments would be in order here. The expression [_{NP} F] is an idea borrowed from Chomsky (*Lectures*), where F is a set of φ-features such as Number, Gender, Case. If v*P is active, i.e. no v_{Pass} is e-merged, then after all i-merge operations are performed leading to the first Spell-Out, [_{NP} F] will receive the [_{NP} F (P)] realisation as *them*, where (P) is the phonological matrix. Thus, it could be assumed that substitution of [_{NP} F] for [_{NP} F (P)] is the result of passing a given fragment of

the derivation to PF. In the case under consideration, this nominal expression in the form of a bundle of φ -features leaves an unordered set $\{v_{\text{eat}}, [\text{NP F}]\}$ and lands in the Specifier positions in the successively e-merged functional v expressions. It could be speculated that all the functional projections, i.e. $v_{\text{pass}}\text{P}$, $v_{\text{ogr}}\text{P}$, and $v_{\text{perf}}\text{P}$ are characterized by the Edge Feature, which determines what is passed to Spell-Out and which fragments of the derivation are still active. The active elements are nominal expressions in the Spec position and the head of a given projection. This Edge Feature becomes deactivated the moment a new functional head is e-merged. In the case under consideration, it is $v_{\text{perf}}\text{P}$ which seems to be characterized by such a feature, with $[\text{NP F}]$ being the only constituent capable of further i-merging. The head of v_{perf} , i.e. *have been*, a complex functional head, remains intact and along with other derived expression is passed to the first Spell-Out. After the e-merge of *might* as the lexicalisation of T, $[\text{NP F}]$ is i-merged in $[\text{Spec}, \text{TP}]$ and undergoing the second Spell out it receives at PF the $[\text{NP F (P)}]$ form *they*, i.e. the nominative form which is that constituent of a proposition to which the predicate is ascribed. No such mechanism is necessary in the case of DPs featuring concrete nouns as the head of NP, i.e. the complement of D in DP, because of Structural Case, the problem of which is tackled in Chomsky (*The Minimalist Program*, “The Minimalist Inquiries” and “On Phases”) through the uninterpretable feature [Case] which must be disposed of by matching, valuing and deleting this feature before passing the derivation to LF.

‘V’ is presented as an unordered set containing the past participle of *eat*, i.e. *eaten*, and the bundle of nominal features characterizing pronouns. As assumed above, the past participle is reminiscent of adjectives which can also form a predicate provided that it is accompanied by a constituent which is capable of expressing the relation of ascription between the predicate and the subject. Such an constituent is *be*, which is a part of the complex head of the projection $v_{\text{pass}}\text{P}$. The constituent $[\text{NP F}]$ is i-merged in $[\text{Spec}, v_{\text{pass}}]$ along with adjoining the past participle with *be* representing v_{pass} . Such a step is necessary in order to guarantee the predicate identity which is inherited by *be*. In the subsequent steps, this auxiliary will pass on the predicate identity to the representative of the next functional projection. The DP *tigers* remains unaffected by derivative operations retaining its thematic relation, i.e. Agent. However, due to the lack of any formal means of signalling the ‘demoted agentivity’, this nominal expression will be part of a prepositional phrase headed by *by*, i.e. *by tigers*. In some heavily-inflected languages, such as Russian or Ukrainian, this ‘demoted agentivity’ is signalled through the instrumental case specification.²¹

Such a formed structure with propositional interpretation is the input to further evaluations, i.e. aspectual, and if no v_{ogr} is merged, it serves as the input to deictic

²¹ For instance, the Russian sentence taken from Offord and Gogolitsyna (2005) *on byl ubit soldatom*, which can be transliterated as ‘he-nom.sg.masc. was-3rd p. sg. killed-past participle soldier-instr.sg.masc.’ corresponds to *he was killed by a soldier* in English.

evaluation signalled by v_{Perf} . This remark is particularly crucial because if v_{Perf} is e-merged, then the e-merge of v_{Prog} is blocked. This is so because Progressive is subordinate in relation Perfect. Perfect seems to be superordinated to Progressive as well as v^*P and $v_{\text{Pass}}P$. Thus it can be said that v^*P and $v_{\text{Pass}}P$ are contained within $v_{\text{Prog}}P$ and the latter projection is contained within $v_{\text{Perf}}P$. The presence of *might* is a different story. Due to the fact that T is the functional head which c-commands all the functional projections, it is superordinate to all those projections. This seems to offer an explanation to the question posed in 1: why such a formation as *they might be having laughed* is unavailable.

The characterizations of grammatical categories presented in 3 to 6, when coupled with what is presented in 7 and 8, offer one more interesting trait of the English auxiliary clusters. The grammatical category ‘voice’ seems to be the most basic and essential one because it is the meaning of the verb lexical item which determines the form of the proposition. The distinction between active and passive is the matter of different derivations. Thus formed, a proposition is further evaluated through aspectual viewing which, as presented in 4, through its being lexically sensitive, makes the category of aspect also intimately related to the meaning of the verb as the core of a proposition. The category of perfect is rather loosely related to the lexical contents of a proposition and through the formal means of this functional expression the contents of PAC and PPC can be evaluated deictically through presenting the location of the contents of such an extended proposition in relation to some orientational point in time. PPAC and PPPC are further epistemically evaluated by T, which, in the case under consideration, is realised as an *-ed* form, i.e. *might*, which signals the epistemic distance between the state of affairs denoted by an extended vP , or an extended proposition, and the speaker’s reality in which a given utterance is being produced. This relation between the interpretation and derivational properties characterizing the English auxiliary clusters seems to satisfactorily explain the grammatical concentricity characterizing the mutual relations between grammatical categories signalled by periphrastic formation in English. QED.

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