On the Universality of Auxiliary Verbs*

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Abstract

Cross-linguistically, it has often been observed that there is no any specific language-independent formal definition that can be used to determine the characterization of any given element as an auxiliary verb. This paper, though it agrees to some extent with this observation, argues that there is still room to find some universal properties that help us end up with the conclusion that auxiliaries and lexical verbs are two distinct types of syntactic entities. To this end, this paper describes the characteristics

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necessary for what is to count as an auxiliary verb. Having done that, the paper turns to illustrate the most common properties that can be found among languages in order to find a clear universally agreed definition of an auxiliary verb.

Keywords: auxiliary verb, lexical verb, morphological information, theta role, negation, structural property, NICE property

1. Introduction

Delimiting properties of auxiliary verbs vis à vis lexical verbs has been the topic of continuous debate in generative grammar. It has, as stated by Heine (1993: 26), "provided one of the most popular battlegrounds for disputes of linguistic theory." Although it is quite widely accepted that an auxiliary verb can be defined as "an element that in combination with a lexical verb forms a mono-clausal verb phrase with some degree of (lexical) semantic bleaching that performs some more or less definable grammatical function" (Anderson 2006: 5, cf. Heine 1993: 70[1]), there is, in fact, no agreed formal definition that can be adopted to determine the characterization of any given element as an auxiliary verb. In this regard, Anderson (To Appear, p. 1, n. 3) considers any definition of auxiliary verb as admittedly somewhat nebulous because he strongly believes that:

> There is no, and probably cannot be, any specific, language-independent criteria that can be used to determine the characterization of any given element as a

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[1] Heine (1993: 70) defines auxiliary verb as "an item on the lexical verb to functional affix/particle continuum, which tends to be at least somewhat semantically bleached, and grammaticalized to express one or more of a range of salient verbal categories, most typically aspectual and modal categories, but also not infrequently temporal, negative, or voice categories."

lexical verb (including in serialized functions) or an auxiliary verb. As in all scalar, gradual, or gradient phenomena, clines of grammaticalization and semantic bleaching will have 'gray areas,' where the element in question has accrued certain features generally associated with end-points or focal points on the continuum, but perhaps not others. It seems likely that the degree of grammaticalization and semantic bleaching deemed sufficient to stop calling some particular verbal element Xv usages of lexical verb Xlv and start calling it auxiliary verb Xav will vary from researcher to researcher, even when working on the same language.

The problems surrounding the definition of auxiliaries, resulting in not finding a clear universally agreed definition, relate to various reasons. According to Kuteva (2001: 5), one of these reasons is that:

There exists no clear demarcation line between periphrastic verb expressions and bound morphemes—all the more so since one and the same form may often have two different synchronic statuses, as a separate word and as a bound morpheme. Even if the form is readily recognized as a separate word, it will very often be considered by some linguists as a lexical verb and by others as an auxiliary—something which is referred to as the 'amphibian' nature of auxiliaries.

As pointed out above by Anderson, another reason could be derived from the fact that properties of auxiliaries differ from one language to another and hence it is hard to construct a consistent set of criteria to define (and thereby identify) auxiliaries.

This paper mainly aims to address the question of what is to count as an auxiliary verb. More specifically, the current discusses

the kind of properties which have been taken into account in characterizing the auxiliary class in syntactic theory in order to find crosslinguistic criteria which set auxiliaries verbs apart from lexical verbs.

The current paper is organized as follows. Section 2 considers the grammatical properties distinguishing auxiliaries from lexical verbs by language-independent characteristics. Section 3, by contrast, shows that defining auxiliaries is further complicated by the fact that there are some properties of auxiliaries that are specific to some languages, and do not extend to other languages auxiliaries. This can be seen in English, some Uralic languages (e.g., Finnish), and Tamil. Section 4 concludes the paper, and shows that although it is extremely difficult to decide what a good auxiliary should look like, there is still room to find some universal properties that help us argue that auxiliaries and lexical verbs are two distinct types of syntactic entities.

2. Some Properties of Auxiliaries

Cross-linguistically, the formal characteristics which delimit auxiliary from lexical verbs can be divided into two types: *structural* and *thematic*. Both of these types are different from one language to another, even between languages of the same family. Let us first begin by the structural properties.

2.1. Structural Properties

One of the most distinguishing structural properties of verbs which can function as auxiliary verbs is that auxiliaries are strongly associated with verbal rather than with nominal elements of a sentence. "They 'fill out' add to or further specify the predicate rather than its arguments" (Berman 1980: 17). Accordingly, it has been argued that auxiliaries must be in combination with a

lexical verb, forming a mono-clausal verb phrase (Anderson 2006: 5). This can be noticeably seen in a number of languages such as Korean (1), Tamil (2), and Khalkha Mongolian2 (3) where, in these languages, no element can intervene between the auxiliary and the lexical verb.

(1) a. John-un   chayk-ul ppali   ilk-e   peli-ess-ta.
        John-Top book-Acc quickly read   throw away-Past-Decl
        "John quickly completed reading a book."

    b. *John-un chayk-ul ilk-e   ppali   peli-ess-ta.
        John-Top book-Acc read   quickly throw away-Past-Decl
        (Suh 2000: 107)

(2) a. avan̠   porudkaḷ-ai   vāŋki   mudi-t-t-ān̠.
        he-Nom   groceries-Acc bought-Inf   has-Perf-3ms
        "He has bought groceries."

    b. *avan̠   vāŋki   porudkaḷ-ai   mudi-t-t-ān̠.
        he-Nom bough-Inf   groceries-Acc   has-Perf-3ms
        [Thanks to Mohana Ramasamy for the Tamil data.]

(3) a. Egč   nom   unś-an.
        elder:sister book read-NPast
        "The elder sister reads a book."

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2 In the interests of consistency, some of the examples are reproduced in this paper in a form slightly different from that in which they appear in the sources cited. Abbreviations used in this paper are as follows:

1, 2, 3–first, second, third person; Acc–accusative; Aux–auxiliary; Conn–connective ending; Decl–Declarative; f–feminine; Fut–future; Gen–genitive; Indic–Indicative; Inf–infinitive; m–Masculine; Neg–Negative; Nom–nominative; NP–Noun Phrase; p–Plural; PastPart–Past Participle; Part–Particle; Perf–perfective; Pot–Potential; Pres–Present; s–singular; *tA*–Infinitive with–*tA(non-finite verb morphology in Finnish)*; Top–topic; V–verb

b. Egč   nom unś-ij   bai-na.
   elder:sister   book read-Conn   be-NPast
   "The elder sister is reading a book."

c. Ehč   nom unś-aad   bai-na.
   elder:sister   book read-Conn   be-NPast
   "The elder sister keeps reading a book."

d. Egč   nom unś-ij   gar-na.
   elder:sister   book read-Conn   get:out-NPast
   "The elder sister begins to read a book." (Kwon 1998: 2)

The puzzling fact, however, is that this conclusion cannot be generalized to other languages. In Arabic and Hebrew; for example, the subject occurring between the auxiliary and the lexical verb is marked but still grammatical. Hence, the two verbs don't form a compound structure as shown in (4) for Arabic and (5) for Hebrew.

(4) a. ʔSbaha-t   hind-un   ta-takalam-u   l-engeliziat-a.
       become.3fs   Hind-Nom   3fs.speak-indic the-English-Gen
       (Intended) "Hind has started to speak English."

    b. hind-un   ʔaSbaha-t   ta-takalam-u   l-engeliziat-a.
       Hind-Nom   become.3fs 3fs.speak-indic   the-English-Gen
       (Al-Horais 2009: 93)

(5) Be yaldut-o   haya   Eli   poter
    in childhood-his   would.Past.3ms   Eli   solve.Part.3ms
    targil-ey   matemática   be   kalut.
    exercises   mathematics   in   ease

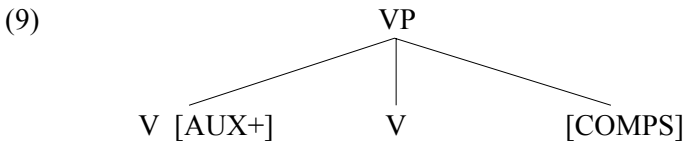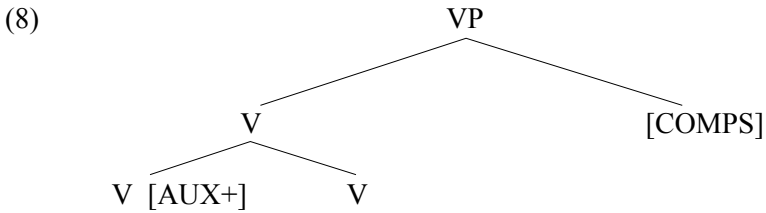"In his childhood, Eli would solve math exercises easily."
(Falk 2004: 242)

More complicatedly, the two different pictures can be found in a single language family such as Romance languages. In Romanian, for instance, the auxiliary and the lexical verb have an internal hierarchical structure and thus they must be in monoclausal relation. According to Monachesi (2005), Romanian does not present any construction in which the subject or the verbal complements can intervene between the auxiliary and the lexical verb as illustrated in (6) and (7), taken from Monachesi (2005: 137).

(6) a. Mama   a   făcut   o   prăjitură.
        mum   has   made   a   cake
        "Mum has made a cake."

    b. *A   mama   făcut   o   prăjitură.
        has   mum   made   a   cake
        (Intended) "Mum has made a cake."

(7) *Am filme   bune   văzut.
     have films   good   seen
     "I have often seen good films."

In each of these examples, the auxiliary and the lexical verb in Romanian form a unit which cannot be separated by other elements. Hence, it seems that the two verbs are in the compound structure (8), not flat structure (9), and hence the former is the most appropriate to capture auxiliary verb constructions in Romanian (see Monachesi 2005: 102).

(8)

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                              VP
                        _____|_____
                       |               |
                       V           [COMPS]
                   ____|____
                  |         |
              V [AUX+]      V
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(9)

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                          VP
                   _____|_____
                  |       |       |
              V [AUX+]     V    [COMPS]
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The situation is different in Italian where subject can occur between the auxiliary and the lexical verb.[3] This can be shown by the following example in (10):

(10) Avendo   Martina   deciso   di   partire, possiamo usare
     having   Martina   decided   to   leave,   can   use
     la   sua stanza.
     the   her room
     "Martina having decided to leave, we can use her room."
     (Monachesi 2005: 137)

The same behaviour is observed with French auxiliaries in which subject clitics can occur between the auxiliary and the lexical verb, as shown by the subject clitic *tu* in (11):

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[3] One of the anonymous reviewers pointed out that in Italian, it is not only the subjects that can occur between the auxiliary and the lexical verb, but also other elements like adverbs also can do so. S/he cited the following example:

Io   ho   semplicemente   deciso   così.
I   have   simply   decided   so

(11) L'as-tu   mange?
      it have-you   eaten
      "Have you eaten it?" (Monachesi 2005: 137)

Interestingly enough, in some languages, like Korean, auxiliary verb constructions can be formed with a lexical verb followed by more than one auxiliary verb. Consider the following examples, taken from Yoo (2003: 414):

(12) a. Nay-ka sakwa-lul   mek-nun-ta.
          I-Nom   apple-Acc   eat-Pres-Decl
          "I eat an apple."

      b. Nay-ka sakwa-lul   mek-e   po-ass-ta.
          I-Nom   apple-Acc   eat   do.as.a.try-Past-Decl
          "I tried to eat an apple."

      c. Nay-ka sakwa-lul   mek-e   po-ci   anh-key
          I-Nom   apple-Acc   eat   do.as.a.try not
          toy-ess-ta.
          come.to-Past-Decl
          (Lit.) "I came to not try to eat an apple."

Another debatable property of the auxiliary verb comes from the observation that auxiliary verbs can occur as main verbs (Conrad 1988: 92). For example, the typical two English auxiliary verb *have* and *be* can function as a lexical verb[4] as in (13b) and (14b). The same behavior can be observed in the Arabic auxiliary verb *kaana* as in (15b), but not in the other Arabic auxiliaries as

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[4] By contrast, 'get' does not have the properties that English auxiliaries are supposed to have. It doesn't have the NICE properties (see section 4), and hence it is labelled a 'lexical verb.' For more discussion about 'get,' see Haegeman (1985), Fleisher (2006).

exemplified in (16) below.

(13) a. I don't have enough money. (AUXILIARY *have)*
    b. I have not enough money. (LEXICAL *have*, see Collins
       2009: 12)

(14) a. She is waiting. (AUXILIARY *be*)
    b. She is a doctor. (COPULAR *be*, a lexical verb)
       (Payne 2011: 262)

(15) a. kaana   ahmad-u   taajir-an.
       was.3ms Ahmad-Nom tradesman-Acc
       "Ahmad was a tradesman."

    b. kaana   taajir-un.
       existed.3ms tradesman-un
       "There existed a tradesman." (El-Rakhawi 1982: 260)

(16) a. kaada-t   hind-un   ta-njah-u   fii
       [almost][5]-3f Hind-Nom 3fs-pass-Indic in
       l-ixtibar-i.
       the-exam-Gen
       (Intended) "Hind almost pass the exam."

    b. Saara   aqalj-u   ya-taSaGTu bi-kaqafat-in.
       started.3ms the-snow-Nom 3m-falling   heavily-Gen
       "The snow started falling heavily."

    c. baat-uu   ya-tafahamuuna   l-muŜkilat-a.
       become.3mp 3m-understand.3mp the-problem-Acc
       (Intended) "They have become aware of the problem."
       (Al-Horais 2009: 96)

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[5] I tried to find an equivalent verb in English to the verb *kaada*, but I couldn't.
Therefore, I used the adverb 'almost' to convey the meaning of *kaada*.

Another significant structural property of auxiliaries is that of carrying all morphological information. In languages with rich inflectional morphology, auxiliaries carry all morphological information relating to a lexical verb such as person/number agreement, tense, aspect, or mood affixes, leaving a lexical verb in a non-finite participial form. This is best reflected in Finnish as shown in (17), taken from Koskinen (1998: 70).

(17) a. Hely-n   täyty-y   lähte-ä.
        Hely-Gen   must-3s   leave-*tA*
        "Hely must (=has to) leave."

     b. Hely-n   täyty-i   lähte-ä.
        Hely-Gen   must-Past.3s   leave-*tA*
        "Hely had to leave."

     c. Hely-n   täyty-ne-e   lähte-ä.
        Hely-Gen   must-Pot-3s   leave-*tA*
        "Hely probably has to leave."

In certain languages, like Arabic; a language with a heavily inflectional morphology, both the lexical verb and auxiliary verb carry the same morphological information, in particular, phi-features as shown in (18). A somewhat similar patterning is found in Hebrew, Hindi-Urdu, Manam,[6] and Persian, as respectively illustrated in (19)-(22), below:

(18) a. kaan-a   ya-ktub-u   r-risaalat-a.
        was-3ms   3ms-write-indic   the-letter-Acc
        "He was writing the letter."

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[6] Manam is Austronesian language spoken by about 6,000 people on Manam Island (see Turner 1986: 10).

    b. hum   kaan-uu   ya-ktub-uu-na   r-risaalat-a.
       they-Nom were-3mp   3-write-3mp-indic the-letter-Acc
       "They were writing the letter." (Al-Horais 2009: 97)

(19) Ruti   hayta   toferet smalot.
     Ruti   be-Past-3fs sew-fs   dresses
     "Ruti was sewing/used to sew dresses."
     (Shlonsky 1997: 61)

(20) Rahul   kitaab parh-taa   thaa.
     Rahul.m-Nom book.f read-Hab.ms   be.Past.ms
     "Rahul used to read a/the book." (Bhatt 2005: 759)

(21) raʔa´na   ʔu-em=emaʔ-ı´-be   ʔu-so´aʔi
     what   2-redpl=do-3obj-and 2-aux
     "What are you doing?"
     (Lichtenberk 1983: 198, as cited in Anderson 2006: 222)

(22) a. Dâŝt-am   qazâro   *mi*-xord-am.
       had-1s.   food   asp-eat-Past-1s
       "I was eating the food."

    b. dâr-am   qazâro   *mi*-xor-am.
       have-1s   food   asp-eat-Pres-1s
       "I am eating the food." (Taleghani 2006: 27-28)

2.2. Thematic Properties

One important and perhaps agreed criterion which singles out the auxiliary verb from the lexical verb has to do with argument structure. While the former loses its argument structure, which makes it unable to thematically associate with any of the NPs in the sentence, the latter preserves argument structure, assigning

thematic theta roles[7] to the NPs in subject and object position. That is, auxiliary verbs are completely devoid of any argument structure and hence their role in the sentence is only functional, supplying or modifying information about tense, aspect, modality, and polarity (Payne 1985, Heine 1993), and this, as stated by Cowper (1990: 85), is "at least part of what defines as an auxiliary verb."[8] This, however, can be precisely seen in all the examples cited above, where the auxiliary verbs there never assign any theta roles to the subjects but contribute only functional information (cf. Pollock 1997: 239, Lasnik 2000).

Being unable to assign a theta role also distinguishes auxiliary verbs constructions from other compound constructions like V1-V2 compound formation[9] (23-24), light verb constructions[10] (25), and serial verb constructions[11] (26). In these constructions, the two verbs share the same role in determining the assignment of theta-roles to arguments,[12] while in auxiliary verbs constructions,

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7 In generative grammar, a *theta role* or *θ-role* is the formal device for representing syntactic argument structure (the number and type of noun phrases) required syntactically by a particular verb (for more information, see Carine 2006).

8 The same conclusion has been reached by Kenesei (2001: 79). After considering criteria for auxiliaries in Hungarian, she states that "an auxiliary is an independent word that has a complement structure in terms of categories, but has no argument structure, i.e., a capacity to assign thematic roles."

9 Both V1 and V2 are lexical verbs, and hence they assign a theta role to their shared object. For more discussion about this phenomenon, see Fukushima (2008).

10 Light verb constructions are constructions in which an active/patient-denoting verbal noun or adjective combines with a member of a very restricted class of verbs to form a compound verb (Han & Rambow 2000).

11 As defined by Johnson (2006: 40), "Serial Verb Constructions consist of two verbs (or verb phrases) that occur in sequence without an intervening conjunction (subordinating or coordinating) between the verbs." Baker (1989) provides an analysis of serial verbs in which is often criticized for only accounting for serial verbs which share their objects. Shared objecthood, however, is a defining feature for serial verbs, and hence they must determine theta-role assignment.

12 As for light verbs, there is disagreement among syntacticians regarding whether

the auxiliaries play no part in determining the assignment of thematic roles to arguments.

(23) a. Ken-ga   musuko-o   nade-sobire-ta.
     Ken-Nom son-Acc   stroke-fail-Past
     "Ken failed to stroke his son."

   b. Ken-ga   musuko-o   nade-mawasi-ta.
     Ken-Nom son-Acc   stroke-fondle-Past
     "Ken caressed his son."
     (Japanese, Hashimoto & Bond 2005: 146)

(24) a. Taro-nun yek-e   kele-kass-ta.
     Taro-Top station-Goal   walk-go-Past
     "Taro walked to the station."

   b. Taro-nun yek-e   tallye-kass-ta.
     Taro-Top station-Goal   run-go-Past
     "Taro ran to the station." (Korean, Tanaka 2002: 422)

(25) a. mwulka-ka   halak-i   TOY-ess-ta.[13]
     price-Nom   drop-Nom   BECOME-Past
     "Prices went down."

   b. sintaylywuk-i   Columbus-ey-uyhay palkyen-i
     new continent-Nom Columbus-by   discovery-Nom
     TOY-ess-ta.
     BECOME-Past

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light verbs determine theta-role assignment or not. For a discussion about this issue, see Han & Rambow (2000), Bowern (2004), Seiss (2009).

[13] As illustrated by Sato (1993), the Korean light verb *toyta* 'BECOME' can only occur in light verb constructions with theme subjects. For more discussion about the role of light verbs in determining theta-role assignment, see Sells (1989), Seiss (2009).

"America was discovered by Columbus./America became discovered by Columbus." (Korean, Sato 1993)

(26) a. i   bai   klos   gi   im pikin.
     he   buy clothes give his child
     "He bought some clothes which he gave to his child."

   b. a   tek   nɛf   kut di bred.
     I   take knife cut the bread
     "I cut the bread with a knife."
     (Krio,[14] Finney 2004, cited in Johnson 2006: 40)

3. Language Specific Properties

As shown above, recognizing a class of auxiliaries distinct from lexical verbs can be distinguished by language-independent characteristics that look very different in different languages. In this section, I illustrate that this recognition can be distinguished also by language specific properties.

In Tamil and some Uralic languages like Finnish, for example, negation is uttered by a negative marker functioning as an auxiliary verb, while in English the division between auxiliaries and lexical verbs seems relatively clear-cut by using morphosyntactic "tests" for distinguishing both classes from each other (i.e., auxiliaries have the NICE properties, while lexical verbs do not). These tests involve four syntactic properties deemed the NICE properties[15] by Huddleston (1980: 333, see also Huddleston & Pullum 2002: 92-112). In the following, I explain these specific properties.

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[14] Krio is the most widely spoken language in Sierra Leone (Simpson 2008).
[15] NICE is an acronym for Negation, Inversion, Code, and Emphasis.

3.1. Auxiliation and Negation

Cross-linguistically, it has been observed that some certain languages negate a clause via a negative marker which has the properties of a finite auxiliary followed by a lexical verb in a non-finite participial form. This is best reflected in Finnish and Tamil, in which a negative marker is an auxiliary verb.

3.1.1. Finnish

In Finnish, negative sentences verbal categories are expressed on a negative auxiliary while the lexical verb is expressed in some non-finite form (Sulkala & Karjalainen 1992, Koskinen 1998). The most common negative marker in Finnish is the negation word **e-**, which functions as an auxiliary verb, carrying the finite person/number agreement marking which in affirmative sentences is attached to the main verb as previously exemplified in (17). More interestingly, the negative never bears voice or finite tense or mood morphology, all of which always appear on the main verb. The negation can combine with all tenses and moods (except the past tense form, using the perfect participle instead) (Sulkala & Karjalainen 1992, Koskinen 1998). The following data, in which **e-** in bold, demonstrate this interesting strategy of expressing sentential negation in Finnish:

(27) **e**-n　　osta　talo-a.
　　 neg-1s　buy　house-Part
　　 "I do not buy a/the house." (Miestamo 2000: 66)

(28) Minä　　**e**-n　　lue.
　　 I.Nom　neg-1s　read
　　 "I'm not reading./I don't read." (Koskinen 1998: 69)

(29) Kerron   ett-**e**-t   puhu   suomea.
     say-1s   that-neg-2s speak   Finnish
     "I say that you don't speak Finnish." (Mitchell 2006: 231)

(30) Hän   **e**-i   tul-lut.
     s/he   neg-3s   come-Past-Part
     "S/he didn't come." (ibid.)

3.1.2. Tamil

As explained in Steever (2000: 107-108), negation in Tamil[16] is expressed in two ways. The first one is morphological negation in which the negative marker *ā-*, exemplified in (31), is a part of the derivational morphology of the verb. The second one, which is relevant to our discussion here, is syntactic negation expressed by two negative auxiliary verbs: *illai* and *mātt*. The former is only compatible with present and past tense interpretation as shown in (32), whereas the latter is only compatible with the future tense interpretation as in (33). All the examples below are taken from Steever (2000: 108).

(31) katitam   inke   var-*ā*-tu.
     letter-Nom   here   come-neg-es
     "The letter will not come here."

(32) avaṉ   vara.v *illai*.
     he-Nom come-Inf neg
     "He did/does not come."

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[16] Tamil is a southern Dravidian language. It is spoken mainly in South India. It is the official language in the Indian state of Tamil Nadu. Tamil is also spoken in north-western Sri Lanka, but the kind of Tamil spoken there is slightly different from the kind used in South India (Steever 2000: 31).

(33) ava<u>n</u>   vara.v   *mattan*.
      he-Nom   come-Inf   Fut-neg-3s
      "He will not come."

Interestingly enough, the gloss in (31) and (32) draws a significant surprising distinction between the two negative auxiliary verbs *illai* and *mātt*. While *illai* does not inflect for the agreement feature, *mātt* does. It is not clear from Steever (2000) why *illai*, unlike *mātt,* does not carry any inflectional element to show at least the agreement feature since the negative is considered as an auxiliary verb produced by a language with quite rich morphological inflections. Such a fact may add more complexity to the question of what a good auxiliary should look like.

3.2. The NICE Properties of Auxiliaries

In English, auxiliaries in general are characterized by the NICE properties, by which auxiliary verbs in English are distinguished from lexical verbs. These properties refer to English auxiliaries occurring with negation, inversion, code, and emphatic affirmation. In the following subsections, I explain these properties, relaying on Hauge (2003) (for further discussion about the NICE properties, see Huddleston 1980, Haegeman 1985, Downing 1996, Huddleston & Pullum 2002, Payne 2011).

3.2.1. Negation

As a property unique to English auxiliaries and drawing a dividing line between auxiliaries and main verbs, English auxiliaries have distinct negative forms with the negation (not) undergoing cliticization to form negative auxiliaries such as *isn't*, *haven't*, and *shouldn't*. Consider the following example:

(34) a. I shouldn't go to London.
      b. *I gon't to London.

3.2.2. Inversion

The second of the NICE properties is inversion of the auxiliary and the subject in certain types of constructions. The most common type of construction where this occurs is in interrogative sentences, such as (35a). Subject-auxiliary inversion is also found in certain types of conditional adverbial clauses, such as (35b), and with some adverbs (expressing negative meaning) that are in initial position, as in (35c):

(35) a. Is the clown coming?
      b. Had I known about the appetite of seals, I'd never have shared my lunch.
      c. Seldom had they seen such an animal.

By contrast, lexical verbs do not exhibit this property (Payne 2011: 263-264):

(36) a. *Eats she kimchi?
      b. *Broke the workers the vase?
      c. *What broke the workers? (trying to mean "What did the workers break?")
      d. *Where live we?

3.2.3. Code

The third NICE characteristic of an auxiliary is code, referring to sentences in which a lexical verb is subsequently picked up by an auxiliary, in a similar manner to a noun being picked up by a pronoun. This is often the case in constructions containing *and so*. Examples of this are found in (37)-(39), taken from Payne

(2011: 264). The ungrammatical examples illustrate the fact that lexical verbs do not have this property:

(37) a. I should see the doctor, and so should she.
     b. *I saw the doctor, and so saw she.

(38) a. Who should eat kimchi? She should.
     b. Who ate kimchi? *She ate.

(39) a. We were eating kimchi, and so was she.
     b. *We eat kimchi and so eats she.

3.2.4. Emphatic Affirmation

The last NICE property is emphatic affirmation, where stress is on the auxiliary. In English there can be stress on any verbal form for focus purposes. What is particular about stress on the auxiliary is that it is used for emphatic affirmation of a doubtful statement or denial of a negative statement, as can be seen in (40) below.

(40) a. I **can** come. (You are wrong to think that I cannot come!)
     b. We **did** see them. (You thought we did not see them!)
        (Hauge 2003: 59)

4. Conclusions

A concrete fact can be drawn from the preceding discussion is that variation in the properties of auxiliaries among natural languages is precisely observed and therefore having a universal standard definition of the auxiliary verb seems elusive. Nevertheless, there is still room for arguing that at least two universal properties must co-occur in order to distinguish the

auxiliary verb from other syntactic categories. (i) Auxiliation should be understood as the development of constructions into markers of tense, agreement, modality, and perhaps aspect. (ii) Auxiliary verbs do not enter into a thematic relation with the arguments in the sentence, leaving this job to the lexical verbs that auxiliaries tend to occur separately from. This may constitute the standard syntactic argument that auxiliaries and lexical verbs are two distinct types of syntactic entities.

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