NEO-LEXICALIST APPROACH TO ENGLISH VERBAL MORPHOLOGY[*]

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ABSTRACT

This paper presents a neo-lexicalist approach (NLA) to English verbal morphology, which maintains the spirit of the hybrid approach proposed by Lasnik (1995/1999). Syntactic movement is formulated by *internal-merge*, rendering untenable the head adjunction operation, a tool used by standard analyses (Chomsky 1957, 1991, 1993, 2015). Unlike the standard theoretical framework, NLA allows multiple head features within one lexical item (n-*polygenic items*). Given that each head feature is licensed under a unique syntactic configuration, an n-polygenic lexical item has n-occurrences in one derivation (1).

(1) [αβγ … αβγ … αβγ], where n = 3.

NLA posits a set of morpho-phonemic preference rules, located between syntax and phonetics, that chooses which occurrence to be "pronounced" (or *lexicalized*).

A finite-inflected main verb is a compound consisting of a bare verb root and *do-operator*, a compound of verb-root *do* and finite inflectional features, unlike the analysis in Kawai 2016. They are morpho-phonemically merged under string-adjacency; they are lexicalized separately elsewhere. The present study proposes the internal structure of lexical items: auxiliary *be/have*, main verb *be/have*, modals, and main verbs.

The present analysis eliminates a number of traditional descriptive and theoretical problems found in the verbal morphological phenomena, to be discussed in the talk. For example, it successfully generates (2a), which traditional analyses fails; (2b) is ruled out on a semantic ground. This analysis is then extended to cover Subject-Aux Inversion.

(2) a. How do I be good enough? ≠ 'How am I good enough?'
b. * I do not be good enough.

1. Introduction

This is an abridged presentation of what we call neo-lexicalist approach to English verbal morphology (EVM), a representative paradigm of which is given in (1).[1]

(1)	a.	John left	*John leftn't	John didn't leave	*Left John?
	b.	John has left	John hasn't left	*John didn't have left	Has John left?
	c.	John is leaving	John isn't leaving	*John didn't be leaving	Is John leaving?

The present approach reinterprets the spirit of Lasnik's (1995/1999) hybrid approach to the EVM within the current minimalist theoretical framework (Chomsky 2008, 2015), where movement is defined as internal-merge, to be referred to as the *Axiom of Movement* (AOM). In this approach, a finite main verb is made up of auxiliary *do* operator and a bare verb stem, which undergo morphophonemic (mp-)merger under linear adjacency; they are separately mp-lexicalized otherwise. The neo-lexicalist approach assumes that the syntactic computation (System A) recursively proceeds in phases, *transferring* the syntactic object built in each phase to the semantic/conceptual-intentional (C-I) interface and the sensorimotor (SM) interface through the morpho-phonemic process (System

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[1] Paradigms of EVM typically include imperatives, which are excluded from our discussion due to the space limitation. The present analysis can be straightforwardly extended to imperatives with imperative operator (IMP) along the line suggested by Lasnik (1995/1999): <IMP, do>{V}.

B) first, and then phonetic process. The mp-process applies after the linearization of the syntactic object: thus, it is non-hierarchical, and such notions as linear adjacency and precedence are relevant.

2. Head Movement

We assume the theoretical framework proposed by Chomsky (2008, 2015) with minor adjustments to be discussed below. A syntactic object is built via a binary operation of Merge (2a). For Merge(Y, X), either Y is not part of X (*external (e-)merge*), as in (2a/b), or Y is part of X (*internal (i-)merge*), as in (2c). Without attributing any theoretical significance, we sometimes refer to a syntactic object as *trees*, and the first-merge position for a term as *D-position*.

(2) a. Merge(a, b) → {a, b}
b. Merge(c, {a, b}) → {c, {a, b}}
c. Merge(b, {a, b}) → {b, {a, b}}

Merge creates unlabeled nodes; the labelling algorithm (LA) (Chomsky 2015, Rizzi 2015) assigns to them an appropriate node label by identifying the categorial status of the closest *head*.[2] Suppose *c* in (2b) is a head, then it is the head closest to the newly created node; therefore, the relevant node is labelled 'c' by the LA: [$_C$ c [$_X$ a b]], where x = either a or b.

As noted above, movement is internal-merge (AOM). From this follows the *Extension Condition* (Chomsky 1993): movement always "targets" the root of the "tree." This raises a problem for the standard analysis of verbal morphology (Chomsky 1957, 1991, for example) as it utilizes head movement. Standard head movement yields (3a) by raising γ from its D-position and adjoining it to α (3b). With the AOM, however, such an operation is illegal; γ can only be merged to the root of the tree (3c). Instead, we propose that (3a) obtains with i-merger of a dyadic lexical item αγ as illustrated in (3d).

(3) a. [αγ [β ~~γ~~]]
b. [α [β γ]] → [αγ [β ~~γ~~]]
c. [α [β γ]] → [γ [α [β ~~γ~~]]]
d. [β αγ] → [αγ [β ~~αγ~~]]

(3d) is not allowed under the standard theory because each lexical item has one and only one head-feature, (thus allowing one and only one node label). Yet, lexical items have long been assumed as bundles of features; thus, nothing in principle prohibits two head-features from being bundled together. We refer to a lexical item with n head-features as *n-polygenic item*; the dyad in (3d) is 2-polygenic, for example. We maintain the standard assumption that each head-feature is uniquely licensed under a specified syntactic configuration: for example, the V-feature of V is licensed by being the complement of a Polarity head (POL); POL is licensed by being the complement of (finite) Inflection head (INF), and so on: [$_{IP}$ DP [$_I$ [INF] [$_{PolP}$ [POL] [$_{VP}$ V...]].

Allowing polygenic lexical items, we need to readjust the LA: viz., label the category of the closest *active* head-feature, where α is an active head-feature iff it is licensed by that merger operation. If the α of *αγ* is licensed by Merge(β, *αγ*), then α is the label for *αγ*; if γ is licensed by merge(αγ, {β, αγ}), the node is labelled γ. It then follows that an n-polygenic item has at least *n* occurrences, each under distinctive node label, in the syntactic derivation. We will remain agnostic here as to how movement is motivated.

3. MP-Lexicalization

[2] Labeling Algorithm (Rizzi 2015: 18, (16)): (I) Node α created by merge receives the label of the closest head; or, (II) H_1 is the closest head to α iff (A) α contains H_1, and (B) there is no H_2 such that (i) α contains H_2, and (ii) H_2 c-command H_1.

As seen above, multiple occurrences of a lexical item are motivated by syntax and the C-I system. On the other hand, its observable counterpart typically lacks multiple occurrences of the item (e.g., moved item vs. their copies; multiple occurrences "trimmed down" for lexicalization). That is, mp-processes chose some occurrence(s) of a given lexical item for lexicalization (i.e., to be *lexicalized*, or *designated to be pronounced*); we refer to this as mp-lexicalization. Mp-lexicalization, denoted by white circles, may be schematically represented as follows: (i) ○○…●●; (ii) ●●…○○; (iii) ○●…●○, or (iv) ●○…○●. A set of rules are needed to determine which item is mp-lexicalized.

4. English Verbal Morphology: A Brief Sketch

Chomsky (1955/75, 1957) proposes the *Affix Hopping Rule* for the English verbal morphology. For example, finite tense hops onto the linearly adjacent verbal item to the right, if it exists (4a). Lasnik's (1995/1999) points out that it is "virtually unheard of for operations that are clearly syntactic to care about linear adjacency;" therefore, *affix hopping* is unlikely a "true syntactic operation, but a sort of "interface" operation between syntax and morphology" (Lasnik 2000:191–192). Lasnik (1995/1999) proposes that a finite-inflected main verb involves a bare verb root and affixal finite tense; they are mp-merged together under linear-adjacency (4b);[3] otherwise, they are lexicalized separately with the application of the last-resort *do-support* operation to the bare tense affix (4c). Lasnik maintains Chomsky's (1993) treatment of a raising-type verb (i.e., auxiliary verbs *be* or *have*) as a lexicalist item, i.e., a lexical composite of its root and suffix, and the agreement features of Infl and the suffix agree (4d).

(4) a. [tense-affix] ~ V → V+[tense-affix], where '~' denotes linear adjacency.

b. John $\text{Infl}_{\text{affix}}$ ~ V_{root} → John $\underline{\underline{\text{Infl}_{\text{affix}}\ V_{\text{root}}}}$, where ____ denotes mp-merger.

c. John $\text{Infl}_{\text{affix}}$ not V_{root} → John $\text{Infl}_{\text{affix}}$+do not V_{root}

d. John $\text{Infl}_{\text{featural}}$ (not) V_{suffix}

Observe the redundancy between the information expressed in the agreement features of featural Infl and the suffix; such a redundancy can be eliminated if they are a lexicalist verb *V+ Infl* much like αγ in (3d) (Kawai 2016); we explore this option in the next section.

The hybrid approach is descriptively more successful than Chomsky's (1993) lexicalist approach. However, Lasnik notes a potential problem in (5b), which his analysis predicts as good.

(5) a. John is not here.

a´. John is [$_{\text{Pol}}$ not [$_{\text{VP}}$ ~~is~~ here]].

b. * John does not be here.

b´. John does [$_{\text{Pol}}$ not [$_{\text{VP}}$ be here]].

The "bare form of *be* must be listed in the lexicon: it shows up in imperatives, in infinitives, and with modals. How to prevent it from occurring in finite negatives and interrogatives is unclear." Lasnik thus considers Its unacceptability as a potential problem. We do not share this view, however. Granted that (5b) is unacceptable, it does not appear to be ungrammatical, as *do-support* does occur with *be*, as shown in (6a) (Bruening 2017). (6b) is unacceptable as it lacks an appropriate "verbal/modal-like" interpretation. The data in (7) strongly suggest that finite inflected *be* is incompatible with imperative context (Lasnik 1995/1999, 2000).

[3] This analysis excludes adverbs from consideration; the examples in (i) show that adverbs do not count for string-adjacency for mp-merger. states that "Bobaljik (1994) suggest[s] that adverbs (or, more generally, adjuncts) are not relevant to PF adjacency, while heads and specifiers are" (Lasnik 1995/1999: 117).

(i) a. John never left.

b. John FIN never leave.

c. # John did never leave (without emphatic stress in Standard English).

(6) a. How do I be good enough? (found on internet) ≠ 'How am I good enough?'
b. * I do not be good enough.

(7) a. Leave. I don't want to/I won't.
b. Be quiet. I don't want to/I won't.
c. Mary is quiet. *I don't want to.

The unacceptability of (5b) may be attributed to an interpretation of verbal *be* that is incompatible with the context. If so, Lasnik's hybrid analysis is correct in allowing (5a/b); yet, it is inadequate because it cannot distinguish two types of *be*: verbal and auxiliary *be*.

5. Proposals

In what follows, for saving keystrokes, we will use following abbreviations: FIN (i.e., FIN(+) for *past* and FIN(-) for *present*) for finite-tense inflectional features, Ћ for the root of either *have* or *be*, Ш for the class of all the finite lexicalist auxiliary verbs, C for *Complementizer*, and polarity head as either non-lexical POL(+) or lexical POL(-) (also written as *not*). We use circumflex to denote operators. Recall that under the neo-lexicalist approach, a lexical item may contain multiple head features (e.g. V- and FIN-feature) and an n-polygenic lexical item has at least n-occurrences. Within each phase, a set of mp-lexicalization conditions chooses which occurrence(s) to be lexicalized (i.e. phonetically realized), which applies after the linearization, but before mp-lexicalization. The process involves *mp-reduction* (marked ⇒), which *superimposes* a sequence of linearly adjacent occurrences of a lexical item (α) into one occurrence, as illustrated in (8).

(8) a. α~α~α~α~α~α ⇒ α
b. α~α~α~β~α~α~α ⇒ α~β~α

5.1 Finite Inflection (FIN) Operator: F̂

We postulate (9) for the finite inflectional feature FIN. In English FIN-features are present in past subjunctive, but absent in present subjunctive; FIN is thus distinct from finite tense, per se. It is an operator that takes a verbal element as its complement, creating an auxiliary verb (9b). We maintain that lexicon is a list of *atomic elements*; FIN and verb roots are sub-atomic. (9d) applies after linearization (→) and mp-reduction apply and is sensitive to linear precedence, following Lasnik's (1995/1999) insight. Mp-lexicalized items are underlined after mp-reduction (⇒).

(9) a. FIN is either present ([-past] (FIN(-))) or past ([+past] (FIN(+))) in English.
b. FIN is an operator <FIN, __> taking a verb root (do, modal, or Ћ) as argument.
c. Each finite clause contains one and only one FIN.
d. Mp-lexicalize the left-most occurrence of FIN.

5.2 Auxiliary verbs (Ћ): be (B) *and* have (H)

Auxiliary *be* and *have* are raising type verbs as defined in (10). For simplicity, I will use B for illustration. <F̂, be> is 2-polygenic; it requires two distinct licensing configurations, as in (11). Mp-reduction applies to (11b), and the B trivially satisfies (9d); mp-reduction does not apply to (11c), and the left-most B is mp-lexicalized, as desired.

(10) a. Copular/Auxiliary verb *be* (B) and *have* (H) are a lexicalist verb <FIN, Ћ>.
b. The lexicon includes bare *be, have,* H, B, and their verbal counterparts (cf. 5.5).

(11) a. John is (not) here.

b. John [$_{I}$ <F̂, be> [$_{Pol}$ POL(+) [$_{VP}$ <F̂, be> here]]] → John B~B here ⇒ John <u>B</u> here

c. John [$_{I}$ <F̂, be> [$_{Pol}$ not [$_{VP}$ <F̂, be> here]]] →⇒ John <u>B</u> not B here.

5.3 Modal auxiliary verbs (M)

Modal auxiliaries are postulated as in (12), where curly brackets '{..}' denotes a complement. It enters the derivation as in (13a); it is then merged with Polarity; M raises to I and takes POL as its complement. With POL(+), the two M̂s are reduced to one by mp-reduction; with POL(+), *not* blocks the reduction, and the left-most M̂ is mp-lexicalized.

(12) a. Modal auxiliary verb (M) contains F̂ and a modal auxiliary verb root: <F̂, modal> (= M̂).[4]

b. M̂ subcategorizes V as its argument: M̂{V}.

c. V is immobile.

d. Modals, such as *will, shall, may,* and *must*, have no bare root entry in lexicon.

(13) a. [$_{Pol}$ Pol [$_{V}$ M̂ [$_{V}$ V]]]

b. ...[$_{I}$ M̂ [$_{Pol}$ POL(+) [$_{V}$ M̂ [$_{V}$ V]]] → M̂~M̂{V} ⇒ <u>M̂</u>{<u>V</u>}

c. ...[$_{I}$ M̂ [$_{Pol}$ not [$_{V}$ M̂ [$_{V}$ V]]] → M̂ not M̂{V} ⇒ <u>M̂</u> not M̂{<u>V</u>}

5.4 Do operator (D̂) and main verbs (MVs)

We analyze main verbs as a composite of auxiliary *do*-operator (D̂) and a verb root. D̂ differs from B, H, and M in that it mp-merges with its complement V (Lasnik 1995/1999) under the environment specified in (14d). Differently put, mp-merger of D̂ and V takes place iff D̂ is the unique occurrence within the phase.[5] (15a/b) are spelled out as in (16a/b), respectively.

(14) a. *Do-operator* (D̂) is <FIN, do>

b. The V-root of a main verb is the argument of D̂: D̂{V}.

c. V is immobile.

d. D̂ and V are mp-merged iff the left most occurrence of D̂ is linearly adjacent to V.

(15) a. John left.

b. John didn't leave.

(16) a. John [$_{I}$ D̂ [$_{PolP}$ POL(+) [$_{VP}$ D̂{leave}]] → John D̂~D̂{leave} ⇒ John <u>D̂{leave}</u>

b. John [$_{I}$ D̂ [$_{PolP}$ not [$_{VP}$ D̂{leave}]]] → John D̂ not D̂{leave} ⇒ John <u>D̂</u> not D̂{<u>leave</u>}

Mp-reduction of D̂s applies to (16a) as POL(+) is not lexical, and the unique D̂ and the verb root mp-merge, marked with double-underline. In (16b), the lexical *not* blocks mp-reduction of the two D̂s; the D̂ on the left is mp-lexicalized as *did* by (9d). In order to handle *emphatic do,* it suffices to posit a lexical emphasis affix (EMP): [$_{IP}$ John [$_{I}$ D̂ [EMP(´) [$_{PolP}$ POL(±) [$_{VP}$ D̂{leave}]]]. It blocks mp-reduction of D̂, thus triggering the *do-support* effect with its phonetic content (´) expressed on D̂.

*5.5 Verbal Њ: D̂{*be*} and D̂{*have*}*

[4] Unlike standard analyses, modals raise in this analysis. This may explain the modal-negation scope interaction (Warner 1986), if the D-position of some modal auxiliaries are below negation whereas that of others are higher than negation.

[5] Mp-merger (15d) is obligatory in standard English. Ihalainen (1991) reports some Northern English dialects having it as optional. However, he also notes the presence of habitual reading with periphrastic *do*, indicating that it is not a fully phonetic process. This suggests habitual morpheme HAB similar to EMP above. See also habitual *be* of African-American English (Lasnik 2003: 20).

The English lexicon must list at least the three entries each for *be* and *have* (17), as nothing prevents D̂ from selecting ~~H~~ as its complement. (cf. Lasnik (1995/1999) on (5)).

(17) a. be, have
b. <FIN, be> (=B), <FIN, have> (=H)
c. D̂{be}, D̂{have}

As discussed above, verbal *be* (D̂{be}) exists: yet, it appears to resist mp-merger, at least to the best of our knowledge. Further, verbal *be* requires appropriate pragmatic contexts to be acceptable. A parallel account applies to verbal *have*, although minor adjustments are in order to handle American and British varieties.

6. Subject-Aux Inversion (SAI)

The present approach can be extended subject-aux inversion (SAI) phenomena; the root-clause paradigm from the standard English is given in (18).

(18) a. [$_{CP}$ Who ___ [$_{IP}$ ___ left]].
b. * [$_{CP}$ Who did [$_{IP}$ ___ leave]].
c. * [$_{CP}$ Who ___ [$_{IP}$ John see ~~who~~]].
d. [$_{CP}$ Who did [$_{IP}$ John ~~did~~ see ~~who~~]].

According to Bruening (2017), SAI "does not occur in inversion environments when Spec-IP is occupied by an unpronounced phrase (trace, null expletive)." The reference to "unpronounced phrase" strongly suggests the non-syntactic nature of the condition. We postulate lexicalist CШ (19), where it may be mp-lexicalized as non-lexical Ø, *if* or *that*, depending on contexts.

(19) a. C and Ш forms lexicalist <C, Ш>.
b. Mp-lexicalize the finite-inflectional features F̂ in CШ.

(20) [$_{CP}$ (Spec) [$_{C}$ CШ] [$_{IP}$ SUBJ [$_{I}$ CШ [$_{PolP}$ POL(±) [$_{VP}$ CШ({V}) … .

It is well-known that in standard English SAI occurs in root questions but not embedded ones. Embedded interrogative is not representative for SAI, however; SAI takes place in a variety of embedded environments in English (Green 1981). Therefore, it seems reasonable to assume that SAI involves a SAI-trigger (Ψ) in [Spec, C]: e.g., emphatic adverbs (*never, never again, seldom*, *neither*, *so*, etc.), conditional (silent *if*), cursing (Bruening 2017), and Question operator (Q). The class of Q, consisting of wh-operators (WH) and yes-no-question operator (YN), behaves differently from other Ψ in embedded contexts.

The mp-lexicalization conditions of CШ are postulated in (21) and (22).[6] Two caveats are in order: (i) YN be regarded as lexical, although it is never pronounced; (ii) *what if* is a single conditional expression, not two lexical items *what* and *if*).[7] (21) blocks SAI in embedded questions, based upon

[6] Although English lacks an observable case of <C, Ш> (*do-if*), a CШ complex is visible in Japanese interrogatives. In (i) *kat-ta-ka* is V-D̂C, a mirror image of CD̂-V (Kawai 2006).

(i) John-wa [[Mary-ga nani-o **kat-ta]** **-ka**] shira-nai.
John-top Mary-nom what-acc buy-past C$_{[+Q]}$ know-not
'John doesn't know what Mary bought.'

[7] A potential problem with (21) and (22) is that they include Boolean conditions, which are best eliminated (Lasnik 1981). Perhaps, (22) should be viewed as a description of *Verb-Second*, and F̂ must be linearly right-adjacent to first lexical item. In (24) C is non-lexical, so CШ appears to right-adjacent to SUBJ; in (25) CШ mp-lexicalizes right-adjacent to the lexical Q. For the embedded contexts, it suffices to ignore [Spec, C] for (22). The [±root]

the familiar observation, but it does not apply when Ψ is not Q. It may be subsumed under (22b) if embedded Qs are "ignored" somehow for (22), although they serve as scope-markers (SMs) (cf. (23a/b)). Alternatively, we may force an embedded СШ be mp-lexicalized as *if*, so that mp-reduction (8d) does not apply to it. In that case, (23c) merges (superimposes) Q and *if* in the following manner: WH+if → WH; and, YN+if → if.

(21) Mp-delete Ш of СШ in a non-root C if Ψ=Q (i.e., WH or YN).

(22) a. СШ mp-lexicalizes in a position linearly adjacent to Ψ, if present; or,
b. Mp-delete Ш of СШ if Ψ is absent.

(23) a. Q-scope must be overtly expressed (in English).
b. Wh-operators and *if* are scope markers (SMs).
c. Superimpose adjacent SMs: SM~SM→ SM

First, consider cases where СШ is in the root C; (21) does not apply. When Ψ is absent, Ш is deleted (22b), and mp-lexicalization of the occurrences of СШs proceeds IP-internally. If Ш is M̂, B, or H, then the leftmost occurrence is mp-lexicalized: (24a) or (24b); if Ш is D̂, then mp-reduction applies to the СШs with POL(+), triggering mp-merger of СШ{V} (24c); with POL(-), mp-reduction does not apply and the left-most IP-internal СШ is mp-lexicalized (24d).

(24) a. # [$_{CP}$ C~~Ш~~ [$_{IP}$ SUBJ [$_{I}$ СШ [$_{PolP}$ POL(+) [$_{VP}$ СШ]]]]] →⇒ C SUBJ СШ СШ
b. # [$_{CP}$ C~~Ш~~ [$_{IP}$ SUBJ [$_{I}$ СШ [$_{PolP}$ not [$_{VP}$ СШ]]]]] →⇒ C SUBJ СШ not СШ
c. # [$_{CP}$ C~~Ш~~ [$_{IP}$ SUBJ [$_{I}$ СШ [$_{PolP}$ POL(+) [$_{VP}$ СШ{V}]]]]] →⇒ C SUBJ СШ СШ{V}
d. # [$_{CP}$ C~~Ш~~ [$_{IP}$ SUBJ [$_{I}$ СШ [$_{PolP}$ not [$_{VP}$ СШ{V}]]]]] →⇒C SUBJ СШ not СШ{V}

With Ψ, two scenarios exist. With Ψ≠Q, (21) does not apply, and (22a) gives SAI. With Ψ=Q, СШ is mp-lexicalized in the linearly adjacent position to Q (25a). If SUBJ is lexical, it is mp-lexicalized in C (25a); if SUBJ is non-lexical (denoted as (~~SUBJ~~)), mp-reduction applies to the occurrences of СШ and the left-most СШ will be mp-lexicalized (25b or 25c) depending upon the value of POL.

(25) a. # [$_{CP}$ Q [$_{C}$ СШ [$_{IP}$ SUBJ [$_{I}$ СШ [$_{PolP}$ POL(±) [$_{VP}$ СШ({V})…]]]]] →⇒ # Q СШ SUBJ …
b. # [$_{CP}$ Q СШ [$_{IP}$ (~~SUBJ~~) [$_{I}$ СШ [$_{PolP}$ POL(+) [$_{VP}$ СШ{V}…]]]]] →⇒ # Q СШ{V} …
c. # [$_{CP}$ Q СШ [$_{IP}$ (~~SUBJ~~) [$_{I}$ СШ [$_{PolP}$ not [$_{VP}$ СШ{V}…]]]]] →⇒ # Q СШ not СШ{V} …

Second, consider cases where СШ is in embedded Cs. When Ψ(≠Q) is present, then (21) does not apply and SAI is triggered (26a), unless СШ is overtly spelled out (26b): e.g., *if* in *if I knew* vs. *had I known*. When Ψ(=Q) is present, then Ш mp-deletes (21); an occurrence of СШ mp-lexicalizes IP-internally (26c). When Q is WH, then overt wh-operator satisfies (23a); C can be *if* or Ø, but either choice yields WH-operator under (23c). When Q is YN, *if* is required by (23a) as it is the only way to overtly mark the question scope (26e). Finally, some non-standard varieties of English are known to allow embedded SAI, such as Celtic English and Chicano English, as in (27) (Kolbe and Sand 2010). For them, it suffices to eliminate (21).

(26) a. …[$_{VP}$ V [$_{CP}$ Ψ(≠Q) [$_{C}$ СШ [$_{IP}$ SUBJ ... СШ …]]]] →⇒ … Ψ СШ SUBJ … СШ …

reference in may be eliminated from (21) in terms of some structural difference in the clausal periphery of root vs. embedded clauses. For example, СШ in C is never mp-lexicalized, but a root clause has an extra projection with for *QUEST*-operator (Krifka 2011) headed by СШ. Alternatively, we may postulate that the root phase requires an additional projection (headed by СШ) for its evaluation.

b. …[$_{VP}$ V [$_{CP}$ Ψ(≠Q) [$_{C}$ if [$_{IP}$ SUBJ ... CШ …]]]] →⇒ … Ψ if SUBJ … <u>CШ</u> …

c. …[$_{VP}$ V [$_{CP}$ Q [$_{C}$ C~~Ш~~ [$_{IP}$ SUBJ ... CШ …]]]] →⇒ … Q C~~Ш~~ SUBJ … <u>CШ</u> …

d. …[$_{VP}$ V [$_{CP}$ WH [$_{C}$ C~~Ш~~ [$_{IP}$ SUBJ … CШ …]]]] →⇒ … WH SUBJ … <u>CШ</u> …

e. …[$_{VP}$ V [$_{CP}$ YN [$_{C}$ C~~Ш~~ [$_{IP}$ SUBJ …]]]] →⇒ … if SUBJ … <u>CШ</u> …

(27) a. I don't know [$_{CP}$ what color [$_{C}$ are [$_{IP}$ we ~~are~~ ~~what color~~]]], but it doesn't matter.

b. I don't know [$_{CP}$ what color [$_{C}$ <u>CШ</u> [$_{IP}$ we CШ ~~what color~~]]]…

7. Conclusion

The neo-lexicalist approach with the AOM offers an adequate analysis of EVM. It utilizes a set of non-conventional postulates regarding mp-process and a non-head movement account of head movement phenomena. It is an open question as to whether or not those postulates are justifiable. Further investigation is necessary to evaluate the implications of the present proposals. For example, the present approach eliminates the need for the counter-cyclic C-to-I feature transmission (Chomsky 2008, 2015), a mechanism that is a "narrow violation of No Tampering Condition (NTC)," because CШ is a single lexicalist term containing both F̂ and C throughout syntactic derivation; no additional mechanism for feature transmission is necessary.

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