Chomsky’s latest linguistic work has problematized projection and labeling. With the earlier Phrase Structure Grammar and X’-bar theory, it is taken for granted that a phrase contains a specifier, head, and complement; the current work only assumes a labeling algorithm to meet requirements of the conceptual-intentional interface. Such an algorithm automatically rules out particular configurations, for instance, ones with a specifier unless they share certain features. In this brief paper, I point out how regular patterns of language change can be seen as resolutions to the labeling paradox and how they themselves can possibly shed light on the precise nature of this labeling algorithm. I focus on the change where specifiers are reanalyzed as heads.

1. Introduction

Early Phrase Structure Grammar (e.g. Chomsky 1965) and X’-bar theory (e.g. Jackendoff 1977) take for granted that a phrase is headed and expands to a maximal projection with a specifier, head, and complement. This X’-schema is seen by many as perhaps one of the greatest insights into syntactic structure. The spirit of the current Minimalist Program (Chomsky 1995 through the present), however, is to attribute as little as possible to the computation, restricting it to simple merge with a labeling algorithm needed for the conceptual-intentional interface. This labeling algorithm automatically rules out certain configurations, for instance, ones with a specifier unless that specie has certain properties.

In this brief paper, I show how regular patterns of language change shed light on the precise nature of the labeling algorithm proposed in Chomsky (2013, 2014). I focus on the change where specifiers are reanalyzed as heads and where lexical elements are reanalyzed as grammatical. Section 2 provides some background on phrase structure, in particular the recent problematization of projection and labeling. Section 3 considers the change from phrase to head as an elimination of the labeling paradox and section 4 is a conclusion.

As is common in Minimalist work, I continue to use trees, specifiers, and heads for expository purposes. See Chomsky (2014:4) for why it is “advisable to abandon the familiar tree notations”.

2. Phrase structure

In this section, I sketch the changes in Phrase Structure from the early generative model to the current minimalist one. The main change is an
abandonment of X-bar syntax and phrase structure in favor of an emphasis on merge and a labeling algorithm.

As is well-known, in early Generative Grammar (e.g., Chomsky 1965:85), language-specific phrase structure rules, such as (1), are responsible for generating sentence structure. (1a) generates the basic sentence and (1b) the Verb Phrase. Chomsky (1970) and, especially, Jackendoff (1977:17) reformulate these rules as a category-independent and language-independent schema, as given in (2).

(1) a. $S \rightarrow NP \; VP$
    b. $VP \rightarrow V \; NP$

(2) a. $XP \rightarrow YP \; X'$
    b. $X' \rightarrow X \; ZP$

The X in (2b) stands for any lexical category and is cross-linguistically valid because learners only have to set the order of X and ZP in (2b) depending on whether the language they acquire is head initial or not. The YP is named the specifier and the ZP the complement. The head X determines the label of the phrase and this is crucial for much work.

In the mid-1980s, the X'-schema of (2) is extended to grammatical categories, such as T, C, and D, as well and the result is the familiar structure in (3), again with the head determining the label of the higher phrase.

(3) \[ \begin{array}{c}
CP \\
\text{Spec} \\
\text{C'} \\
\text{C} \\
\text{TP} \\
\text{Spec} \\
\text{T'} \\
\text{T} \\
\end{array} \]

Change comes with the Minimalist Program. Taking the program seriously means attributing less and less to Universal Grammar, in particular to rules such as (2), and restricting the generative part of a derivation to a computational operation called Merge. External Merge (EM) takes two objects and yields an unordered set $\{X, Y\}$ without a label (Chomsky 2013:42); Internal Merge (IM) takes an already formed
syntactic object and takes part of that and merges it with the original syntactic object.

Labeling the set is not part of Merge and should therefore be avoided and left to a requirement of the interface. The labeling algorithm (LA), stated in (4), involves just a minimal search and “must take place at the phase level, as part of the Transfer operation” (Chomsky 2014: 4). It is like Agree and part of Minimal Computation, i.e. a third factor effect.

(4) The **Labeling Algorithm** is “a special case of minimal search” seeking “heads H within its search domain” (Chomsky 2014:4).

There are three potential sets in need of labels, namely \{X, YP\}, \{XP, YP\}, and \{X, Y\}. The first case is unproblematic – Chomsky says “trivial” – because the LA selects the head X. The other two are “interesting” because there is no label. Let’s take one of these, the case of subjects in English.

In (5), a label cannot be found between XP and YP: both X and Y are as accessible to minimal search and therefore as appropriate as labels. This structure, a sentence with a normal subject, would therefore be ruled out incorrectly.

(5) ![Tree Diagram]

Chomsky (2013:43) provides two solutions to labeling problems such as these and I quote him, adding some words in brackets for abbreviations: “There are, then, two ways in which [syntactic object] SO can be labeled: (A) modify SO so that there is only one visible head, or (B) X and Y are identical in a relevant respect, providing the same label, which can be taken as the label of the SO. These are the two cases that are prominently found”.

The first example where the \{XP, YP\} set can be modified, i.e. case (A), is through movement of one of the maximal projections, as in successive cyclic movement of a phrase in a copula clause. Movement of one of the maximal projections in (6) would result in a structure that can be labeled. According to Chomsky (2013:44), “[t]he intuitive idea is that the lower XP copy [in (6)] is invisible to LA, since it is part of a discontinuous element, so therefore β will receive the label of YP”.

(6) XP copula \{β XP, YP\} \hspace{1cm} (Chomsky (2013:44))
The second solution to the labelling problem, i.e. case (B), can be exemplified by means of a coordinate and an indirect question construction. In order to label $\beta$ in the coordinate structure in (7a), either $Z$ or $W$ – both non-heads – must raise and this is shown in (7b).

\[(7) \text{ a. } [\alpha \text{ Conj } [\beta Z W]] \]
\[(7) \text{ b. } [\gamma Z [\alpha \text{ Conj } [\beta Z W]]] \quad \text{(Chomsky (2013:46))} \]

In (7b), although $\beta$ gets the label of $W$, the resulting $\gamma$ is another \{XP, YP\} structure, hence unlabelable. Chomsky (2013:46) accounts for this by arguing that “the label [of $\gamma$ in (7b)] is not Conj but rather the label of $Z$, typically shared with $W$; if the coordinated expressions are APs, then $\gamma$ is an AP, etc. It follows that Conj and the construction $\alpha$ that it heads are not available as a label, so that $\gamma$ receives the label of $Z$.”

Another case of labeling a problematic structure using (B) involves what used to be called Spec-Head agreement, involving \{XP, YP\} \textit{in situ} without raising.” If “the most prominent feature of the \{XP, YP\} set is shared”, labelling is not a problem. It will be labelled using “the interrogative feature Q, a feature of C and the head of $\alpha$” (p. 45). Sharing the Q-features between the PP and C in (8) has the result that the PP does not need to move further because it shares an interrogative feature with the C.

\[(8) \text{ They wondered } [\alpha \text{ in which Texas city } [\beta C [\text{JFK was assassinated}]]] \]

Let’s take another case of \{XP, YP\}, i.e. subjects in English. In (5), restated as (9), we saw that structurally this results in an unlabeled sentence because the subject internally merges to the T’ resulting in \{XP, YP\}. However, since the heads of these phrases share phi-features, the set is successfully labeled \langle \phi, \phi \rangle under (B).

\[(9) [\text{Tom } T \text{ [ Tom } v^* \text{ read a book]}] \quad \text{(adapted from Chomsky 2014:6–7)} \]

Copulas, coordinates, indirect questions, and subjects cannot be labelled if we just take the categorical heads into consideration. The solution to the labeling problems comes from features that are shared that count as a head. I will argue in the next section that the diachronic reanalysis of phrases to heads also enables labeling.

There are other approaches that account for labeling paradoxes, e.g. Ceccetto & Donati (2010) and Donati & Ceccetto (2011) discuss a resolution of the labelling paradox of a phrase in the specifier of the CP in that the structure either becomes a DP (a free relative) or CP (an interrogative). This account is different from Chomsky’s (4) and they assume that lexical items are always probes. I will therefore not touch on this account.

Apart from the problems to label \{XP, YP\}, the set \{X, Y\} is problematic but Chomsky (2014) suggests that one of the heads is typically an affix ($v^*$ and T) and therefore no problem arises. In this
paper, I won’t discuss this particular problem; see Carstens, Hornstein, & Seely (2013) as well.

In section 2, I have outlined some of the core features of the current Minimalist Program, namely that syntactic objects (SOs) are formed by means of Merge and that they are labeled at the phase level and meet requirements at the interface. Labeling paradoxes can be resolved by having one of the XPs move, as in (6), or by ignoring one label, as in the case of coordination in (7b), or by feature-sharing in (8) and (9). The first two solutions are worked out in Chomsky (2013), whereas the latter is the focus of Chomsky (2014). I now turn to some linguistic changes that may be accounted for by the requirements of the labeling algorithm and I will account for why some change does not occur because it doesn’t present a problem for the labeling algorithm.

3. Specifier to Head in Language Change

The Merge of \{XP, YP\} results in problems for the labeling algorithm at the interface level and can be resolved in the ways we have seen above, namely by movement, ignoring the label, and by feature-sharing. There is another mechanism that could resolve labeling problems, namely the change from phrase to head where the XP in \{XP, YP\} is reanalyzed as X. This change would eliminate one of the offending phrases without having to resort to feature-sharing. One would therefore expect that changes towards the form \{X, YP\} would be common. This is in fact the case, as shown in van Gelderen (2004, 2011), Jäger (2005, 2010), Weiß (2007), Willis (2007), Bayer & Brandner (2008), Bácskai-Atkári & Dekány (2014), and other work.

In section 3.1, I will mention some instances of those changes, some interesting in that they don’t involve the typical phase heads D, C/T, and v* but also Neg. Then, in section 3.2, I turn to cases where the phrase does not change to head and these will straightforwardly be accounted for because they do not involve a labeling paradox. Finally, in section 3.3, I turn to pronominal subjects, which are claimed by Chomsky (2013:46) not to be heads. Here, I will propose an approach based on features: certain subject pronouns are indistinguishable in their features from those of T and then resolve the labelling paradox by pointing to T, rather than D. This again results in a preference of head-like subjects over phrasal ones.

3.1. Phrasal negative to negative head

In this part, I examine changes involving the NegP and will argue that these can be accounted for by labeling needs. In Chomsky (2013, 2014), only the labelling of CP, TP, v*P, and R(oot)P has been considered and therefore showing that phrase to head occurs NegPs may make us aware of labeling needs of other phrases.
Jespersen (1917) was among the first to discuss changes in negatives with examples from many languages and talks about weakening and strengthening tendencies. Willis, Lucas, and Breitbarth (2013:7, 21, 169) provide recent case studies on the well-known cyclical change in negative marking. A typical chain of changes is given in (10), from the history of English.

\[(10)\] earlyOE \(\rightarrow\) OE/ME \(\rightarrow\) earlyModE \(\rightarrow\) ColloqEnglish
\[\text{no/ne} \quad (\text{ne}) \quad \ldots \quad \text{not} \quad \ldots \quad \text{–n’t} \quad \ldots \quad \text{–n’t} \quad \ldots \quad \text{nothing}\]

Examples of the stages are given in (11)\(^1\) : (11a) shows the use of a negative by itself, (11b) of the determiner \(\text{nan}\) and the regular negative \(\text{ne}\); (11c) shows a \(\text{ne}\) contracted with the verb into \(\text{nes}\) and a negative adverbial \(\text{nawhit}\), a contracted form of the negative indefinite \(\text{na wiht}\) ‘no creature’; (11d) shows the adverbial \(\text{not}\) by itself, (11e) shows the cliticization of \(\text{not}\) onto the verb, and (11f) the reinforcement in colloquial English.

\[(11)\]
\[\begin{align*}
\text{a.}\quad & \text{Men } \text{ne } \text{cunnon secgan to } \text{sode } \ldots \text{ hwa}
\quad & \text{Man not could tell to truth } \ldots \text{ who}
\quad & \text{‘No man can tell for certain } \ldots \text{ who’}.
\quad & \text{(Beowulf 50–2, Klaeber edition)} \\
\text{b.}\quad & \text{ne } \text{fand } \text{þer } \text{nan } \text{þing } \text{buton ealde weallas } \&
\quad & \text{not found there no thing except old walls and}
\quad & \text{wilde wuda}
\quad & \text{wild woods}
\quad & \text{‘He found there nothing but old walls and wild woods’}.
\quad & \text{(Peterborough Chronicle, addition to year 963, Thorpe edition 220)} \\
\text{c.}\quad & \text{Nes } \text{þis } \text{meiden } \text{nawhit } \text{heruore imenet in hire}
\quad & \text{not,was this maiden not herefore troubled in her}
\quad & \text{mod inwið}
\quad & \text{mind within}
\quad & \text{‘This maiden was not troubled in her mind because of this.’}
\quad & \text{(Katerine, d’Ardenne edition 28, 21–22)} \\
\text{d.}\quad & \text{Yit it semeth that He wolde } \text{not } \text{leve thee thus lightly}
\quad & \text{‘Yet it seems that he wanted not leave you thus lightly.’}
\quad & \text{(Cloud of Unknowning, 241–42)} \\
\text{e.}\quad & \text{And to } \text{þis } \text{I } \text{cannot } \text{answere } \text{pee } \text{bot } \text{þus}
\quad & \text{‘And to this I can’t answer you except thusly: I knew never.’}
\quad & \text{(Cloud of Unknowning, 450–51,}
\quad & \text{www.lib.rochester.edu/camelot/teams/cloud.htm)} \\
\text{f.}\quad & \text{I } \text{ca } \text{nt } \text{do } \text{nothing } \text{for you either, } \text{Billy}.
\quad & \text{(Ken Kesey, One flew over the Cuckoo’s Nest p. 118)}
\end{align*}\]

\(^1\) The data are well-known and I have just used examples from well-known primary sources.
The phenomenon shown in (11) is called the negative cycle. The motivation for it is most often seen as pragmatically driven. Thus, Kiparsky & Condoravdi (2006), in examining Jespersen’s Cycle in Greek, find no evidence for phonetic weakening and similarly suggest pragmatic and semantic reasons. A simple negative cannot be emphatic; in order for a negative to be emphatic, it needs to be reinforced, e.g. by a minimizer. Adapting ideas from Dahl (2001), they argue that, when emphatic negatives are overused, their semantic impact weakens and they become the regular negative and a new emphatic will appear. L’Arrivée (2010), examining the history of French negation, argues that a specific pragmatic function, namely accessibility of a proposition to the hearer, plays a role.

I will argue that the syntactic labelling mechanism favors the negative as head, e.g. just the *ne* or *–n’t*, but that the need to make the negative meaning obvious necessitates renewal in the form of an additional negative indefinite, which in turn is made into a head. This accounts for the cycle. The negative *ne* in (11a,b) is a head because it precedes the verb and the additional negative DP in (11b) is an argument that is in negative concord. In (11c), the determiner and noun are written as one word and are no longer used as argument but as an adverb. This adverbial form is still phrasal and will ultimately result in the form *not*, as in (11d). In the stage of (11e), the negative is a head because it is joined by another head and therefore similar to (11a). This is followed next by a phrasal negative renewal, as in (11f), similar to (11b).

Van Gelderen (2004:18) justifies principle (12), to account for these changes from phrase to head seen between (11bc) and (11e) (*not* in (11d) is ambiguous in status). This principle is at work in the internalized grammar either due to Universal Grammar or due to general cognitive principles and holds for external merge (projection) as well as internal merge (movement). In accordance with the HPP, a speaker will build (13b) rather than (13a), if given evidence compatible with either.

(12) **Head Preference Principle (HPP)**
Be a head, rather than a phrase.

(13) a. NegP b. NegP
    nothing Neg’ Neg
    Neg YP nought/not
The change from (13a) to (13b) is immediately obvious from the labeling mechanisms: nothing in (13a) is an XP and Neg’ a YP so, unless they share features, the NegP cannot be labeled. (13b) is definitely the stage of (11a); the stage in (11b,c) comes about through pragmatic strengthening, not something narrow syntax is responsible for. I’ll assume negative features connected to head and phrasal negation (but for our purposes here will remain agnostic about interpretability/valuation). These negative features allow for the stage in (11b,c). However, this stage doesn’t appear stable as (11d,e) arise, evidence for another phrase to head reanalysis, as in (13). Stage (11f) involves further pragmatic strengthening, allowed under feature-sharing.

The Head Preference Principle of (12) is relevant to a number of historical changes: whenever possible, a word is seen as a head rather than a phrase, and this is expected if such a crucial mechanism as the labeling mechanism is the reason for it. Other examples are given in Table 1 but see the vast literature on grammaticalization (Hopper & Traugott 2003, Heine & Kuteva 2002).

### Table 1. Examples of the change from phrase to head (van Gelderen 2011:14)

<table>
<thead>
<tr>
<th>Specifier &gt; Head</th>
<th>Specifier &gt; Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrative pronoun <em>that</em> to complementizer</td>
<td>Demonstrative pronoun to article</td>
</tr>
<tr>
<td>Negative adverb to negation marker</td>
<td>Adverb to aspect marker</td>
</tr>
<tr>
<td>Adverb to complementizers</td>
<td>Full pronoun to agreement</td>
</tr>
</tbody>
</table>

This change from phrase to head is slow since a child learning the language will continue to encounter a pronoun or a negative as both a phrase and a head. For instance, coordinated pronouns are phrases as are emphatic pronouns but clitic pronouns are not (see van Gelderen 2011 for more in this). If both remain in the input, phrases will continue to be triggered in the child’s grammar.

This subsection has introduced the notion of phrase to head reanalysis. It is frequent in syntactic change and receives an analysis under the labeling paradox as presented in Chomsky (2013). I now turn an interesting construction where phrases are not reanalyzed as heads.

### 3.2. No need for phrase to head reanalysis

As seen, Chomsky argues that the \{XP, YP\} label in (8) does not result in a labeling paradox because the interrogative feature is shared between the XP and the Y of the YP (Chomsky 2013:45). I will now turn to this sharing as an explanation for why certain specifiers are not reanalyzed as heads – something that was hitherto a puzzle. Sentences where *whether* is
an XP and the C’ a YP, as in (14), can be labeled because these elements share interrogative features. Hence, there is no pressure for whether to reanalyze as head.

(14) I wonder CP[ whether C’[ C TP[ he’ll do it]].

The Indo European origin of the lexical item whether is as a phrasal pronoun, as in (15a). In Old English, it is also a yes/no marker, as in (15bc), and a complementizer, as in (15d).

(15) a. *Hwæðer* para twegra dyde þæs fæder willan
   ‘Who of the two did the father’s will?’
   (*West Saxon Gospel* Corpus, Matthew 21.31, Skeat’s edition)

b. *Hwæðer* wille ge ðæt ic cume to eow, ðe mid gierde
   Whether will you that I come to you or with rod ðe mid monðwære gæste?
   or with gentle spirit
   ‘Do you want that I come to you, with a rod or with gentleness of spirit?’
   (Alfred, *Pastoral Care*, Sweet’s edition 117.7–8).

c. *Hwæðer* ic mote lybban oððæt ic hine geseo  
   Whether I might live until I see him  
   ‘Might I live until I see him?’

d. þær se snotera bad *hwæper* him alwalda æfre wille . . .  
   there the wise waited whether him almighty ever would . . .  
   wyrpe gefremman.  
   change accomplish  
   ‘There the wise one waited whether the almighty would ever grant him change’
   (*Beowulf* 1313–5).

The original pronoun has a meaning of ‘who of the two’ and this meaning is reanalyzed as yes/no marker and as interrogative complementizer. That reanalysis from a position in the VP to one higher in the CP happens before the Old English period. The yes/no marking function appears in a specifier position in (15b) and in a head position in (15c) before it disappears between the 15th and 18th centuries (see OED). Whether as yes/no marker is probably lost because there is a good alternative in Subject-Auxiliary Inversion. This auxiliary is a head and therefore no labelling problems arise.

What is interesting is that the complementizer function of whether remains in use up to the present but that it is in a specifier and not in a head position. It has never shown any inclination of becoming a head, as
the impossibility of wh-extraction in (16) shows and the co-occurrence of it and a head in (17).²

(16) *What did you wonder whether he’ll do what?

(17) a. And it’s a very good question about whether if you think that Barack Obama is an agent of change . . . (COCA Spoken 2008)
    b. I don’t know whether if you think there’s going to be a nuclear fallout and . . . (BNC F7L)

Construction (17) occurs 56 times in the Corpus of Historical American English (COHA), 50 times in the Corpus of Contemporary American English (COCA), and 14 times in the British National Corpus (BNC). These and (16) show that whether is still a specifier of CP.

So to what can we ascribe whether not being reanalyzed? If whether in (14) and (15d) is like the PP in (8) and shares the relevant interrogative features with the C, there is no labeling conflict for the two XPs. The CP and C’ in (18) share the same feature.

(18) I wondered CP[whether C’[C he’ll go]].

This feature sharing therefore provides an account for why whether, unlike other phrases, is not reanalyzed as head.

3.3. Subject pronouns

Chomsky (2013:44) accounts for the EPP, i.e. the fact that vP-internal subjects move to Spec TP, in a structural way. If the subject (the EA) remains in the Spec of vP, as in (19), this subject and the rest of the vP, β in (19), cannot be labeled. Therefore the subject must move out of the vP. This motivation for movement of the subject is a more principled explanation than the earlier stipulation that there are EPP features on T that make the subject move.

(19) T [β EA [v* [V IA]]] (Chomsky 2013:44)

The next step after (19) is to (internally) merge the DP and T’ (α in (20)) and, again, these are both non-heads, as (20) shows, and can therefore not be labeled.

(20) [C [α DP TP]]

As we’ve seen in section 2, Chomsky (2013:45) therefore entertains the following feature-sharing for (20): “α receives its own interpretation and should be labeled – in accord with the general principle that all SOs that

² For many speakers of (American) English, if is a head since a wh-element can be extracted, as in (i). I have not considered the history of if and if it became a head.

(i) What did I wonder if he’ll do?
reach the interfaces must be labeled. Perhaps that can be achieved by the device suggested for embedded interrogatives. NP and TP share prominent features, namely \([\phi]\)-features – so-called ‘SPEC-Head agreement,’ known to have a variety of interesting properties”. However, “sharpening this condition requires a closer analysis of Agree, which would carry us too far afield”. He does sharpen the features in Chomsky (2014:4) where he has a slightly different account of EPP (and ECP), namely one based on weak T. In English (but not Italian), the T is too weak “to serve as a label” but, with an overt subject in what used to be Spec TP, the construction can be labelled \(<\phi, \phi>\).

A very straightforward escape from the labeling paradox in (20) would be to have a subject that has the status of a head. However, Chomsky (2013:46) says that (pronoun) subjects cannot be heads because they would label the TP incorrectly, as D-headed, not T-headed. I don’t see how they couldn’t also participate in feature-sharing. What I will therefore explore in the remainder of this section is the feature-sharing characteristic of the Agree-relationship and, in the process, I will explain why pronouns change from phonologically fully independent phrases to agreement markers, as has happened in a number of languages, the most well-known case being French perhaps (see Lambrecht 1981, Roberts & Roussou 2003). First, some examples will be given of subject pronouns that have a more elaborate shape than the agreement markers showing that the latter derive from the former and, as they become agreement, they lose certain features. The latter is necessary, I argue, in order to be labelled as \(\phi\) and therefore be acceptable to the labelling mechanism.

According to Tauli (1958:99, the Basque verbal prefixes \(n-, g-, z-\) are identical to the pronouns \(ni ‘I’, gu ‘we’, and zu ‘you.’\) As early as the 19th century, Proto Indo European verbal endings \(-mi, si, -ti\) are considered to arise from first, second, and third person pronouns (e.g. Bopp 1816). Hale (1973:340) argues that in Pama-Nyungan inflectional markers are derived from independent pronouns: “the source of pronominal clitics in Walbiri is in fact independent pronouns”. Likewise, Mithun (1991) claims that Iroquoian agreement markers derive from Proto-Iroquoian pronouns and Haugen (2008) argues that Nahuatl agreement markers derive from earlier forms. Fuß (2005) and van Gelderen (2011) cite many additional examples. Many of these cases involve first and second person pronouns which I’ll account for now.

As mentioned earlier, Chomsky (2013) is not definite on what the matching features between the subject DP and T in (20) have to be so that the conditions of the labeling algorithm puts on the structure in (20) are met. Chomsky (2014) suggests these are \(\phi\), but not more is said.

A full DP in English has person and number, marks definiteness, and may contain a deverbal noun with thematic structure, e.g. *their painting of pictures*. The features an English DP is sharing with T in (20) may be person and number but there are lots of features to make the DP a
distinct unit. There are other languages where pronominal and clitic forms have fewer features, e.g. first and second person pronouns, such as those in French (21), are pure person and number markers.

(21) *J’ai deux livres sur ma table*  
I have two books on my table

‘I have two books on my table.’

These person and number features are indistinguishable from those of the agreeing T and therefore label the ζ containing the DP and TP in (20) correctly as phi-headed. So, in (21), *je* is a head with first person singular features that are the same as the phi-features of T and (21) is in accordance with the labelling algorithm.

Now, we have a reason for the reanalysis of pronouns to agreement markers. A fully phrasal pronoun (that can be coordinated and modified) cannot be seen as sharing the features of T but a head (that has to be adjacent to a verb) can be seen by the child acquiring French (or English) as similar to T. When the features of a pronoun overlap with those of the agreeing T, they may disappear and a structure as in (22) may be the result. This structure can of course receive a label.

(22)  

This account is very similar to accounts such as Roberts (2010) and van Gelderen (2011) who suggest the change from pronoun to agreement marker is due to a confusion as to whether the pronoun actually values the features of T or is itself in need of valuation. Taking Chomsky’s idea of feature-sharing, the preference for subjects that are heads with minimal features similarly makes sense.

If we look at which pronouns are the first ones to grammaticalize into agreement markers, they are typically the first person singular ones. For instance, since Lambrecht (1981), it has been accepted that French weak pronouns such as *je ‘I’* and *tu ‘you.sg’* are agreement markers on the verb and frequently doubled, as in (23a). What has also been known for a long time is that third person subject pronouns are slower to gain agreement status. To be an agreement marker, they would have to appear obligatorily and that is not the case, certainly with indefinite subject, as in (23b), which are rare with the weak pronoun.

(23) a. *moi, j’écoute tous le temps.*  
Me, I listen all the time.  

(corpus d’entretiens spontanés)
b. *si un:* un Russe *i va en france* . . . Swiss Spoken French
   if a a Russian he goes to France
   ‘If a Russian goes to France.’ (Fonseca-Greber 2000:335)

The reason the third person is ‘slow’ is that there are more features to be shared, e.g. gender. Gender and number are in fact deleted when the pronoun becomes the agreement marker, as in (24), where *i* is marked for only third person singular although *les tomates* are feminine and plural.

(24) **Les tomates, *i* sont encore vertes**
   Spoken French
   ‘The tomatoes, they are still green.’ (Lambrecht 1981:40)

If we think that DP and TP in (20) must share a feature in order to be labelled and that pronominal features can be bleached so as to indistinguishable from those of T, we have an explanation for the change from pronoun to agreement marker and also for the light feature-load of those agreement markers.

4. Conclusion

This paper shows that the systematic language change from phrase to head is accounted for if such reanalyses resolve labeling paradoxes of the [XP YP] kind by eliminating one of the two XPs. The paper also looks at some cases that resist phrase to head reanalysis to show that here the XP and YP in fact share features so that they can be labelled and need no reanalysis. I also examine in further detail Chomsky’s assumptions about the labelability of the XP in what used to be called the Spec TP and present that structure as another instance where a head is to be preferred. When the pronoun has features similar to those of T, there is again no labelling paradox, and change is towards that analysis.

As in Chomsky (2013, 2014), many questions remain unresolved. The main one is what the nature of the features shared between the XP and YP is such that both are legible at the interface. In one case considered in this paper, it is interrogative-features and, in another, phi-features. Future work should focus on these inventories.

References


Received September 26, 2013
Accepted November 20, 2014

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