A note on labeling, Berber states and VSO order

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A NOTE ON LABELING, BERBER *STATES* AND VSO ORDER[i]

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Berber nouns appear in two syntactically-conditioned morphological forms. Subjects in VSO configurations, objects of (most) prepositions and clitic-doubled direct objects manifest the *construct state*, CS. Elsewhere, nouns appear in the *free state*, FS. I argue that CS is the form of a noun that merges with a head K, situated above vP and below T. Following Chomsky (2013), the subject phrase must raise out of vP in order for vP to get labeled. K is its target. From Kayne (2002, 2004), I borrow the idea that P is configured above vP and attracts a noun to a twinned head K. Clitic-doubled objects, unlike non-doubled ones, are also on the edge of vP and labeling requirements force them to raise higher, again to K.

Keywords: Berber, Construct State, labeling algorithm, VSO

1. The Construct State in Berber

Berber nouns manifest two alternating morphological forms, traditionally known as states and illustrated by the examples in (1), from Guerssel (1992).[ii]

(1)

Free State (FS)	Construct State (CS)	
azru	*wzru*	‘rock’
arba	*wrba*	‘boy’
aryaz	*wryaz*	‘man’
taslitt	*tslitt*	‘bride’
tafirast	*tfirast*	‘pear’
tasirt	*tsirt*	‘mill’

The distribution of the “states” is determined by the syntactic context in which the noun appears. The noun appears in CS when it is the complement of most prepositions, when it is a postverbal subject and when it is a clitic-doubled postverbal object. This distribution is illustrated in (2)-(4) (from Guerssel 1992 and Bedjaballah and Haiden 2013).[iii]

(2)

s wzru	‘with the rock’	(instrumental)
d wrba	‘with the boy’	(comitative)
gher wryaz	‘to the man’	
zy tslitt	‘from the bride’	
n tfirast	‘of the pear’	
dy tsirt	‘in the mill’	

(3) *jə-ttʃa* *wergaz-aki*
3ms-eat.pf man.cs-dem
‘This man ate.’

(4) *jə-ẓra-θ* *wergaz-aki*
3MS-see.PF-DO:3MS man.CS-DEM
‘He saw this man.’

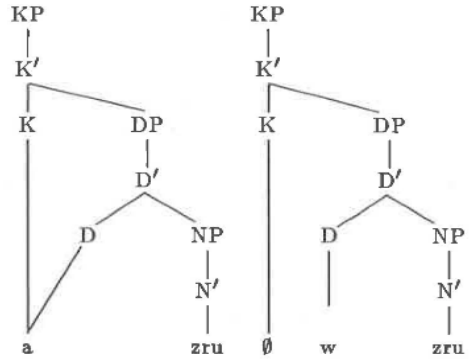
The FS is the citation form of nouns and has the following syntactic distribution: It appears on preverbal subjects (which are not topics, see note vii,) on (non clitic-doubled) direct objects and on complements of a handful

of (adverbial) prepositions. I henceforth assume that the FS is the "elsewhere" state of the noun.

What needs to be explained is the distribution of the CS. The empirical question I address in this contribution is how to characterize the natural class consisting of objects of prepositions, postverbal subjects and clitic-doubled direct objects.

The analyses of the CS in Guerssel (1992, 1995) and Ouhalla (1996) – representative papers of the Principles and Parameters approach to this phenomenon – tie the Berber states to Case. For Ouhalla, the CS is the morphological realization of genitive Case. For Guerssel, the extended projection of Berber nouns makes crucial use of two functional heads, D(et) and K(ase). Guerssel's proposal is that the FS prefix, e.g., *a-* on the masculine nouns in (1), spells-out both D and (default) K while the CS *w-* in these examples only spells out D. K is filled either by a preposition of the class exemplified in (2), or it is empty, as illustrated in (5) with the noun 'rock' (Guerssel's 1992, ex. (39).)

(5) FS CS



K can be empty when it is not needed to realize Case. This comes about when a clitic satisfies the Case Filter. CS is hence manifested on clitic-doubled objects and also, argues Guressel, on postverbal subjects. In his view, subject agreement in Berber is a clitic satisfying the Case Filter.

In the following pages, I pursue a different approach to Berber states and argue that CS is the shape of a noun that merges with a functional head above vP. The link with Case can be maintained, I believe, but at a more abstract level.

2. Labeling

In order to be interpreted, syntactic nodes must have a label. The semantics needs to know whether a syntactic object is a verb, a noun, etc. If (at least some) roots are not labeled in the Lexicon, then there has to be some

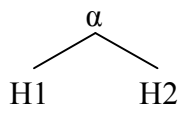
procedure by which they acquire a label. Similarly, when a phrase is merged with a head (as its complement) or with a phrase ("specifier" in pre bare phrase structure), narrow syntax must employ an explicit labeling algorithm for the newly-created node. Chomsky (2013) proposes that categories created by merge inherit the label of the closest head.

(6) *Labeling algorithm*: The category created by Merge inherits the label of the closest head.

Let us consider three configurations where (6) has to apply (the presentation is based on Chomsky 2013 and Rizzi 2013), namely, head-head merge, head-phrase merge and phrase-phrase merge.

Head-head merge is diagrammed in (7). What is the label assigned to α?

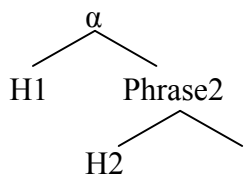
(7)



If H1 is an unlabeled root, then α gets the label of H2. If H1 is a complex head (formed through head-movement, say,) then, suppose that α gets the label of the attracting head, H2.[iv]

(8) diagrams head-phrase merge. Here, H1 is closer to α so, by (6), α inherits the label of H1.

(8)

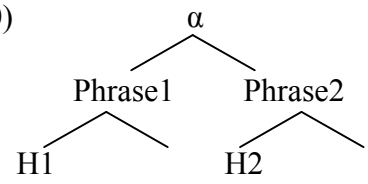


Take (9) to be a working definition of "closest".

(9) "Closest" = H_i is the closest head to α iff
(i) α dominates H_i
and
(ii) there is no H_j such that α dominates H_j and H_j dominates H_i.

The third case to consider is phrase-phrase merge, as in (10), where H1 is the head of phrase1 and H2 the head of phrase2.

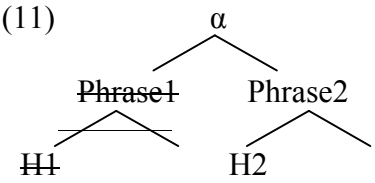
(10)



Here, a labeling paradox emerges, since H1 and H2 are "equi-closest" to α. Chomsky envisages two ways out of the deadlock. The first is the following: If both phrase1 and phrase2 have the same label (read "feature"), then α can inherit a label from either H1 or H2. This state of affairs arises, for example, when a wh phrase is internally-merged to a phrase headed by wh/Q. Both H1 and H2 are "Q" in such a case and α is labeled Q.

The second route out of the labeling deadlock posed by structures like (10) is through movement of either phrase1 or phrase2, leaving a silent copy. Chomsky suggests that the silent copy is invisible to the labeling algorithm since it is part of a discontinuous element (a non-trivial chain). Phase1 is moved in (11) (the silent copy is indicated by slashes). H1 is invisible to labeling and α inherits the label of H2.

(11)



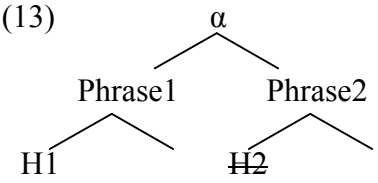
This situation arises concretely when phrase1 is the vP-internal subject and phrase2 is vP. Raising of the subject and internal merge with say, T, allows α to be correctly labeled by H2, namely, v. Raising of the subject is forced here, as it were, to allow α to be labeled, independently of any other feature or EPP considerations.

In passing, note that Chomsky's proposal regarding the invisibility of copies for the labeling alogrithm requires a redefinition of "closest".

(12) "Closest" = H_i is the closest head to α iff:
(i) α dominates *every copy of* H_i
and
(ii) there is no H_j such that α dominates H_j and H_j dominates *every copy of* H_i.

Consider now what happens when H2 moves in (10), yielding (13). One typical case is where phrase1 is the external argument, phrase2 is vP and H2 is v. (13) comes about whenever v moves to T.

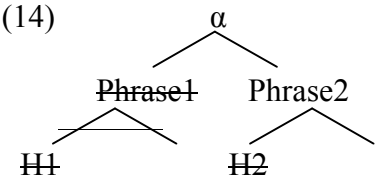
(13)



Due to movement, H2 is now invisible for labeling and α gets the label from H1, namely N (or D). This is incorrect and needs to be prevented.

Suppose that phrase2, (the subject phrase) is also moved, yielding (14). The configuration in (14) presumably arises in every grammar in which the subject phrase and the head v are both raised.

(14)



Neither H1 nor H2 are now available as sources for labeling α since both are parts of discontinuous elements. So how is the labeling of α enabled here? Suppose that labeling may apply as soon as it can (cf. Pesetsky's 1989 "Earliness Principle"), and not only at the point of transfer (upon the completion of the phase). The order of operations deriving (14) from (10) is

as follows.

(15) a. Phrase1 (the subject) raises from α.
b. α gets the label of H2, namely, v.
c. v raises.

Evidence for (15) is not immediately forthcoming in SVO languages, in which both subject and v raise out of vP. It is easier to detect in VSO languages in which V is in some I (as opposed to being in some C) and the subject follows it.

There is fairly solid evidence that subjects (of finite clauses) in VSO languages never remain in Spec/vP. This is the conclusion drawn for standard literary Welsh by Rouveret (2010, 248), for Irish by McCloskey (1996, 269), cited in Alexiadou and Anagnostopoulou (2001, 200) and for Berber by Ouhalla (1996, 294). The conclusion is based on the fact that adverbial material cannot appear between the verb and the following subject but may occur below the subject (and above the object, if there is one.) If the verb moved to T and the subject remained in v(P) - Recall that v(P) is a phrase with the label v and D(P) is a phrase with the label D, etc. - such a blanket ban on the appearance of adverbs would be hard to explain. However, if the subject were systematically raised out of v(P) above the adverbs and appeared in some position immediately below T, the facts would follow.

(16) a. *Ni chlywodd Siôn **erioed** y fath lol* Welsh
neg Heard Siôn **never** the nonsense
'Siôn has never heard such nonsense.'

b. ***Ni chlywodd erioed Siôn y fath lol*** Welsh; my guess: based on Rouveret's discussion
neg Heard **never** Siôn the nonsense

(17) a. *Chuala Róise **go minic roimhe** an t-amhrán sin* Irish
heard Róise **often** **before-it** that-song
'Róise had often heard that song before.'

b. ***Chuala minic** Róise an t-amhrán sin* Irish
heard **often** Róise that-song

(18) a. *Y-awl ufrux **wahds/idnnat*** Berber
3MS-escaped boy.CS **alone/yesterday**
'The boy escaped alone/yesterday.'

b. ***Y-awl wahds/idnnat ufrux*** Berber
3MS-escaped **alone/yesterday** boy.CS

Following the essence of Chomsky (2013), I submit that subjects must invariably raise out of v(P) in order to permit vP to be correctly labeled. If the subject remained in vP and only v raised, v(P) would be incorrectly labeled N or D, leading to interpretation problems at the interface. In order to ensure correct labeling, the subject cannot remain in its external merge position.[v]

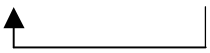
I now argue that the functional projection above v(P) into which the subject raises in VSO configurations is the same kind of position with which prepositional "complements" are merged. I follow Kayne (2002, 2004) and

label the head of this projection K, thereby severing Guerssel's (1992) KP from the extended projection of D(P) are relocating it in the clausal functional space. I now argue that in Berber,

3. The construct state is the shape of a noun merged with K.

Kayne (2002, 2004) argues that prepositions (in particular, dative *à* introducing indirect objects and causees in French transitive causatives, French genitive *de* and English *of*,) are externally-merged in the functional space above vP and attract a nominal to the specifier of a lower, Agr-like "twinned" head K. He further argues that the remnant constituent - vP in (19) - is then moved to Spec/P.

(19) $[_{vP}..]$ P [DP] K $[_{vP}..]$...



Restated in terms of Bare Phrase Structure, Kayne's proposal amounts to the claim that prepositional complements are merged with a category headed by K. In other words, PPs are formed through phrase-phrase merged as in (10), and not through head-phrase merge as in (8).

By extension, the Berber prepositions in (2) are merged above v(P) and the

"prepositional complement" is merged with K. CS is the shape of nouns in this configuration.[vi]

Suppose, now, that the head which attracts a subject out of vP is a "nominative" K, that is, it is twinned with T(ense) and not with some P. By saying that K_{OBL} is to P like K_{NOM} is to T, (cf. Pesetsky and Torrego 2004), we come very close to Ouhalla's (1996) contention that CS in Berber is a mark of genitive Case. Ouhalla notes that just as a prepositional complement must be adjacent to its (governing) preposition, a CS noun must be adjacent to the tensed verb.

The adjacency of postverbal subjects to V is not unique to Berber but seems to be a signature trait of all VSO languages, as e.g., Roberts (2005, ch.1) explicitly argues for Irish and Welsh and as the ungrammaticality of the (b) examples in (16)-(18) illustrates. Adjacency is expected if v-hosting T is merged immediately above K_{NOM}.

Not all Berber subjects are in CS, however, When a subject precedes the verb, as in (20a), or when it is right-dislocated, (20b), Ouhalla's (1997, (17)), it manifests FS and not CS. There is no need to merge the subject with K in such circumstances and no CS because the preverbal subject is attracted to T or to some higher head. Moving it out of vP is sufficient to enable labeling. Right-dislocated subjects, under this view, are not moved

rightwards, but leftward to T and the remnant clause is raised above T, stranding it on the right edge.[vii]

(20) a. *iffruxn ssn-n tamghart*
boys.FS know-3PL woman.FS
'The boys know the woman.'

b. *ssn-n tamghart, iffruxn*
know-3PL woman.FS boys.FS
'The boys know the woman.'

A direct object merged with V can remain in VP because its presence does not hinder the correct labeling of VP – it represents a case of head-phrase merge, as in (8). A direct object predictably appears in FS, as in (21) Guerssel's (1992, (38a)).[viii]

(21) *wala-gh amcic /*wemcic*
saw-1 cat.FS /cat.CS
'I saw the cat.'

In the Berber varieties that allow clitic-doubling, a clitic-doubled object must appear in CS. (21) contrasts with (22).

(22) *wala-gh-t *amcic /wemcic*
saw-1:3MS cat.FS /cat.CS
'I saw the cat.'

On different grounds, Cornilescu (2006) and Torrego (1998) argue that

clitic-doubled objects internally-merge with vP. For our purposes, we can adopt the view that the clitic originates as a sub-constituent of the DP object (Cecchetto 2000, Uriagereka 1995 a. o.) Then, if cliticization is head-movement to some functional head, the container DP has to smuggle the clitic at least as high as the edge of vP in order to enable local head movement into the functional domain.[ix]

Merge of the clitic-doubled object with vP gives rise to the Phrase-Phrase labeling problem discussed above w.r.t vP subjects. Like subjects, clitic-doubled objects must move out of vP to enable correct labeling. They do so by merging with K.

In some languages (Spanish, Romanian), K is selected by a preposition (*a*, *pe*). In others (Pirahã (Everett 1987), non-Romance Balkan), clitic-doubling occurs without any preposition. Berber belongs to the latter group and it remains to be determined whether in languages which violate "Kayne's Generalization", K is twinned with a null preposition.[x] When an (overt) preposition does appear, it is highly unlikely that it is merged VP-internally. Rather, recent treatments of this phenomenon tend to associate this preposition with some (functional) applicative head. We can tentatively conclude that the K associated with clitic-doubled objects is itself or is selected by such a functional head.

4. Conclusion

Rather than characterizing CS in terms of a specific Case (as, e.g., in Ouhalla's work), we followed Guerssel's (1992) insight in this paper to the effect that CS is manifested with nouns that require K(ase). Guerssel considered K to be a head which is internal to the noun's extended projection. We argued, following Kayne (2002, 2004), that K is merged in the functional domain of the clause and attracts a nominal. Severing K from the nominal projection and configuring it in the clausal functional domain, provides an insight into the distribution of CS. Prepositional objects are (externally) merged with K while postverbal subjects and clitic-doubled objects are internally-merged with it. The motivation for moving nominals merged with vP (subjects and clitic-doubled objects) is related to labeling. In environments in which the head of vP moves (v→T), the nominal merged with vP would provide its label to its mother node. In order to prevent this and allow this node to inherit the label v, the nominal or its head must clear out of vP. Internal merge with K, marked by CS on the noun, achieves precisely this.

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[i] Thanks to Jamal Ouhalla and to a reviewer for helpful comments and to audiences at the 15th Annual Conference of the English Department at the University of Bucharest and at the 19th International Congress of Linguists in Geneva, where this paper was first presented.

[ii] See Bendjaballah and Haiden (2013) and their references for discussions of the phonology and morphophonology of Berber states. The data in this paper is taken from the secondary literature and from different dialects. Since the distribution of the states is basically the same across Berber varieties, I omit the dialectal details in the cited examples.

[iii] Other contexts for CS, discussed in e.g., Ouhalla (1988), are not discussed in this contribution, for brevity's sake. I also omit discussion of the syntax of Berber prepositions and the option of moving them to the left periphery (on which see Bendjaballah and Haiden 2013) and references therein.

[iv] Some tweaking is needed to derive this, a matter for future research.

[v] Chomsky (2013) discusses Alexiadou and Anagnostopoulou's (2001) generalization to the effect that *either* the subject *or* the object must move out of vP. This generalization is too weak to explain the fact that in Berber, subjects must occur above adverbs even when a direct object is moved out of VP, by cliticization, for example.

[vi] Guersssel points out that such prepositional complements must be interpreted as VP-external. Thus, *dy wurtu* 'in the garden$_{cs}$' below is a VP adverbial (cf. 'it is in the garden that I ate the beans') and -unlike its English translation – cannot be interpreted as modifier of the noun. This restriction follows (for Berber) if *dy wurtu* 'in the garden$_{cs}$' is assembled in the functional field above vP with the nominal *wurtu* 'garden' externally merged with *dy*. Movement of *wurtu* from inside the DP would cross an island. The availability of the nominal modifier reading in English (cf. 'it is the beans in the garden that I ate') suggests that English prepositions can occur internally to DP.

Ccix-n ibawn dy wurtu
ate-I beans in garden.cs
'I ate beans in the garden.'

[vii] It is unlikely that preverbal subjects in Berber are left-peripheral topics because movement of subjects to the left periphery gives rise to the anti-agreement effect, (Ouali 2008; Ouhalla 1993, 2003; Shlonsky 2013), absent in (20).

[viii] Postverbal subjects of unaccusative verbs appear in CS not in FS, just like subjects of unergative verbs. This should be interpreted to mean that, unlike genuine direct objects, unaccusative subjects cannot remain in VP. Such subjects must also be interpreted as definite, just like subjects of transitive and unergative predicates, suggesting that they are linked to nominative Case and cannot be associated with some inherent case (cf. Belletti 1988). The unavailability of VP-internal unaccusative subjects might be linked to the absence, in Berber, of expletives, as Ouhalla's (1993) discussion of subject extraction would seem to imply. More thinking is needed about these cases and I thank Misha Knyazev of St. Petersburg State University for raising the issue of unaccusatives during an oral presentation of this paper.

[ix] This is basically, the analysis that Belletti (1999) proposes for Romance. See also Shlonsky (2004) and references on cliticization in Berber.

[x] A "mechanical" explanation for the difference between the two language-types could be the following. In languages like Greek, clitic-extraction from the BIG DP bleeds raising of the object from Spec/vP and its merge with K. If the clitic is the head of the BIG DP, (Uriagereka 1995), then, moving it alone would suffice to solve the labeling paradox and the container DP could remain merged to vP (the clitic would be the H1 of (10) and (13)). In Spanish-like grammars, movement of the clitic out of the BIG DP must take-off from a higher position than in Greek and Pirahã due, perhaps, to the different location of the clitic host in these languages. The BIG DP then, has to move "closer" to the clitic host to enable local head movement.