

Dinka and the architecture of long-distance extraction

Norvin Richards and Coppe van Urk, MIT

Summary: Work by Rackowski and Richards (2005) on Tagalog and Den Dikken (2009, 2012) on Hungarian shows that agreement between v and CP is necessary for long-distance extraction. These authors develop proposals in which this agreement allows v to probe into the CP phase, thereby doing away with the need to postulate intermediate movement to Spec-CP.

This paper presents novel data from Dinka Nyarweng (Nilo-Saharan, South Sudan) bearing on this issue. We demonstrate that Dinka offers strong evidence that successive-cyclic movement does involve movement through intermediate Spec-CPs, contra Rackowski and Richards (2005) and Den Dikken (2009, 2012). Intriguingly, Dinka at the same time shows that CPs that are extracted from stand in an Agree relation with v , just as these authors propose. We propose a modification of Rackowski and Richards (2005), in which both intermediate movement and Agree between v and CP are necessary steps in establishing a long-distance dependency.

Two EPP positions: Dinka has two positions with the EPP property, which must be occupied in declaratives. For ease of exposition, these are boxed throughout. The first of these is Spec-CP, as Dinka has C-level V2 in all finite clauses:

- (1) Bòl a-cí yòt yík Dèŋ bàai. (2) Bâai a-cí Bòl yòt yík Dèŋ.
 Bol 3SG-PRF house build Deng town town 3SG-PRF Bol house build Deng
 ‘Bol built a house for Deng in the town.’ ‘Bol built a house for Deng in the town.’

The second such position is in the verbal domain, just before the main verb if an auxiliary is present. We identify it as Spec- v P. This position must be filled by one nominal object:

- (3) yèn cí Ayén yién kitàp. (4) yèn cí kitàp yién Ayén.
 I PRF Ayen give book I PRF book give Ayen
 ‘I gave Ayen a book.’ ‘I gave Ayen a book.’

Successive-cyclicality: These positions are sensitive to successive-cyclicality in two ways:

Empty edge positions: Although Spec- v P and Spec-CP must be occupied in declaratives, if extraction takes place across them, these positions must be empty (5a–b). We take this to show that these are *edge positions*, which extraction uses as intermediate landing sites, behavior we attribute to the effects of phase impenetrability (Chomsky 2001).

- (5) a. Yàar a-cí Dèŋ lèk, [yè Bòl a-cí Ayén tuòc wúut].
 Yaar 3SG-PRF Deng tell C Bol 3SG-PRF Ayen send cattle.camp
 ‘Yaar told Deng [that Bol sent Ayen to the cattle camp].’
 b. Yeŋà cí Yàar _____ lèk Dèŋ, [yè _____ cí Bòl _____ tuòc wúut]?
 who PRF Yaar _____ tell Deng C PRF Bol _____ send cattle.camp
 ‘Who did Yaar tell Deng [that Bol sent to the cattle camp]?’

Plural clitic stranding: The second way in which extraction affects these positions is by way of the plural clitic *ke*, which plural DPs leave in each Spec- v P along the path of movement:

- (6) Yèyîŋà ye *(ké) tàak [_____ cí Bòl *(ké) tíŋ]?
 who.PL AUX.2SG PL think PRF Bol PL see
 ‘Who all do you think Bol saw?’

PP extraction: The behavior of argument and adjunct PPs is more complicated. As (7) shows, extracted PPs fail to empty the Spec- v P along its path, but do leave a plural *ke*:

- (7) Ye bèxi kò cí nyankái *(ké) wanmáth tuòc thín?
 Q villages which PRF sister PL brother send there
 ‘Which villages did my sister send my brother to?’

We propose that these PPs move through Spec- v P, leaving a plural clitic, but do not satisfy the EPP property of this position. Rather, we invoke the condition on the v P EPP position illustrated in (3–4): it must be occupied by a DP. We posit two movement-driving features

on v , one associated with $u\phi$ and the other with successive-cyclic movement. When a DP is *wh*-extracted, it satisfies both features, and the vP edge position is left empty, as in (5b); when a non-DP is *wh*-extracted, the two features must be satisfied by different specifiers, and *wh*-movement fails to empty the vP edge position, as the example in (7) shows.

A puzzle in long-distance extraction: PP extraction cannot satisfy the EPP property of the Spec- vP position in the clause the PP is generated in, as (7) shows. Long-distance extraction of PPs, however, does apparently satisfy EPP in Spec- vPs in higher clauses:

- (8) Yétenô cí Yâar lɛ̀k Dèŋ, [yè cí Bòl Ayén tuòòc]?
 where PRF Yaar tell Deng C PRF Bol Ayen send
 'Where did Yaar tell Deng [that Bol sent Ayen]?'

The role of complement clauses: We propose that this difference arises because of the role the embedded CP plays in long-distance extraction. We first show that CPs in Dinka can also fill edge positions. When a verb takes a CP object, the vP and CP edges may be left empty:

- (9) a. Bòl a-cí Dèŋ lɛ̀k [Ayén a-cí kitàp yòòc].
 Bol 3SG-PRF Deng tell Ayen 3SG-PRF book buy
 'Bol told Deng [that Ayen bought a book].'
 b. Bòl a-cí lɛ̀k Dèŋ [Ayén a-cí kitàp yòòc].
 Bol 3SG-PRF tell Deng Ayen 3SG-PRF book buy
 c. a-cí Bòl lɛ̀k Dèŋ [Ayén a-cí kitàp yòòc].
 3SG-PRF Bol tell Deng Ayen 3SG-PRF book buy
 d. * a-cí Bòl Dèŋ lɛ̀k [Ayén a-cí kitàp yòòc].

We take the wellformedness of (9b–c) to show that complement clauses may move to Spec- vP and Spec-CP, but must extrapose afterwards. The ungrammaticality of (9d) attests that Spec-CP is indeed occupied via movement; if Spec-CP is to be emptied by the complement clause, the complement clause must extract via Spec- vP , satisfying that EPP position also. These facts about clausal complementation suggest an explanation for the empty vP position in the matrix clause of (8); this position is occupied, not by the extracted phrase (which, as (7) shows, does not empty Spec- vP), but by the complement clause itself. The complement CP apparently must move to Spec- vP if extraction from it is to take place.

Locality and phasehood: Dinka then also exhibits the restriction that Rackowski and Richards (2005) and Den Dikken (2009, 2012) propose: extraction from CP requires v to Agree with CP (what is particular to Dinka is that this Agree relation triggers movement of CP to Spec- vP). We depart from these works (which predict, incorrectly for Dinka, that extraction takes place only via Spec- vP , and not via Spec-CP), however, in how we derive this requirement. We propose that Agree between v and CPs that are extracted from is necessary because such CPs act as interveners for *wh*-probing (as these CPs themselves carry a *wh*-feature, to attract the *wh*-phrase, Preminger 2011). This proposal is to be understood together with the principle, defended in Rackowski and Richards (2005), that once a Probe has Agreed with a Goal α , it is free to ignore α in further probing. This means that Agree between v and a complement CP allows v to ignore the CP as an intervener, letting v target the *wh*-phrase.

In addition to this, we assume, following much work, that *wh*-extraction must take place via the edges of CP and vP , in order to escape the effects of phase impenetrability (e.g. Chomsky 2001). The Dinka facts provide new support for this view, and also for the condition on extraction posited by Rackowski and Richards (2005); to escape a phase, not only must a *wh*-phrase move to the phase's edge, but the phase must itself be Agreed with by the higher Probe that is responsible for moving the *wh*-phrase.

Selected references: Dikken, M. den. 2012. On the strategies for forming long A'-dependencies. CUNY, Ms. - Rackowski, A. and N. Richards. 2005. Phase edge and extraction. *LI*.