Anchors, Indices, and the EPP

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Main Claims. In this abstract, I propose that there is a natural class of anchoring elements that include person, locations, times, and worlds. These anchoring elements bear an index and function as a class by realizing verbal inflection, checking the EPP, and being tracked by loci in sign languages. The operations of the inflectional domain share anchoring as their function.

The EPP. I define the Extended Projection Principle (Chomsky 1981, 1982) as the obligatory move of some element to the inflectional domain, taking different forms cross-linguistically (Biberauer 2010, *a.o*). I formalize the EPP as an unvalued [*u*Anchor: _] feature on Infl° that must be lo-cally valued by an index. In many languages, a person index is used, but other elements that are tracked through indices are also used (e.g., times, locations, possible worlds; Schlenker 2015). My proposal builds on Ritter and Wiltschko (2014)'s analysis of the cross-linguistic equivalents to tense-marking, whereby verbal inflection is the manifestation of an anchoring requirement formal-ized by a [±coin(cidence)] feature indicating whether the event and the utterance coincide. Unlike the [±coin] feature, the EPP picks out an element in the real or irrealis world that is being tracked. The index formalizes identity between an argument and some element in the evaluation situation. That is, it locates an argument in time, in space, or in worlds in the evaluation situation.

The Natural Class of Anchors. Person, locations, tenses, and worlds form a natural class of elements that appear in a variety of phenomena, across typologically diverse languages. This class patterns together both in the possible forms of verbal inflection and the possible kinds of EPP checkers. First, Ritter and Wiltschko (2014) show that, alongside languages in which verbs inflect for tense, there are languages where verbs inflect for location (Halkomelem), and person (Blackfoot). Additionally, in some languages, such as English, modal marking is in complementary distribution with tense marking, and so possible worlds are also arguably an attested form of this category of verbal inflection. Likewise, the cross-linguistic forms of the EPP also vary across this same class of elements. The EPP is instantiated by person in English, in which a nominal specified for person takes the subject position, and even non-nominal subjects have person and other properties of nouns (Davies and Dubinsky 2001). The EPP can be instantiated by location in constructions such as *Into the room walks Robin*, where the location phrase 'into the room' moves to spec,TP *en route* to a topicalized position (Bruno 2016). Finally, it can be instantiated by time in Finnish, where a temporal adverb (e.g., *nyt* 'now' in (1-a)) can take the place of the subject, but crucially not other types of adverbs (e.g., *nopeasti* 'quickly' in (1-b)) (Holmberg 2005).

(1)   a.   Nyt meni hullusti.
               Now went crazily
               'Now things went wrong.'
        b. *Nopeasti meni hullusti.
               quickly   went crazily
               'Things quickly went wrong.'   [Finnish]

A third way in which this group of elements acts as a class is by being able to bear overt indices in sign languages (Schlenker 2015). Many sign languages, including American Sign Language (ASL), assign various referents to loci in the signing space. Signing at or toward these loci can be used as verbal agreement or as pronouns (Lillo-Martin 1986). Schlenker (2011) suggests that words such as *former* and *latter* in spoken languages have a similar function, marked in time rather than space, although they are used much less extensively. Loci can track the reference of people,

times, locations, and possible worlds (Schlenker 2015), and thus also belong to the natural class of anchors. Since the number of loci that can be used in an utterance is limited only by perceptual and memory constraints, it has been proposed that these are overt referential indices, rather than personal pronouns (Lillo-Martin 1986).

The Anchoring Domain. In previous work, I have hypothesized that all of the operations of the inflectional domain share the purpose of anchoring, providing formal links between the event and the utterance, and that, conversely, all anchoring operations belong to the inflectional domain. This, then, entails that operations such as mood, case assignment, and viewpoint aspect also have an anchoring function. Preliminary research suggests that this may indeed be the case. For example, Bliss, Ritter, and Wiltschko (2010) have argued that Blackfoot has a person-based aspectual system.

Multiple Anchors. This approach predicts multiple anchors in a clause, in contrast to Ritter and Wiltschko (2014). I propose that multiple anchors are required in every clause in order to properly orient the interlocutors by locating the event situation within the world (cf. triangulation in orienteering). Each of the anchors have different characteristics. While verbal inflection features track whether the event situation and utterance coincide, the EPP tracks a particular 'landmark' that is relevant in the event situation. Thus, although the various anchors are unified in their function as anchors, they operate separately and independently. It is my position that anchoring is formalized within the narrow syntax, although it has functional correlates. As such, I do not predict a one-to-one correspondence between functions and grammatical operations.

EPP Anchors as Indices. I propose that the EPP is checked by an index because indices are able to capture the deictic or referential nature of the class of anchors, while also including formally non-referential elements such as QPs. That QPs are able to bear an index is shown through their ability to enter into binding relations, as in *Every farmer who owns [a donkey]$_i$ feeds it$_i$*. Any element from the class of anchors is able to bear an index and thus check the EPP, although the person index seems to be preferred cross-linguistically, perhaps because pronoun reference is already computed through indices and it is a simple matter to extend the use of these indices to EPP-checking.

Phi vs. Anchor? Although I argue that Person belongs to the class of anchors, it has also traditionally been included in the class of Phi features. It is clear that gender and number have different properties than person (e.g., Baker 2011). Wechsler (2011) argues that the Number and Gender features form a subset of the Phi feature bundle, but also that each of the Phi features in the bundle can be considered 'Index' features. This predicts that gender and number can function as anchors without person, which does not appear to generally be the case, cross-linguistically. However, the alternative appears to be a feature structure whereby Person belongs to two different feature bundles, Phi and Index, simultaneously. This could perhaps explain why movement seems to be necessary in EPP anchoring operations (i.e., Person moves from a head with a Phi feature bundle and incorporates into one with an Index bundle). More research is needed in this area.

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