WHALES, AND OTHER MAMMALS: A NATURALIST'S TAKE ON SYNTACTIC VARIATION (WITH PARTICULAR REFERENCE TO VIETNAMESE & IRISH)

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"It's not what you look at that matters, it's what you see."
– Henry David Thoreau

Abstract
In this paper, I offer four foundational principles of phrase-structure, intended as heuristics to help describe the underlying syntax of natural languages, and for explaining observed restrictions on word-order variation cross-linguistically. Whilst the core theoretical intuitions are not new—for the most part, they derive from those of Chomsky (1981)—there is some originality in their articulation, more significantly, in the kinds of data used to justify them: in contrast to the implicit Anglocentricity of mainstream generative analysis, the present theory is grounded in observations from three less familiar varieties—Irish, Vata (Kru), and Vietnamese, the latter being considered archetypal.

Keywords: Vietnamese, Irish, syntactic constraints, non-verbal predication, grammatical variation, UG.
ISO 639-3 codes: Vietnamese (vie), Irish (gle), Vata (Dida-Lakota (dic)), German (ger)

1 Preamble

When it comes to understanding linguistic diversity, it may be preferable to adopt the perspective of the 19th century naturalist (zoologist, entomologist, botanist) than that of the more contemporary geneticist, or molecular biologist. Given the Naturalist's turn, *pace* Chomsky, Lewis or Davidson, there can be no Theory of Language with a capital *L*, any more than there is a Theory of Animal, or Insect, or Plant. This does not imply that one does not look beneath the surface, or that all surface detail or behavior is relevant to understanding or categorizing an organism, only that universal properties are not revealed by abstraction to a purely internal computational system, but rather through close observation and dissection of surface form, on the one hand; alternatively, through a study of the growth, development, and dynamic behavior of different language varieties in their natural environment.

Adopting such a perspective, this paper explores the following thought experiment: how might a theory of UG[1] appear without English, if instead we were to begin our investigation with Vata (Kru)[2], or Modern Irish, or Vietnamese? If we disregard English data (as the *object* language)—alternatively, if we try to discern UG through different lenses (*objectif*)—what putatively universal properties would we want our theory to derive; conversely, which grammatical propositions, currently considered axiomatic, might turn out to be artefactual, given a different starting point?[3]

Let us begin with a piece of etymology, with the nouns *object* and *objective*. Both words find their source in the medieval Latin verb *ob* + *jacere*, meaning to throw something in the way of [one's view].

[1] I recognize that UG, as articulated here, is itself an outdated concept: one purpose of this paper is to bring it back into circulation.

[2] The name Vata is that used by Koopman (1984): more recent, descriptively oriented sources, such as *Ethnologue*, treat this variety as a sub-variety of the Dida-Lakota dialect cluster (dic).

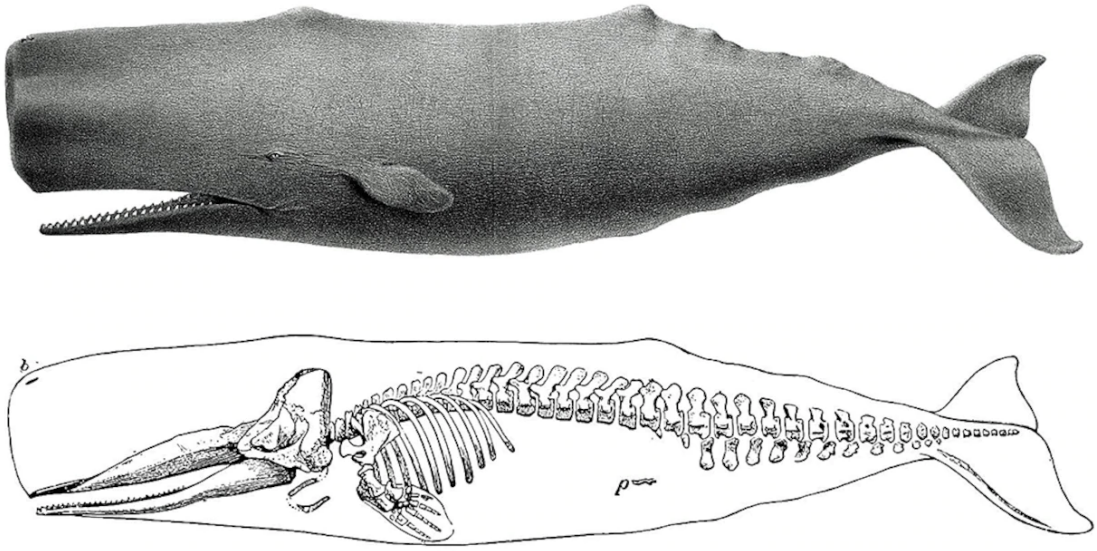
[3] 'TP', 'Case' and the 'EPP' are likely candidates; similarly, uninterpretable features are also probably dispensable.

In Germanic and Romance varieties, the nominal form is ambiguous, refering either to the thing at which one directs one's sights, or to the means that afford the observation, *viz*., the lens; in English, the former meaning is the more prominent, in French and German, the latter dominates. But whichever interpretation one adopts, some views are more lucid—hence more informative to the researcher—than others.

Object

If, as a Naturalist, you wish to better understand the skeletal structure of mammals, it is certainly easier to consider an under-nourished white-tailed deer than to inspect a sperm whale: in its living form, the external bumps on the whale's skin offer few clues to its internal architecture; even after dissection, the whale skeleton—with its vestigial limbs and disproportionate tail to upper spine ratio—provides but a poor guide to what to expect from its terrestrial cousins. As we shall see directly, with respect to phrase structure internal to (and immediately above) the predicate phrase, studying English is like studying the hind legs of a whale; by contrast, Vietnamese, Vata and Irish are much more deer-like—*Tier*-like, perhaps, archetypal, in this regard.

Fig. 1. Sperm Whale as Archetype? (Creative Commons License)



SPERM WHALE WITH A VESTIGIAL PELVIS (LABELED "P"). VIA WIKIPEDIA.

Objective (*Objectif*)

Conversely, we might take UG to be the object of study, and different language varieties the various lenses used to obtain a clearer view of this abstraction. A recent paper by Caves *et al.* (2018)—*'Visual Acuity and the Evolution of Signals'*—provides a useful frame of reference. The authors consider the consequences of variation in cross-species visual acuity, both for the species themselves and for our interpretations of their appearance and signalling behavior.

It turns out that most of the species surveyed in the Caves *et al.* (2018) would be classified as legally blind if they were human. This observation has significant ecological consequences when considering interactions among conspecifics with low acuity vision. Caves *et al.* take as their chief example the map butterfly (*Araschnia levana*): they demonstrate that even very close-up (~10cm range) this insect has only the fuzziest idea of what her mate looks like, when compared to the view of the Eurasian jay (a key predator), at two metres' distance.

We can further improve the analogy: rather than taking language *varieties*, we can consider different *versions of generative theory* as the types of lenses through which to examine UG. Where Chomsky and others use powerful microscopy, this paper advocates a more human-scale, macroscopic approach.

Moral
The upshot is that some languages, and some theories, afford a clearer view. Anglocentricity is the attitude that English is the archetypal mammal when it comes to the clausal skeleton—alternatively, that current Minimalism is the hawk's eye—when English could be the sperm whale, 21st century generativism, butterfly vision. Either way you look at it, UG is in the eye of the beholder. On a nature ramble or on safari, it's best to take a pair of binoculars, not a microscope.

2. Four Principles of UG (LGB *redux*)

So how does UG appear, if we take a fresh look, through different eyes? Listed below I offer four deductive principles as plausible candidates for a contemporary theory of Principles & Parameters. The proposals presented below are a distillation of traditional *Lectures on Government & Binding* ingredients (Chomsky 1981), infused with insights from more recent advances, notably Cartography (Cinque 1999, 2002, Cinque & Rizzi (2008), Shlonsky (2015), Saito (2015), Antisymmetry (Kayne 1994, 2010, 2020), and 'First Phase Syntax' (Ramchand 2008; see also Travis 2010).[4]

As I hope to clarify in this paper, this is intended as more than a cosmetic re-branding of *LGB*: whilst many of the core features of the 'd-structure' components of *LGB*—X'-theory and Theta Theory—are recapitulated, the present theory derives these features quite differently. In certain respects, it is much more restrictive than *LGB*, imposing more fine-grained distinctions on the underlying position of both lexical and functional items (the underlying position of DP- *vs*. PP-complements, for example, or of non-Agentive thematic subjects). Yet in other ways—for instance, with regard to the inventory of functional categories found in a particular language, or to the position of phrasal heads within the X'-schema, or to the very notion of binary branching—what is proposed here is considerably less restrictive, allowing for greater parametric variation.

- **Exhaustive Endocentricity** (EE) requires that *every* category should project a phrase; conversely, that every phrasal constituent should be headed by a single element (morpheme). This means that minor categories, including determiners, auxiliaries, and subordinating conjunctions (complementizers), as well as adjunct modifiers, should all project their own constituent phrases;
- **Thematic Integrity and Uniformity** (TIU): Thematic *Integrity* requires that all thematic arguments ('subjects' and 'objects' alike), are initially projected inside the maximal projection of the predicate with which they are interpreted; Thematic *Uniformity* postulates that arguments[5] bearing an identical thematic relation to a predicate across constructions are initially generated in the same structural position underlyingly;
- **Unique Argument Hypothesis** (*1-Arg*): every lexical or grammatical predicate is associated with at most one thematic argument. Bare arguments are initially projected as specifiers of their licensing head;
- **Supervenience of Functional Categories** (*SuperV*)**:** Propositional functions aside (*T, Neg*), functional categories supervene on lexical categories (roots). In any grammatical clausal derivation, each lexical category *L* has at least one supervenient functional category *f* associated

[4] As was the case for LGB/Principles & Parameters Theory, these principles are intended as declarative constraints within a representational theory. It is not especially difficult to express these in procedural/ derivational terms; however, it is unclear—particularly given the epistemological stance adopted here—that this would be desirable, any more than one needs a theory of embryology to study animal physiology).

[5] Excluding optional arguments appearing in an adjunct phrase, for example, the *by*-phrase argument in passives and derived nominal constructions (e.g., *the destruction of the city*). See section 2.3 below.

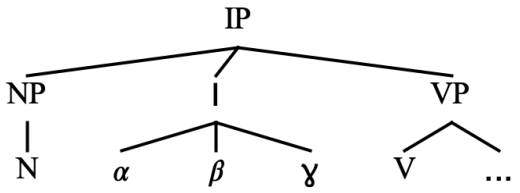
with it: differences in the feature-specification of a given functional category *f* imply differences in the specification of the subjacent lexical term *L*.

Whether considered separately, or in interaction with one another, these four principles have clear empirical implications for clausal analysis, as well as for cross-linguistic (parametric) comparisons. In almost every instance, they imply a mismatch between underlying and surface word-order, resolved by (functionally interpreted) movement. Let us now briefly examine the first three principles in turn.[6]

2.1 Exhaustive Endocentricity: Splitting functional structure

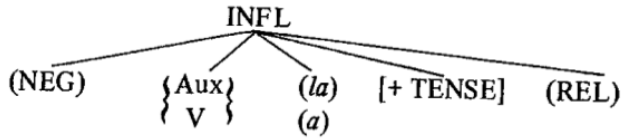
EE entails a complete fractionation of the composite heads in the clausal domain, traditionally labelled 'I' or 'C': see Chomsky (1981): if *EE* holds, then grammatical morphemes expressing Tense, (grammatical) Aspect, Mood, or Polarity all must be projected to the syntax independently of each other, as well of any lexical host. *EE* thus excludes analyses such as those in (1) in favor of the layered structure given in (2).

(1) a.



b.

(34) a. Vata

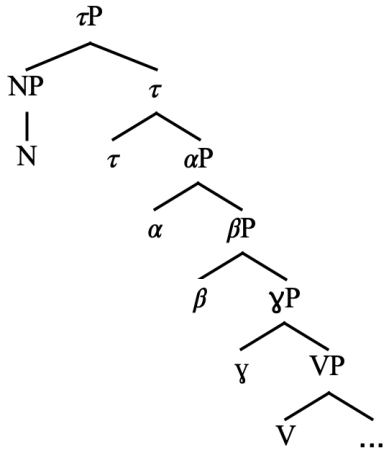


A case in point is Koopman's (1984: [39]) analysis of the INFL node in Vata (Kru), reproduced in (1b).[7]

(2)

[6] Space constraints prevent discussion of the fourth principle, *SuperV*. See Duffield & Phan (in prep.), for justification and elaboration.

[7] I return to this language directly. Something to keep in mind for later, when we consider Modern Irish—is that in Koopman's diagram (1b = [34]) the feature [+Tense] refers exclusively to the position of *future* tense morphemes: the past/non-past distinction is not expressed in Vata, at least not segmentally.



The consequences of *EE* for the analysis of more inflectional languages, in which TAM morphemes are attached or fused to a verbal stem, will be clear: previous analyses of such varieties—from Pollock (1989) and Ouhalla (1991) onwards—have all pursued different aspects of this fractionation strategy. However, *EE* also has significant implications for more isolating languages, with respect to ambiguous or multifunctional functional categories. Specifically in the case of Vietnamese, *EE* entails a derivational analysis of the anterior morpheme *đã* in (3)—ambiguous in affirmative contexts between an aspectual (perfect) and a temporal (preterit) interpretation, but unambiguously preterit in negative contexts; see Trinh (2005), Phan & Duffield (2019a). *EE* also constrains the analysis of elements that simultaneously express more than one grammatical meaning, such as *chưa* (NEG+PERF) in (4) (Phan & Duffield 2019b), or those whose interpretation changes depending on their position—e.g., clause-medial *vs*. -final *không* in (5), see Phan & Starke (2021), and 'multifunctional *được* ('can') in (6) (Duffield 1999, 2001).

(3) a. Anh.ấy **đã** đến.
PRN DA come
'He has come/came.'

b. Anh.ấy **đã** không đến.
PRN DA NEG come
'He didn't come.' [exclusive past time interpretation]
NOT 'He hasn't come.'

(4) a. Anh.ấy **chưa** đến.
PRN NEG.PERF come
'He hasn't come yet.' [exclusive negative perfect interpretation]

b. Anh-ấy đã **chưa** đến.
3SG.M DA NEG.PERF come
'He hadn't come yet.' [exclusive past perfect interpretation]

(5) a. Anh-ấy **không** đến.
3SG.M NEG come
'He doesn't come/didn't come.'

b. Anh.ấy (có) đến **không**?
3SG.M ASR come NEG
'Is he coming?'

(6) a. Ông Quang **được** mua cái nhà.
PRN Q. can buy CLF house
'Quang is allowed to buy a house.'

b. Ông Quang mua **được** cái nhà.
PRN Quang buy can CLF house
'Quang has bought (was able to buy) a house.'

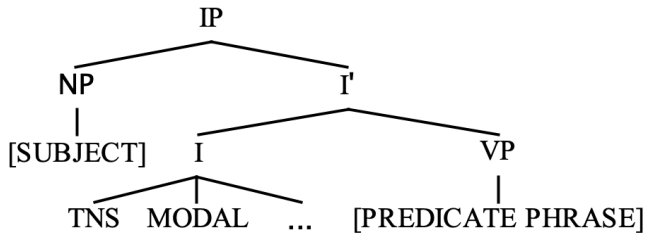
c. Ông Quang mua cái nhà **được**.
PRN Q. buy CLF house can
'Quang is able to buy a house/Quang may possibly buy a house.'

More generally, *EE* excludes the possibility that different kinds of grammatical category are base-generated in the same syntactic position: where semantically distinct functional categories appear in complementary distribution—apparently 'in competition for' the same syntactic slot, *EE* entails that at least one of these, quite possibly all of them, have been raised from some other underlying position(s).

Whereas this idea is well accepted in mainstream generativist analysis when it comes to alternations between finite verbs and auxiliaries in languages like French, or where the alternation involves elements in the 'C-domain'—for instance, 'Verb-Second' alternations in Continental Germanic—it has some more interesting consequences for what used to be termed the 'INFL' node, and which is nowadays usually labeled T (for Tense).

Far from being a natural locus of well-defined features, 'INFL' is the laundry basket or, perhaps—following our zoological metaphor—the 'large intestine' of the clause: almost nothing that is found there actually belongs, but instead originates some more ordered place, and is on its way to somewhere else—PF, or Spellout, as preferred.

(7)



(8)

(15) Aux → Tense (Modal)(*Perfect*)(*Progressive*)

EE thus excludes a decades-old assumption, diagrammed in (7)—and (8), from Chomsky (1965: 43)—that would generate English modal auxiliaries under the same node as tense specifications [±PAST]. *EE* implies that English modal[8] auxiliaries—being inherently *irrealis,* and therefore untensed—are initially projected lower in clausal phrase-structure—arguably, in the position in which they are found

[8] This discussion relates to *deontic* modals, which appear immediately pre-verbally in Vietnamese, and to the right of morphemes expressing clausal negation and grammatical aspect (perfect, progressive). Other modal types are projected in different positions - *cf.* the examples in (6) above. Crucially, however, none of these appear in τ underlyingly.

in Vietnamese, in the examples in (9). It also suggests that tense (and expletive *do*) are generated in some lower position(s); *cf*. Duffield (2013).[9]

(9) a. Cô.ấy đã không **được** đi ra ngoài một mình.
PRN ANT NEG CAN go out one self
'She couldn't go out by herself.'

b. Tôi sẽ **nên** làm gì nếu bị sa thải? [FUT? < MODAL < V]
1SG FUT MOD do what if PASS fire
'What should I do if I get fired?'

c. Lẽ ra lúc này họ đã **nên** đi rồi. [ASP<MODAL<V]
right out when DEM PRN ANT MOD go already
'He (should) have left already.'

d. Mình đang **nên** làm một thứ gì đó. [PROG < MODAL < V]
self DUR MOD do one thing what DEM
'I should have been doing something.'

This in turn raises the possibility that tense may not be projected in all languages: in other words, one could have a universal base without tense, though with **τ** (*tau*), the clausal head, as schematized in (2) above.[10] This idea is certainly attractive to many Vietnamese scholars; see, e.g., Bui (2019), Nguyễn H. T. (2019). If instead of the merged categories found in English 'INFL' generative theory had started out with the T-A-M distributions so clearly articulated in Vietnamese, it is reasonable to think it would have run a very different course.

It is not only the separation of Tense from modal auxiliaries that Vietnamese reveals (where English conflates). Vietnamese also provides evidence of a separation between Tense and Finiteness; or rather, a splitting of finiteness itself into Tense and Assertion ('Assertion validity'). In Duffield (2007, 2017), it is argued that Vietnamese *có*—located to the right of clausal negation and aspect—is the realization of 'assertion validity', abbreviated as *Asr*. This splitting of *T* and *Asr* is the structural implementation of a conceptual proposal originally due to Klein (1998, 2006).

In English, the two readings can be distinguished contextually, with auxiliaries in their emphatic form: compare (10b) and (10c) below. Morpho-syntactically, however, Tense and Asr are morphologically inextricable in English: it is this contingent fact that leads to the (possibly false) conclusion that Tense is obligatorily projected universally.

(10) a. The book *was* on the table.

b. "The book is on the table."
— "No, the book *was* on the table." [TNS reading]

c. "The book was not on the table."
— "No, that's wrong, the book *was* on the table." [ASR reading]

In Vietnamese, on the other hand, *Asr* is independently expressed by *có,* as illustrated by the examples in (11).Moreover, as we shall see later, this particle also serves as an existential copula and—probably non-coincidentally—as a main verb of possession; *cf*. Harves & Kayne (2012).

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[9] Koopman (2020) argues on independent grounds that modal auxiliaries in English raise from a lower position.

[10] The identity of **τ** may be subject to variation (within a constrained set of options); alternatively, **τ** may be a purely formal construct, projected to satisfy *EE* in structures where A-movement is required, for interpretive reasons. See Duffield & Phan (*in prep.*), for further discussion.

(11) a. Hôm qua anh.ấy đã không có đến nhà chị.
yesterday PRN NEG ASR go-to house PRN
'He didn't go to your house yesterday.'

b. Chị đang có yêu một người.[11]
PRN PROG ASR love one man
'She is in love with someone.'

c. (Anh) đừng/chớ có nói tó!
PRN NEG.IMP ASR talk loud
'Don't speak loudly!'

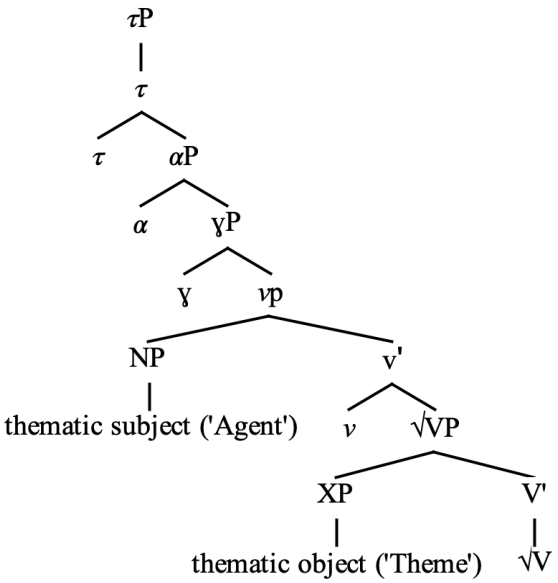
2.2 TIU: The Projection of Predicate-Argument Structure

2.2.1 Thematic Integrity

The next principle, **Thematic Integrity and Uniformity,** comprises two sub-principles, which together recapitulate the Theta Criterion and the Projection Principle from LGB, in more restrictive, Cartographic, terms.

The first of these sub-principles, *Thematic Integrity* (TI), encompasses two earlier hypotheses concerning thematic subjects and direct objects, respectively, namely, the **VP-internal Subject Hypothesis** (VP-ISH: Koopman & Sportiche (1991), Woolford (1991), Burton & Grimshaw (1992)), and the **Verb-Object Constraint** (Baker 2001, 2009). See (12) below, which also incorporates the *1-Arg* constraint. With respect to clausal *subjects*, *TI* entails that canonical S AUX V O word-order observed in regular declarative clauses in Vietnamese and English is the result of subject raising, and that the position of thematic subjects in passive **bị/được-**clauses, such as those in (13)—alternatively, of the indefinite subjects of existential clauses in (14)—is closer to the underlying position of these arguments.

(12)



[11] Some Vietnamese speakers do not accept the sequence *đang **có**,* especially with eventive predicates. For all speakers, however, this is preferable to the reversed order (**có đang*).

(13) a. Nam bị (Nga) đánh. [Simpson & Ho (2008)]
Nam PASS(-) Nga hit
'Nam was hit (by Nga).'

b. Nam bị *(Nga) bảo cảnh sát đến bắt. [Simpson & Ho (2008)]
Nam PASS(-) Nga call police come arrest
'Nga called the police to come and arrest Nam.'

c. Anh.ấy **được** [(nhiều người) khen.
PRN DEM PASS+ many people praise
'He was praised (by many people).

(14) a. **Sẽ** **không** **có** một mẫu iPhone SE mới nào vào năm nay?
FUT NEG ASR 1 CLF iphone SE new WH come year this
'There won't be a new iPhone SE this year, will there?'

b. Có thể **sẽ** **không** **có** 'viên đạn bạc' vắcxin diệt COVID-19.
perhaps FUT NEG ASR bullet magic vaccine against Covid-19
'There may not be a magic bullet vaccine against Covid-19.'

c. **Sẽ** **có** người đợi bạn ở sân bay.
FUT ASR person wait friend be-LOC airport
'There will be someone waiting for you at the airport.'

TI raises new empirical questions concerning the 'clausal subject position' in SVO languages, to the left of TAM and Polarity elements. Notice that the Movement Conjecture rules out any explanation that invokes purely formal features, such as Case or EPP features, to drive subject raising. Yet even without this condition on movement, it seems doubtful that Case theory would have received serious consideration as an explanatory factor, if Vergnaud—who made the original proposal in a letter to Chomsky in (1976)—had been a native-speaker of Vietnamese, rather than French.

Further examination of Vietnamese passive constructions reveals that, although the clausal subject position must be filled by some (affected) argument other than the Agent—as evidenced by the contrast between (15a) *vs*. (15b)—this movement cannot be driven by Case considerations. This is clearly demonstrated by the grammatical acceptability of the examples in (16), in which both the thematic subject *(nhiều người*) and Theme object (*báo cáo*) are properly licensed in lower positions, apparently *in situ*; *cf*. Simpson & Ho (2008), Huhyn (2013). Indeed, the examples in (16) cast doubt on the idea that the surface subject in Vietnamese or Chinese (Huang 1999) passives originates as a direct object in any context: more plausibly, the surface subject (*anh ấy)* in (16) should be analyzed as an argument introduced by the passive auxiliary **bị/được**.

Note that similar distributions are observed in English *have*-passives, illustrated in (17), which receive less attention than their more common counterparts with BE:[12]

(15) a. Dùng bằng giả **sẽ** **bị** xử ra sao?
use diploma fake FUT PASS judge how?
'How will the use of fake diplomas be judged?'

[12] Though see Chomsky (1965: 21-22). That the object does not raise for Case reasons would follow from *Burzio's Generalization*, since the subject theta-role is evidently not suppressed (Baker, Johnson & Roberts 1989): however, in the absence of any principled explanation as why passive morphemes in Vietnamese do not lead to subject demotion, this is simply a restatement of the facts. A better explanation is that Case—or whatever Case really is—does not apply in this language.

b. ***Sẽ** **bị** xử ra dùng bằng giả sao?
FUT PASS judge use diploma fake how?
'How will the use of fake diplomas be judged?'

c. Anh.ấy **bị** [(nhiều người) chê.]
PRN PASS- many people criticize
'He was criticized (by many people).'

(16) a. Anh.ấy **đã** **bị** [?P (nhiều người) chê báo cáo (của anh.ấy)].
PRN DEM ANT PASS many people criticize report belong PRN
'His report was criticised by many people.'
Lit. *He was many people criticized his report.

b. Anh.ấy **được** [?P (nhiều người) khen báo cáo (của anh.ấy)].
PRN PASS- many people praise report belong PRN
'His report was praised by many people.'

(17) a. Richard had [the police raid(ing) his apartment, in search of illegal material].
b. Alice had [five people come(ing) to her door, looking for her sister].
c. *Mary* had [everyone in the office tell(ing) her what a great job she'd done].

As for thematic *objects*, *TI* forces a movement analysis of every construction in which a lexical predicate is separated from its s-selected object by some functional category: either movement of the verb, or of the object, or both. Within the generative literature, the most familiar examples of verb- and/or object-raising are cited from European languages such as French (e.g. Pollock 1989) or Swedish (Holmberg 1999); in such examples, the position of clausal negation (NEG) serves as diagnostic of constituent movement. However, instances of obligatory verb-object separation are also observed in at least some constructions in Vietnamese, notably, in sentences containing universally quantified objects, as in (18) below. It is particularly significant that the canonical SVO order is not grammatically acceptable here; *(18c), see Duffield (2007) for discussion.

(18) a. **Từ** **nào** [cô.ấy cũng nhớ ~~từ nào~~] [O_{QP}SV order]
word WH PRN also remember
'She remembers every word.'

b. Cô.ấy **từ** **nào** [cũng nhớ ~~từ nào~~] [SO_{QP}V order]
PRN word WH also remember
'She remembers every word.'

c. *Cô.ấy [cũng nhớ **từ nào**] [*SVO_{QP} order]
PRN also remember word WH
'She remembers every word.'

Even where both the verb and the direct object remain within the verb-phrase, *TI* entails a more complex derivation, if the two elements are separated by a functional category. This can be appreciated through a reconsideration of data from Vata, a Kru variety with restricted verb-raising, originally presented in Koopman (1984). Scholars of my generation will be familiar with the core alternation exemplified in (19) through (21): the examples show that in finite clauses the verb appears verb-medially in the absence

of certain auxiliaries, but strictly clause-finally—sentential complements aside—in the presence of those same (typically aspectual or negative) morphemes.[13]

The negated sentences in (21) offer a nice minimal contrast: Koopman observes that movement is obligatory where NEG is an auxiliary (NEG-P) (21a), but obligatory when NEG is a particle (NEG-A) (21b):[14]

(19) a. n| **lē** bĭ sa|ká. [SVO~~V~~]
I eat now rice
'I am eating rice right now.'

b. n| **là** sa|ká. [SVO~~V~~]
I eat-^{PERF} rice
'I ate rice. [*sic*]'

(20) a. wa| lā mÓ **dlá**. [SIOV]
they $^{PERF-A}$ him kill
'They have killed him.'

b. n| ká na| gòli mlÍ pùtu **sà**. [SIOV]
I $^{FUT-A}$ my mounds in grass remove
'I will clear the weeds from my mounds.'

c. yO|-O| gū-gū nā Kòfí nÍ mÓ **yé** yÉ` [SIOV]
child-DET think that Kofi NEG-A him PART see
'The child is thinking that Kofi did not see him.'

(21) a. O| na **lī** sa|ká. [negative subjunctive: SVO~~V~~]
she $^{NEG-P}$ eat rice
'She should not eat rice.'

b. O| Ó tĪ sa|ká **lì**… **[**negative conditional: SIOV]
S/he $^{NEG-P}$ $^{NEG-A}$ rice eat
'If she had not eaten rice...'

Of particular interest—though largely ignored in most general presentations of Vata—is the positioning of the verbal particles in so-called 'particle-verb' constructions; these are illustrated in the verbal examples in (22), as well as in the nominalizations in (23)—also by the first *yé* in example (20c) above:

(22) a. O| *pÉ* ma|ma| ***mlÉ*** [S-V-ADV-**PART**-~~V~~]
s/he shout much ^{PART}
'S/he shouts a lot.'

b. à nI| ma|ma| ***mlÉ*** *pÉ*. [S-I-ADV-**PART**-V]
we $^{NEG-A}$ much ^{PART} shout
'We did not shout a lot.'

[13] From Koopman (1984): 'the order is Subject Verb Complement (SVO) in Vata and Gbadi, [*sic*] if the aspect of the clause is imperfective … *in both main and embedded clauses alike* [emphasis in original]…In some tenses or moods, however, in which the clause contains an auxiliary...the main verb follows its complements.'

[14] Given the other alternations in the paradigm, as well as the behavior of floating tones in this language, the description (PARTICLE vs. AUXILIARY) is less circular than it might appear here. That said, there is certainly more to review and verify when it comes to Koopman's glosses of functional categories.

c. O| b)lá sa|ká **kO|** [S-V-OBJ-**PART**-~~V~~]
s/he take rice PART
'She is taking rice.'

d. à lā sa|ká **kO|** b)lá. [S-I-OBJ-**PART**-V]
we PERF-A rice PART take
'We have taken the rice.'

(23) a. [*mlÉ* **-*pÈ*** **]**-lÌ [[**PART**-V] NOM]
PART -talk- NOM
'the shouting'

b. [sa|ká **-kO|** b)lá]-lÌ [[OBJ **PART**-V] NOM]
rice PART take- NOM
'the taking of rice'

Crucially, this lexical particle always occurs strictly left-adjacent to the verb in non-verb-raising contexts, even though—as Koopman discusses, and as shown by the *di-transitive* paradigm in (24)—all other constituents can be freely scrambled out of the thematic verb-phrase:[15]

(24) a. (n| ká) yÓ-Ó slé-e| mlÍ **s|áká** nyE|.
I FUT-A child-DEF house-DEF in rice give
'(I will) give rice to the child in the house.'

b. … slé-e| mlÍ yÓ-Ó **s|áká** nyE|
… house-DEF in child-DEF rice give

c. … slé-e| mlÍ **s|áká** yÓ-Ó nyE|
… house-DEF in rice child-DEF give

d. … **s|áká** slé-e| mlÍ yÓ-Ó nyE|
… rice house-DEF in child-DEF give

e. … yÓ-Ó **s|áká** slé-e| mlÍ nyE|
… child-DEF rice house-DEF in give

f. … **s|áká** yÓ-Ó slé-e| mlÍ nyE|
… rice child-DEF house-DEF in give

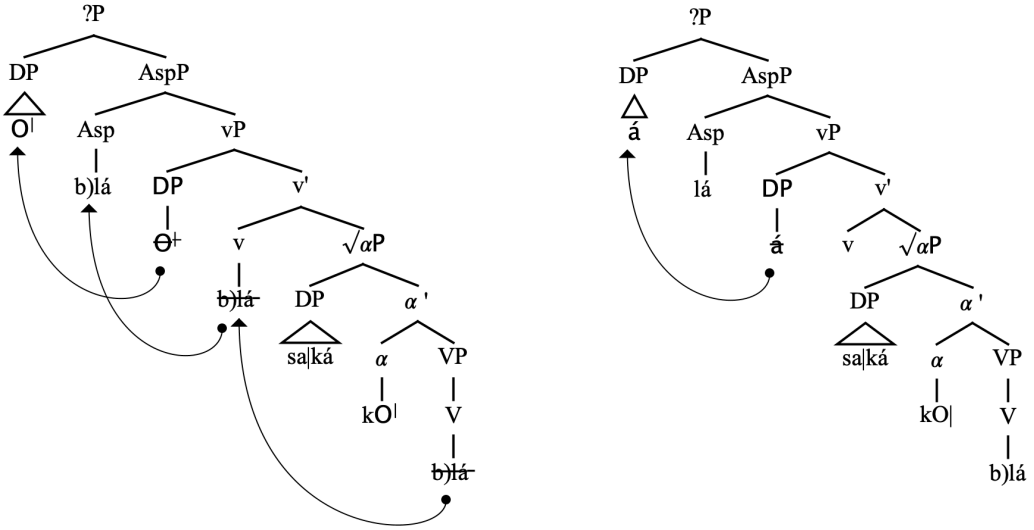
TI, taken in conjunction with *EE* and *1-Arg,* suggests an analysis of the Vata V-PART-O (19c) ~ O-PART-V (19d) alternation, as diagrammed in (25a), (25b), respectively:[16]

[15] It is understandable, given that it is her native language, that Koopman tends to interpret Vata data through a Dutch lens, rather than an English one: particle verb constructions in Vata are assimilated to those found in Continental West Germanic (*esp*. Dutch and German). Arguably, however, more insight would be gained by reversing the perspective: i.e., viewing Dutch through the lens of Vata.

[16] Other analyses are compatible with these three principles. In the original presentation of this work, I proposed that the direct object originates in the {Spec,√VP} and moves to the left of the particle in Vata, as it does in the corresponding sentences in Vietnamese. However, the present analysis seems preferable, given that these

(25) Vata V-PART-O vs. O-PART-V order (limited V-movement: V-Asp raising)

a. b.



There are several immediate conclusions to be drawn from the Vata facts. Most obvious is the fact that verb-raising seems not to depend on the particular features of either the 'goal' or the 'probe', since the same verb is involved in both alternants, and the same functional features—typically aspectual features—are being projected. Rather, as with V_2 movement to C in Germanic, movement depends primarily on there being an available slot.[17]

A further conclusion, which follows from our four principles, is that the verb must be able to skip over the particle head on its way to the higher landing site, as diagrammed in (25a) above. This suggests that the Head Movement Constraint/HMC (Travis 1984)—Head Minimality (Rizzi 1990)—is an artefact of languages with exclusively morphologically-selecting functional heads.

The Vata facts find an interesting parallel in Vietnamese, in contexts where the verb is separated from its object by aspectual (telic) particles, including *ra*, (post-verbal) *được*, and *xong*. These are illustrated in (26) and (27) below; see also (6b) above. Given previous work—including especially Phan (2013)—these particles are taken to be expressions of an 'Inner Aspect" node; see Travis (1991, 2013).

(26) a. Chú bò tìm (**ra**) bạn. [$_{vP}$ V-**IASP**-OBJ-~~V~~]
CLF cow search (go out) friend
'The cow looked for (and found) his friend.'

b. Cô.ấy kiếm (**được**) việc. [$_{vP}$ V-**IASP**-OBJ-~~V~~]
PRN seek can work
'She was looking for/(and got) a job.'

c. Anh.ấy ăn lót lòng (**xong**). [$_{vP}$ V-OBJ-**IASP**-~~OBJ-V~~]
PRN eat breakfast finish
'He ate his breakfast/(up).'

particles are retained in nominalizations, as also in English particle verbs (*take-up, uptake, send-off, etc*); this suggests that the object is really an argument of the particle, rather than the root verb. If this is the case, then *TI* and *1-Arg* requires something like the analysis given here.

[17] Compare Roberts' (1993) distinction between morphologically selecting *vs*. non-selecting functional categories (X^{-1} vs. X^0), where only the former type drives verb-raising.

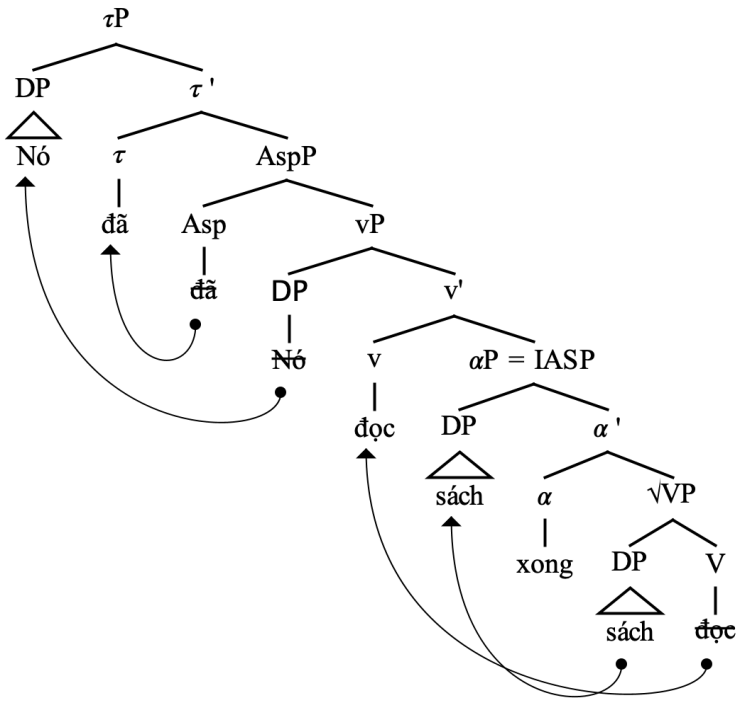
Notice, in particular, the definiteness effect in the alternation in (27), where raised object noun-phrases are necessarily interpreted as definite, even in the absence of any determiner or classifier element; *cf*. Simpson, Soh & Nomoto (2011).

(27) a. Nó đã đọc xong sách rồi. [*v*P V-**IASP**-OBJ-~~V~~]
PRN ANT read PTC book already
'He has finished reading (the) books.'

b. Nó đã đọc sách xong rồi. [*v*P V-OBJDEF-**IASP**-~~OBJ-V~~]
PRN ANT read book PTC already
'He has finished reading the books.'

By applying to Vietnamese the same phrase-structural analysis proposed in (25) for Vata VPs—*modulo* verb-raising to *v*—we can describe the alternation in (27) in a way that is consistent with *TI*. This is diagrammed in (28):[18]

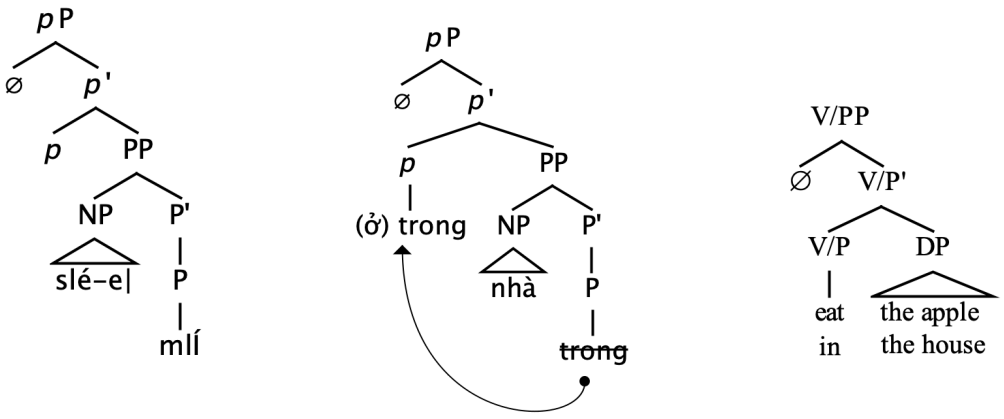
(28) *Inner Aspect: Definiteness effects, Verb-Raising in Vietnamese*



A final point to observe concerning Vata is the NP-P order in adpositional phrases (e.g. *slé-e*| *mlÍ* 'in the house'). As discussed in 2.3 below, this is the expected base-order (O-P), even in so-called 'head-initial' languages: given *EE*, *1-Arg*, and *Supervenience*, *pre*positional word-order entails movement to a supervenient functional category, as diagrammed in (29ab):

[18] In Phan & Duffield (2021), it is argued that certain contrasts between Vietnamese and Mandarin Chinese can be captured through parameterization of verb- and object-raising over the *v*P structure given in (26).

(29)



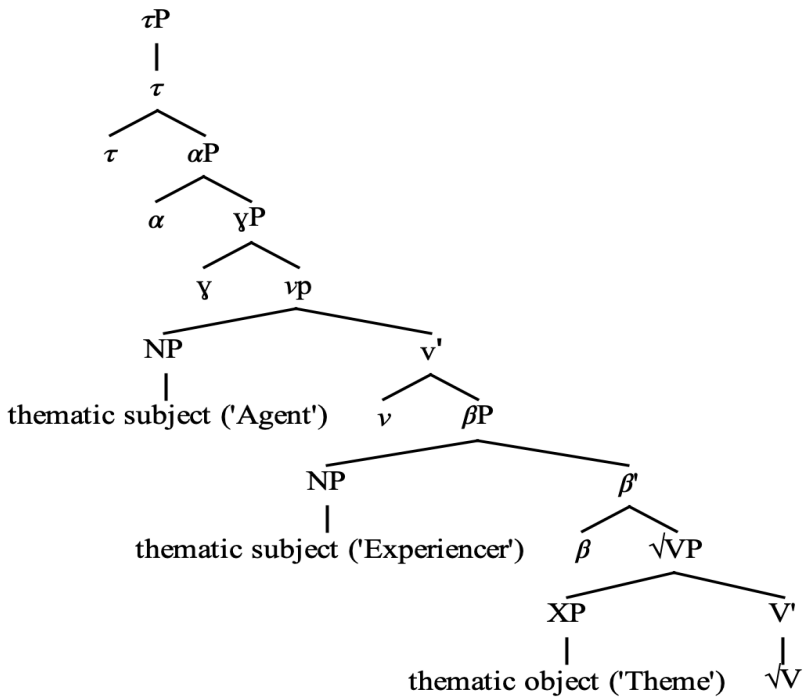
Alternative analyses of prepositional phrases, compatible with 1-Arg and Supervenience: (a) in Vata; (b) in Vietnamese, vs. (c) the standard analysis.

2.2.2 Thematic Uniformity

The second part of the TIU principle, **Thematic Uniformity (TU)**, is concerned with the underlying positions of arguments that are interpreted as expressing particular kinds of thematic relations to their predicate. Whilst it might be seen as a simple restatement of Baker's **Uniformity of Theta-Assignment Hypothesis** (Baker 1988, 1997), TU actually pursues a stronger hypothesis, more in line with the earlier **Universal Alignment Hypothesis** (Perlmutter & Postal (1984: 97), see also Rosen (1984)). In the case of the UTAH, the implicational relationship between thematic structure and syntactic position was unidirectional (identical thematic relationship ⊃ identical underlying position), and applied only to individual predicates, on a case-by-case basis: see Baker (1997), for discussion. By contrast, TU proposes that different thematic relations {Agent, Experiencer, Theme, Goal, *etc.*} imply distinct structural positions, irrespective of the predicate head.

Perhaps the most investigated thread of TU is the **Unaccusative Hypothesis**. Originally due to Perlmutter (1978), this hypothesis distinguishes between two kinds of 'intransitive' argument: (i), the subjects of (volitional) activity predicates such as *sing, dance, play* — so-called **unergatives**; (ii) subjects of predicates describing involuntary, uncontrolled actions, such as *fall*, *blush, appear* — the **unaccusatives**; see also Burzio (1986), Levin & Rappoport (1995). Most previous work on other language varieties has provided evidence of a two-way distinction only, in which unaccusatives are subsumed under a more general class of 'affected objects' (Themes). However, as outlined in Duffield (2011, 2014), also Phan & Duffield (2021), Vietnamese causative constructions—'simple *làm'* causatives—provide striking distributional evidence of a *three-way* split, diagrammed in (30). This tree should be compared with that in (12) above. The following examples show that whereas strongly unergative *Agent*-subjects are completely excluded from this construction (31), non-agentive DP_2 arguments preferentially appear *pre*-verbally (32), with true Themes preferring a *post*-verbal position (33), in accordance with Thematic Uniformity.

(30) *A Tripartite Division in Unaccusative Alignment*



(31) a. *Tôi làm a con gái *giúp* anh.ấy. *[DP1 *làm* DP2 V DP3]
I make CLF CLF girl help PRN
'I make the girl help him.'

b. *Tôi làm đứa con gái *nhảy/hát/ngủ.* *[DP1 *làm* DP2 V]
I make CLF CLF girl dance/sing/sleep
'I make the girl dance/sing/sleep.'

(32) a. Tôi làm thang-be *ngã/khóc/biến-mất.* [DP1 *làm* DP2 V]
I make boy fall/cry/disappear
'I made the boy fall (I tripped the boy.)/cry/disappear.'

b. **??**Tôi làm *ngã/khóc/biến-mất* thang-be. ??[DP1 *làm* V DP2]
I make fall/cry/disappear boy

(33) a. **?**Tôi làm cái que gẫy ~ tờ giấy rách. ?[DP1 *làm* DP2 V]
I make CLF stick break ~ CLF paper tear
'I broke the stick/tore the paper.'

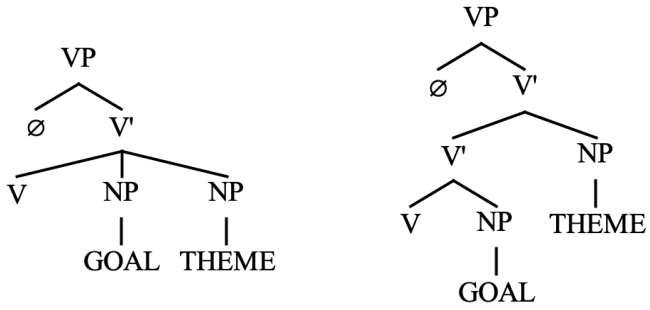
b. Tôi làm gẫy cái que ~rách tờ giấy. [DP1 *làm* V DP2]
I make break CLF stick ~tear CLF paper

Here once more it is very likely that a different theory of *d*-structure would have emerged had *LGB* been based on Vietnamese, rather than on English or Italian, or other 'Standard Average European' facts; see Burzio (1986); *cf.* Sorace (2000).

2.3 1-Arg: Consequences for the Head Parameter

The third principle, *1-Arg*, is the most radical of the four structural proposals. It is certainly the one that owes least to *LGB*: in Chomsky (1981), the number of arguments directly associated with a given predicate in the syntax was entirely determined by the s-selection properties of that predicate (Projection Principle). In the interim, however, various proposals have been made to handle special problems raised by di-transitive predicates—including those found in double-object (DO) and applicative constructions—in which an asymmetric relationship obtains between different kinds of object, such that the indirect object in DO constructions not only intervenes between the verb and the direct object, but also c-commands the object position.[19] This excludes any analysis involving a ternary branching structure (34a) or where the Goal object is lower than the Theme, underlyingly, as in (34b):

(34) a. b.



A separate line of research, developing seminal work by Hale & Keyser (1993), and Kratzer (1996), has concluded that the thematic subjects of canonical transitive verbs are not in fact arguments of a lexical predicate, but are instead arguments of 'little-*v',* a quasi-functional category, supervenient on the core VP. *1-Arg* generalizes over both of these research strands.

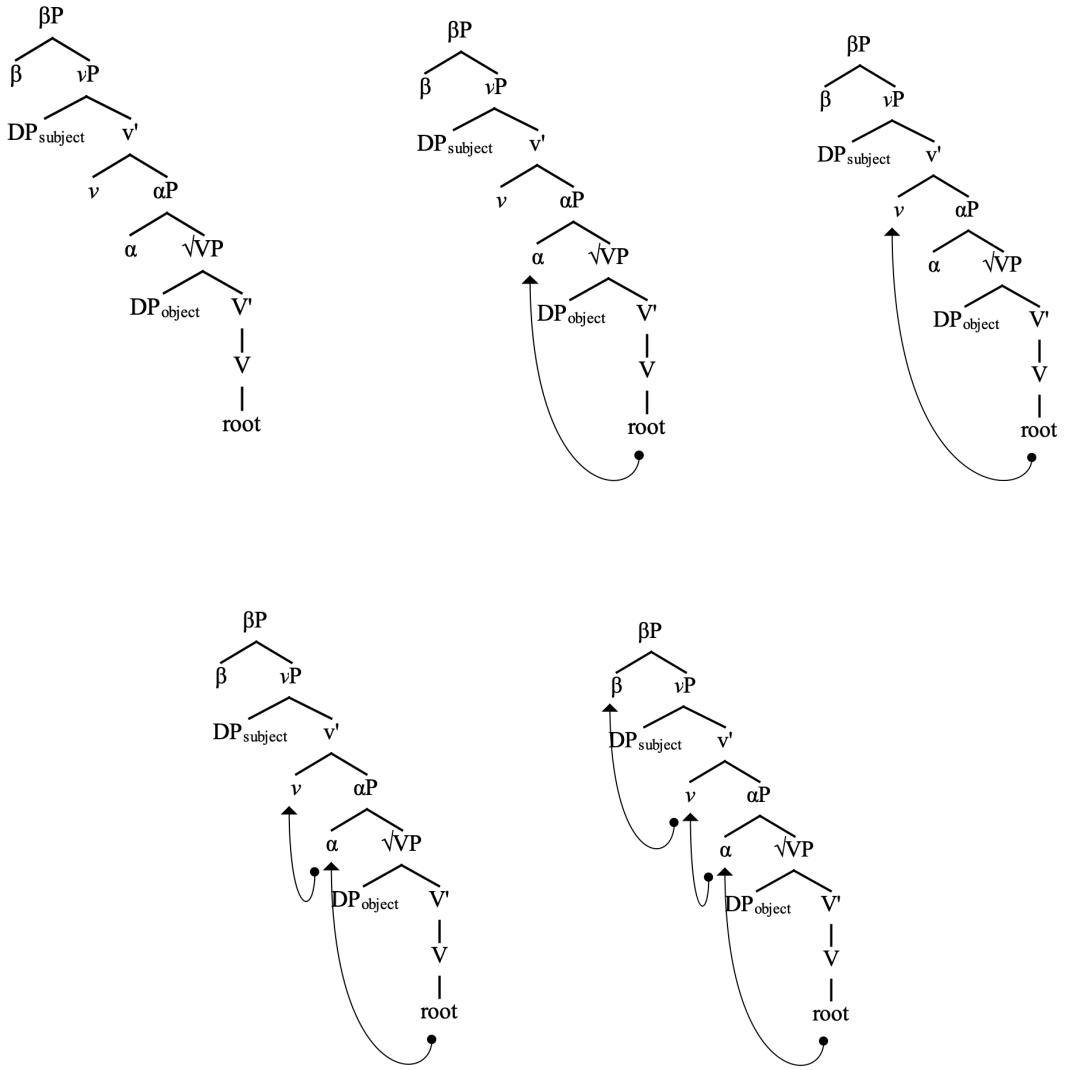
As with the other principles introduced in this paper, *1-Arg* involves a theoretical claim about content—*viz*., that transitivity is always compositional—as well as a set of empirical arguments about underlying structure. It is these latter claims that I focus on here.

Consider first the notion of **headedness**. In GB, notably in Travis (1984), headedness was defined in terms of the precedence relationship holding between a lexical predicate (verb or adposition) and its thematic complement; in classical X'-Theory, 'sister' and 'complement' become almost synonymous terms. However, in the theory proposed here, there is no such equivalence: non-nominal arguments (CPs, PPs) aside, nominal arguments are always specifiers. Consequently, all languages are underlyingly OV, independently of branching direction. Issues of head-directionality only arise once lexical predicates are combined with supervenient functional projections, and movement has or has not taken place. *Cf*. Kayne (2020).[20]

[19] On double objects, see especially Kayne (1984), Larson (1988), Baker (1997) for a review; on applicatives, see Polinsky (2005).

[20] A corollary of this is that verb-argument adjacency effects will only be found in right-branching languages. That is, there should be no OV adjacency requirements in left-branching configurations. I am not aware of any counterexamples to this claim.

(35) *Deriving the Head Parameter, without sisterhood*



Hence, of the two languages we have considered thus far—Vata and Vietnamese—the former is no more 'head-final' than the latter, underlyingly. Rather, they are distinguished only by the scope of predicate-raising internal to *v*P, in (25a) *vs*. (28), and/or internal to *p*P, in (29a) *vs*. (29b), respectively.

This does not mean that there is no distinction to be drawn between 'head-initial' languages such as Vietnamese and 'head-final' varieties such as Japanese or Korean. But this is a question of branching direction, not head-complement order; see Dryer (1992); Hawkins (1990, 1995). *Contra* Travis (1984) and subsequent work, *1-Arg* entails that head-directionality cannot be determined by direction of theta-assignment, since thematic complements (DP-complements, at least) are never sisters to any head.

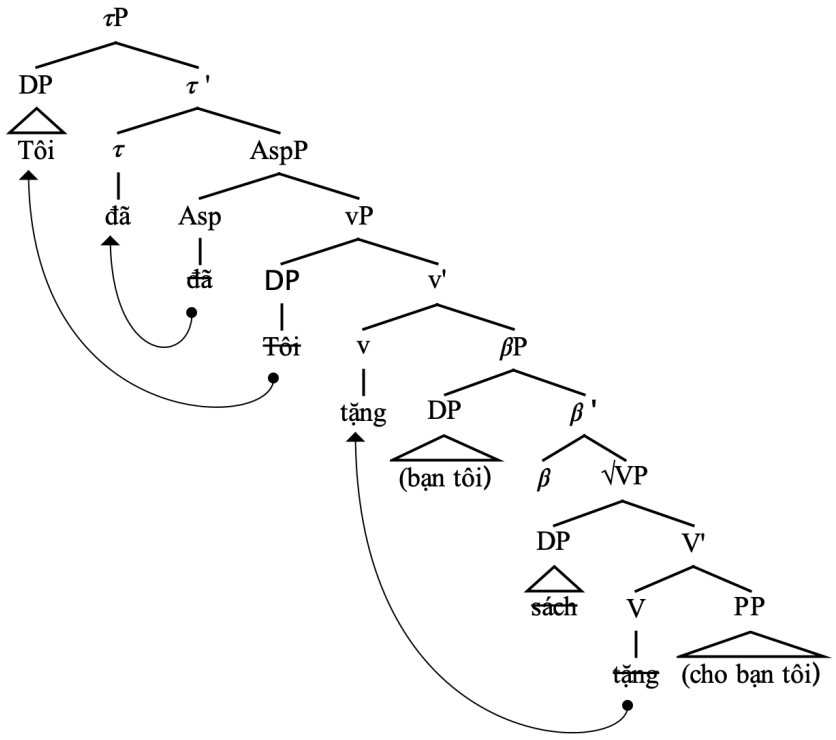
The *1-Arg* principle*,* in conjunction with *TI*, also explains the distribution of s-selected *non*-nominal complements relative to DP-arguments: whereas *1-Arg* requires DP-arguments to precede the root predicate underlyingly, *TI* entails that non-nominal complements should appear to the right, as sisters of the selecting head. The Vietnamese double object examples in (36) instantiate this contrast—though here, English would serve as well. Example (36a, b) are diagrammed in (37) below:

(36) a. Tôi đã tặng bạn tôi sách. [modified from Ngô 1998: 166]
I ANT present friend I book
'I have given my friend a book.'

b. Tôi đã tặng sách cho bạn tôi.
I ANT present book give friend I.
'I have given a book to my friend.'

c. *Tôi đã tặng cho bạn tôi sách.
I ANT present give friend I book
'I have given a book to my friend.'

(37)

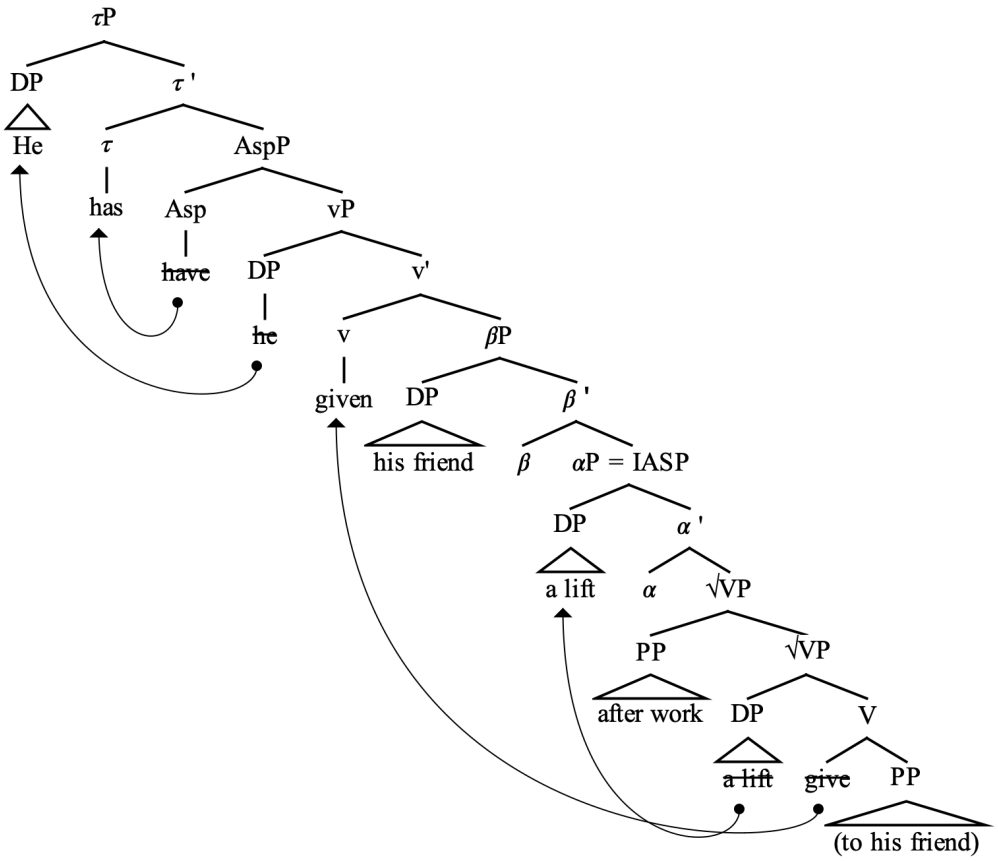


The layered-VP approach diagrammed in (37) is hardly original: it informs most contemporary generative analyses of double object constructions; see Baker (1997), *cf.* also Beck & Johnson (2004). Yet, as it stands, this analysis fails to capture a relevant descriptive contrast between double object and prepositional objects with respect to adjacency effects, namely, that both objects must be string-adjacent in the former construction, but not in the latter.

(38) a. He has given his friend (*after work) a lift (on several occasions).
b. He has given a lift (after work) to his friend (on several occasions).

Attempts to solve this problem have usually resorted to an additional step of object-raising—typically motivated by Case Theory—such that adjuncts adjoined to the left of the root √VP appear to the right of the Theme object, as in (39).

(39)



Whilst such a strategy may be effective in this particular instance, it does not account for adjacency effects more generally, not just in the case of object nominals—most obviously those in (40)—but also with respect to head-*subject* adjacency: across a variety of languages, including English (41), and German (42) —and Irish, which is the last object of our inquiry—subject arguments are subject to strict adjacency with a supervenient functional head (*C*).[21]

(40) a. These people have done (*never) an honest day's work in their lives.
b. They bought (**yesterday*) books.
c. She took (**every time*) him for a fool.

(41) a. She had in mind **for John** *suddenly* to leap out of the car…
b. *She had in mind **for** *suddenly* **John** to leap out of the car…
c. She had in mind that *suddenly* John would leap out of the car…

(42) a. **Daß sie** gestern den Fritz geküsst hat.
COMP PRN yesterday the.ACC Fritz kissed has
'That she kissed Fritz yesterday.'

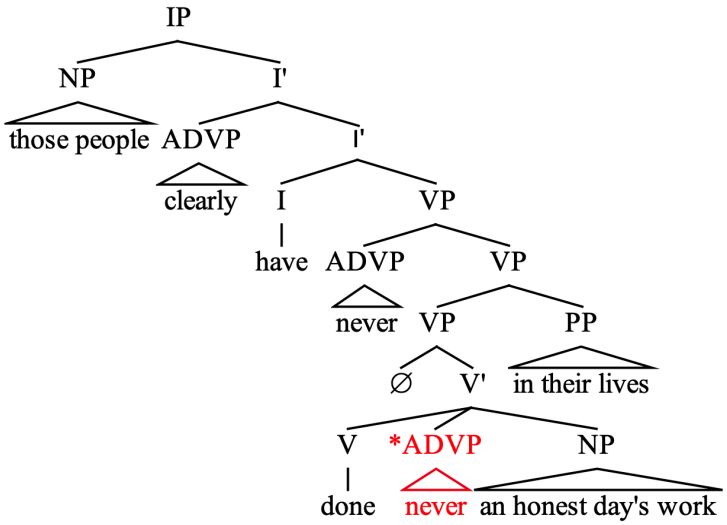
[21] On the analysis developed here, the English contrast between (41b) and (41c) implies that *that* and *for* occupy distinct projections within the C-domain, with *for* in a lower position; *cf*. Haegeman (2012). This splitting of the C-domain, which is independently required by *EE*, also serves to explain the distribution of *for* in '*for-to'* dialects; Duffield (1989, 2021b), Henry (1995).

b. ***Daß** *gestern* **sie** ausgeschlafen hat.
COMP yesterday PRN slept-in has
'That yesterday she slept in.'

c. ***Daß** *den Fritz* **sie** geküsst hat.
COMP the Fritz PRN kissed has
'That she kissed Fritz yesterday.'

Ironically, the original X'-template did a better job at explaining *V-XP-O restrictions in (40) than its successors—e.g. the *in situ* analysis of (39a) in (43); nevertheless, it still failed to capture the adjacency facts in (41) and (42).

(43) *Those people clearly have never done (*never) an honest day's work* (English, LGB analysis)

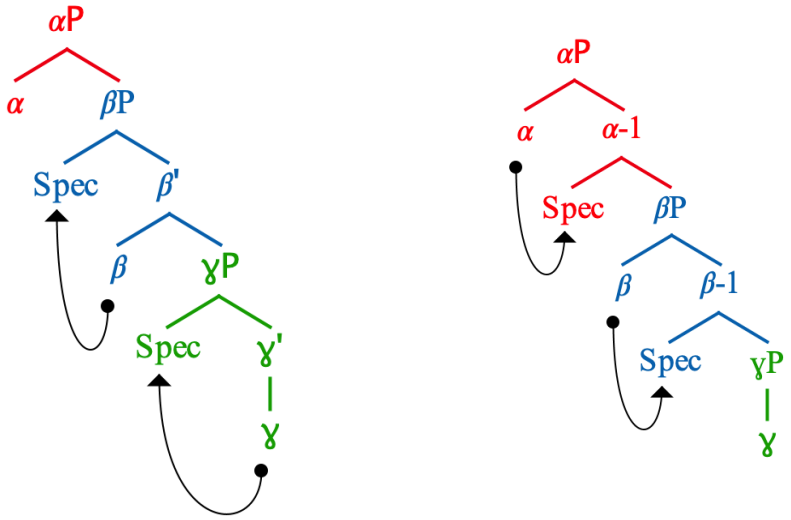


The problem posed by such examples is simply stated: other than through stipulation, there is no way to enforce strict linear adjacency if the licensing head and the thematic subject are members of distinct maximal projections, which is invariably the case under standard verb- and subject-raising analyses. But what if we're looking at this the wrong way? What if strict adjacency is indeed diagnostic of *belonging to the same maximal projection*—only this time, the relevant phrasal projection is *functional*, rather than lexical (as it was in *LGB*)? This brings us to the final section of this particular nature ramble.

3. X'-Inversion: 'Heads, Shoulders, Knees and Toes'

Viewed from a zoological perspective, there is something grotesque about a metaphor in which heads protrude from the center of a body: as everyone knows from the children's nursery rhyme, not to mention common experience, heads should be on top. Yet that malformity is what classical X'-Theory gives us: a weird design prompted by the canonical S I V O order of English—or Vata or Vietnamese, for that matter—in which functional categories intervene between the clausal subject {Spec, βP} and the rest of the proposition, as schematized in (44a):

(44) *X'*-redux: (a-L) the Standard View ; (b-R) Head-Spec Inversion
(arrows indicate Agreement/Government relations)



Had UG been based on a language—or even a sentence like the present one (!)—in which the subject is canonically subjacent to Tense in finite clauses, our structural metaphor would likely be more anatomically correct: in (44b), heads dominate. In other words, German would have served as a better model, or even Old English.[22] In this final section, I will consider how Modern Irish, a VSO language, can be mapped on to the universal base developed here, and what this tells us about phrase-structure parameterization.

3.1 Irish verbal subjects

As is well known, Modern Irish displays VSO word order in tensed clauses lacking an auxiliary, alternating with AUX-SVO [tensed] and S-AUX-V [untensed][23] orders in other contexts where the verb itself is unconjugated. In contrast to Germanic 'Verb-Second' (V_2) structures, which are restricted to root clauses, V_{FIN}SO order in Irish is equally available in main clause and subordinate contexts: complementizers (illocutionary operators), Tense and Polarity morphemes all appear to the left of the finite verb, often fused together. The general pattern is illustrated by the examples in (45):

(45) a.i. Labhraíonn Mícheál Gaeilge le Cáit go minic.
speak.$_{HAB.PRES}$ Mícheál Irish with Cáit often
'Mícheál often speaks Irish with Cáit.'

a.ii. ...an labhraíonn Mícheál Gaeilge le Cáit go minic.
Q speak.HAB.PRES Mícheál Irish with Cáit often
'...whether Mícheál often speaks Irish with Cáit.'

b.i. Tá Séamus ag léamh an nuachtáin.
be.PRES Séamus PROG read-VN the newspaper.GEN
'Séamus is reading the newspaper.'

b.ii. ... [toisc go bhfuil Séamus ag léamh an nuachtáin].
…cause COMP be.PRES Séamus PROG read.VN the newspaper.GEN
'...because Séamus is reading the newspaper.'

[22] See Duffield (2021b), for an analysis of earlier stages of English under an inverted specifiers approach.
[23] The position of the thematic object varies according to construction and/or variety (SOIV~SIVO)

c.i Ghuigh sé [é a theacht slán].
prayed he.NOM him.ACC PTC come.VN safe
'He prayed that he would come through safely.

c.ii Is mór an suaimhneas don gheata [iad a bheith pósta].
is great the ease to-the gate them.ACC PTC be.VN married
'T'is an aise to the gate, they to be married.' [P.L. Henry 1957]

Irish, then, is a variety for which there is rather clear evidence that Tense is projected, and where finite verb-raising takes place, *but* where both the raised verb and the externalized subject remain to the right of T. Since 1995, it has been accepted within generative approaches that thematic subjects move from their base-position in Irish finite clauses — i.e., from {Spec, *v*P}, given *TI* and *1-Arg*. This is suggested by their placement relative to adverbials such as *ariamh* ('ever') in (46a, b); *cf*. McCloskey (1995). It has also been assumed that T is supervenient on this derived subject position, as shown by the position of the enclitic past Tense morpheme *-r*, which appears pre-verbally and attaches to C-elements (as well as to Negation).

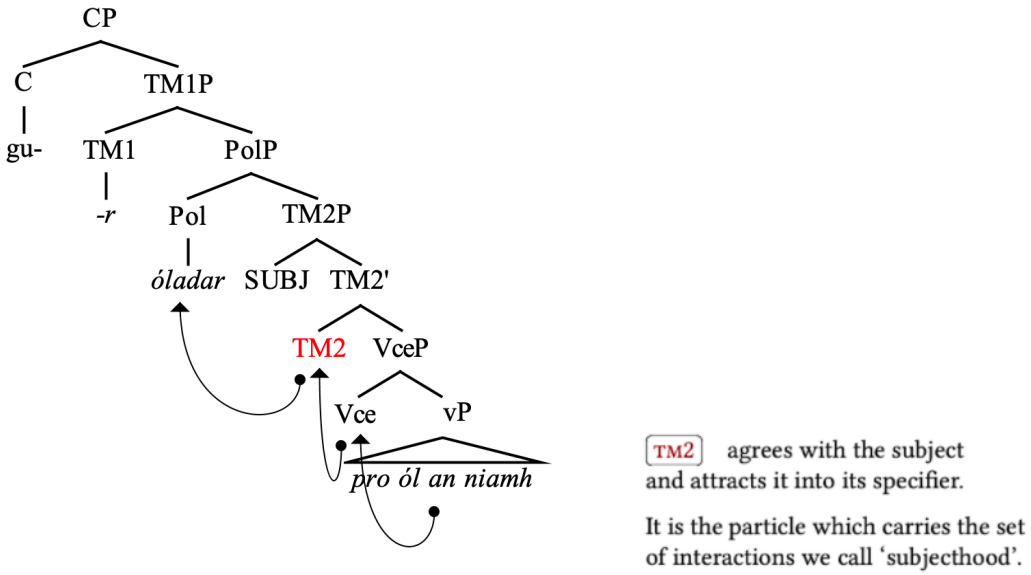
(46) a. Nío-r shaothraigh Eoghan ariamh [~~Eoghan~~ ~~shaothraigh~~ pingin]
NEG-PAST earn-ASP Eoghan ever penny
'Eoghan never earned a penny.

b. *Nío-r shaothraigh [ariamh [Eoghan ~~shaothraigh~~ pingin.]]
NEG-PAST earn-ASP ever Eoghan earn penny
'Eoghan never earned a penny.'

c. Creideann na póiliní…
believe.PRES the police …
…[gu=r óladar *pro* an nimh sa tseomra seo.
…COMP=PAST drink.3PL the poison in.the room DEM
'The police believe that they drank the poison in this room.'

In the most recent treatment of Irish VSO order—that of McCloskey (2021)—the finite verb is taken to move to Pol, with the thematic subject raising to the specifier of a lower functional projection which McCloskey labels 'TM2P'—a secondary tense node. It is this lower projection which 'carries the set of interactions we call 'subjecthood''. Example (46c) is then analyzed as in (47) below.

(47) *Finite Verb-Raising in Irish (re-drawn from McCloskey 2021)*



This head of TM2 need not be morphologically realized, but where it is, it expresses future: following Ó Siadhail (1989: 128), a conditional form such as *dfásfadh* ('would grow') in (48a) is segmented as in (48b) ([McCloskey's (18) and (19)):[24]

(48) a. *Dfásfadh* féar dheas anseo, dá dtógfaimis an carracín.
grow.COND grass nice here, if pick.COND.1PL the carrageen
'Good grass would grow here, if we were to pick the carrageen.'

b. d - fás - f - adh
PAST grow FUT HAB
'would grow'

There are some interesting parallels here with the Vata data presented previously: in both languages, future (tense) is projected independently of [±PAST]; in Irish, [+PAST] appears higher than the raised verb (triggering initial consonant mutation), whereas *Asp* is realized as a suffix; in Vata [±PAST] doesn't appear at all, while the verb merges with aspectual feature in the same position where McCloskey posits a 'secondary Tense' node. Meantime in Vietnamese, the only overt morpheme found in past time contexts (*đã*) bears an aspectual, rather than an inherently temporal meaning, and seems to occupy an identical structural position underlyingly.

For McCloskey, the Irish data offer prima facie evidence that movement to the pre-tense specifier position in other languages is not driven by Case since nominative case-marked pronouns are exclusively associated with this lower specifier position: Harley & Carnie (1997) reach a similar conclusion. Instead, it is claimed that raising beyond T—in English, for example—must be driven by EPP features: the possibility of VSO order—conversely, the *impossibility* of SVO word-order in Irish finite clauses—follows directly from the assumption that the EPP does not apply in this language, something for which there is good evidence (notably, from the absence of pre-verbal expletives in initial position, as well as from the 'subjectless' characteristics of certain passive and unaccusative constructions: see, for example, Stenson (1989), McCloskey (1996); *cf.* Harley (1995, 1997)).

[24] The fact that *-f-* occurs in both future and conditional contexts raise the possibility that what is called future tense is (in reality!) a kind of *irrealis* mood. Compare English *will*, also Bui's (2019) treatment of the Vietnamese 'future' tense marker *sẽ*.

Whilst agreeing with McCloskey and Harley & Carnie that subject-raising beyond T in SVO languages is not Case-motivated (see the discussion of the Vietnamese passive facts in 2.2.1 above), the absence of expletive pronouns in Vietnamese existential constructions—in (14) above, (repeated here for convenience)—casts doubt on the idea that subject raising is driven by EPP features, either: neither Vietnamese—nor Vata, come to that[25]—has expletives of any kind.

(14) a. **Sẽ** **không** **có** một mẫu iPhone SE mới nào vào năm nay?
FUT NEG ASR 1 CLF iphone SE new WH come year this
'There won't be a new iPhone SE this year, will there?'

b. Có thể **sẽ** **không** **có** 'viên đạn bạc' vắcxin diệt COVID-19.
perhaps FUT NEG ASR bullet magic vaccine against Covid-19
'There may not be a magic bullet vaccine against Covid-19.'

c. **Sẽ** **có** người đợi bạn ở sân bay.
FUT ASR person wait friend be-LOC airport
'There will be someone waiting for you at the airport.'

The natural conclusion from (14) must be that Vietnamese, like Irish, lacks a pre-verbal EPP requirement. Yet, in contrast to Irish, Vietnamese is obviously not a predicate-initial language: in regular verbal constructions—including those involving *lexical có* in (49)—the subject must precede all functional categories in the 'I-domain'. This means that in regular SVO clauses something other than Case or EPP must be driving subject externalization.[26]

(49) a. Mai tôi **sẽ** **không** **có** thì giờ đâu!
tomorrow I FUT NEG have time at.all
'Tomorrow I won't have any time at all.'

b. *Mai **sẽ** **không** tôi **có** thì giờ đâu!
Tomorrow FUT NEG I have time at.all
'*Tomorrow won't I have any time at all.'

c. *Mai **sẽ** **không** **có** tôi thì.giờ đâu!
tomorrow FUT NEG have I time at.all
'Tomorrow I won't have any time at all.'

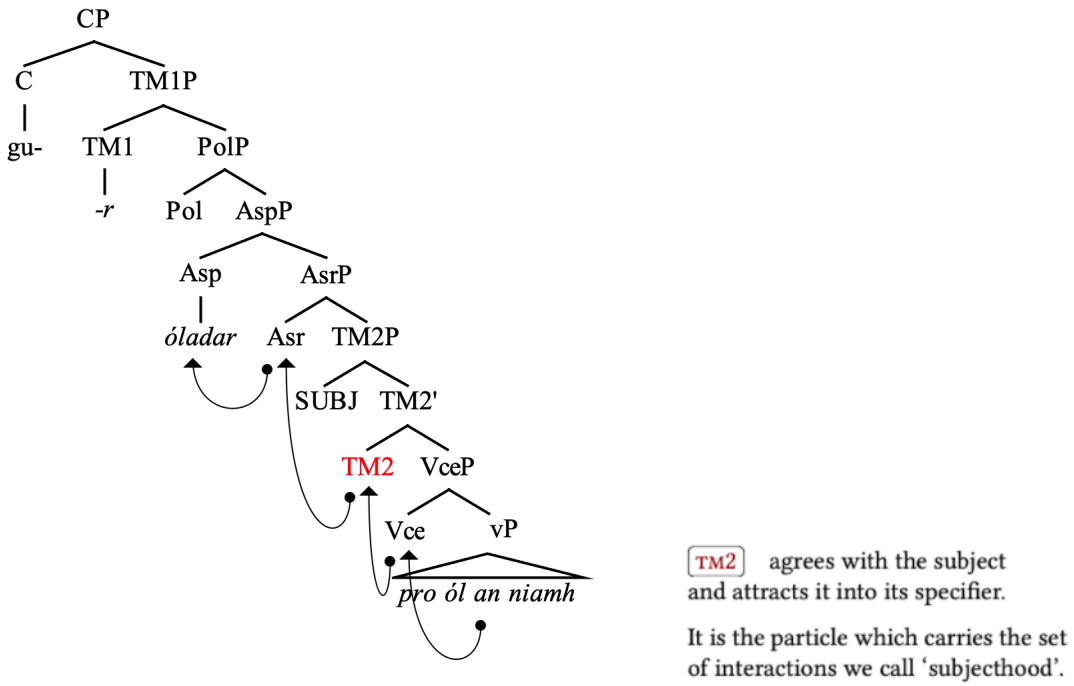
In fact, direct comparison with Vata and Vietnamese suggests that McCloskey may have missed a step in the derivation, or perhaps overstepped the mark—depending on how you look at it. If we apply the same template that we have developed thus far, then finite verb-movement in Irish would be to *Asp via Asr*, as shown in (50) below; on this analysis, the surface order of conditional (*-f-*) and aspectual suffixes (*-adh*) in (48) would be explained as a Mirror Principle effect; see Baker (1985), *cf*. Harley (2011).[27]

[25] See Koopman (1984: 39): 'We have been unable, for example, to find any small clauses or Exceptional Case Marking verbs. Furthermore, raising verbs like *seem* and existential constructions of the type *there arrived last night three men from London* are nonexistent.'

[26] A possibility explored in Duffield & Phan (forthcoming) is that definiteness plays a significant role. This is suggested by the fact that just as in English, unraised subjects of existential clauses must be weak indefinites (in the sense of Milsark 1977 and others).

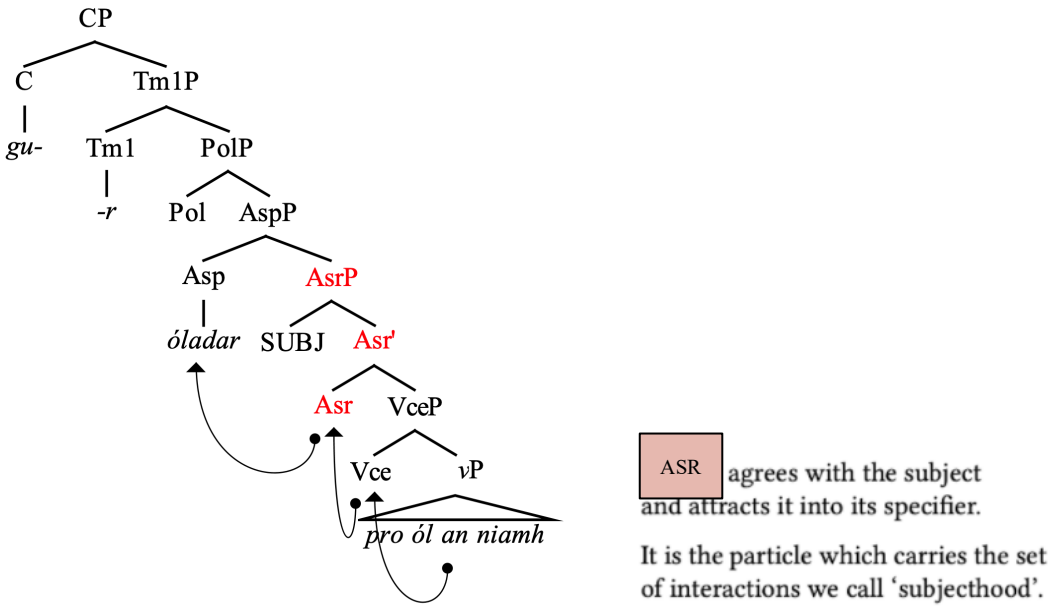
[27] Supporting (language-internal) evidence for this alternative analysis comes from negated sentences such as the one in (46a) above. Duffield (1991, 1995) presents arguments for Neg->T and Neg->C raising in finite clauses in Irish, as well as 'short verb-movement' [to AgrS, as it was then]. This analysis is further supported by the distribution of the negation marker *gan* in infinitival clauses in Irish.

(50) *Finite Verb-Raising in Irish (Second Pass)*



In (50), I have left McCloskey's TM2 projection in place, even though one could derive the Irish VSO facts by raising the subject to {Spec, AsrP}. This is diagrammed in (51) below: identifying ASR with TM2 allows us to delete the latter projection from the clausal spine.

(51) *Finite verb-raising in Irish (Third Pass, {Spec, AsrP} analysis)*



The cartography adopted in (51) thus allows for a convergent and uniform account of verb and argument distributions across a heterogeneous set of languages and constructions, explaining a wide range of asymmetries. However, what remains to be accounted for is the tight association in Irish between verb-

raising and nominative case assignment, where, once again—compare (41), (42) above—we observe a requirement for strict adjacency between the raised verb and the nominative subject.

Irrespective of the following arguments, notice that if McCloskey's analysis is correct—whether in its original (47), or revised form (51)—it definitively breaks the connection between nominative case licensing and [±PAST] tense, something that has been a central tenet of generative theories of case/Case ever since *LGB*. Consequently, it further weakens the idea that Tense must be projected in every language, regardless of its morphological expression: if neither the subject, nor the finite verb, need raise as high as T in Irish —something that is very likely true of Vata as well—it becomes hard to defend the idea that Tense is what Case needs.

On the other hand, there obviously *is* some close association between *finite verbs* and nominative case in Irish. This is shown by the fact that subjects of non-finite clauses, e.g., those in (45c) above, appear with default *accusative* case (see Chung & McCloskey 1987); see also the copular clauses below. Hence, we need to ask what other properties distinguish finite from non-finite verb-forms? Given the cartography articulated in section 2.1 above, and the tree in (51), there are two likely candidates: Asp(ect) and As(sertion).

If *Asr* is the head that licenses nominative case, then the tree in (51) needs no further revision: the subject DP is in the correct position to be licensed. Of course, V_{FIN}-subject adjacency must still be stipulated. On the other hand, if *Asp* is the licensing head in Irish—as it seems to be Vata, and may be in Vietnamese—then the position of the subject in {Spec, Asr} *is* a problem, since it is not high enough in the structure for NOM to be assigned to it. (This is the same argument that was just applied to disqualify Tense as a Case licensor.)

This question may seem excessively arcane to some. Yet there is empirical evidence in Irish that appears to decide the matter, ruling in favour of *Asp*, rather than Assertion, as the functional category responsible for nominative case. The relevant data come constructions involving *non-verbal* predicates, which were the central focus of McCloskey's (2021) presentation. While space constraints preclude elaboration of McCloskey's analysis, it is nevertheless possible to present the core contrasts; see also Duffield (2021b, forthcoming.)

3.2 Irish Copular Constructions

In previous analyses of Irish copula constructions, primary attention has been paid to the distinction between *identificational* vs. *definitional* copular constructions—illustrated in (52) and (53), respectively; see especially Carnie (1997).[28] McCloskey (2021), however, directs attention to nominal and adjectival predicates taking clausal complements, such as those in (54) {*ait* 'strange', *féidir* 'possible', *mian* 'desire'}; these also license ellipsis of these same complements under identity with a discourse-salient antecedent (54b:B), (54c:B).

(52) a. Is é Seán an múinteoir.
COP.PRES him Seán the teacher
'Seán is the teacher.'

b. Is iad na daoine sin na múinteoirí.
COP.PRES them.ACC DET people DEM DET teacher.PL
'They are the teachers.'

(53) a. Is múinteoir (é) Seán.
COP.PRES teacher him.ACC Seán.
'John is/will be a teacher.'

[28] Compare *Wikipedia:* 'The Irish copula is not a verb but a particle, used to express a definition or identification. It may be complemented by a noun, a pronoun, an adjective, or a topicalized phrase. Because it is not a verb, it does not inflect for person or number, and pronouns appear in the disjunctive form.'

b. Ba mhúinteoir í.
COP.PAST teacher her.ACC
'She was/would be a teacher.'

(54) a. Dúirt sé gu- -rbh…
say.PAST he COMP COP.PAST
…ait leis sibh a bheith as baile.
strange with.him you PTC be.INFIN out home
'He said that he found it strange that you would be away from home.'

b. A: Ar bh' fhéidir go raibh sé beo?
Q-PAST COP possible COMP be.PAST he alive
'Was it possible that he was alive?'

B: Is cinnte gu- -rbh' fhéidir [~~go raibh sé beo~~.]
COP.PRES sure COMP COP.PAST possible
'It certainly was.'

c. A: An Ø mian leat [mé a phósadh]?
Q desire with.you me VCE marry.VN
'Do you want to marry me?'

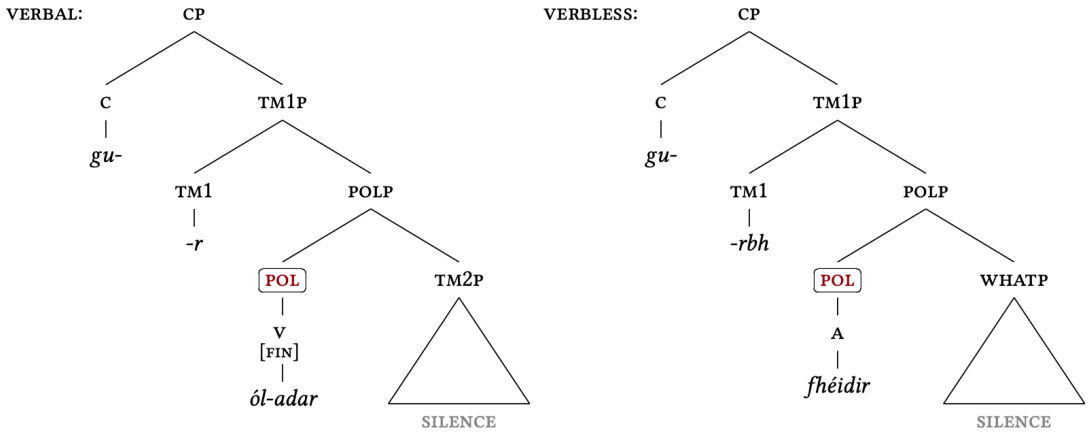
B: Is mian [~~liom tú a phósadh~~]
COP.PRES desire
'I do.'

A distinguishing feature of the verbless constructions in (53) and (54) is the position of the bare predicate relative to all other thematic material (above the elision site): the pre-predicative slots of verbless constructions in Irish exactly parallel those found in verbal clauses, except for the presence of Aspect (McCloskey's TM2), namely: *(C)-(Neg)-T-Pred* . Notice that in all of these constructions, associated subject arguments receive either (default) *accusative* case (in 52 and 53), or prepositional *dative* case in (54)—assuming that *leis* and *leat* are subjects; see directly below. Crucially, nominative case is excluded.

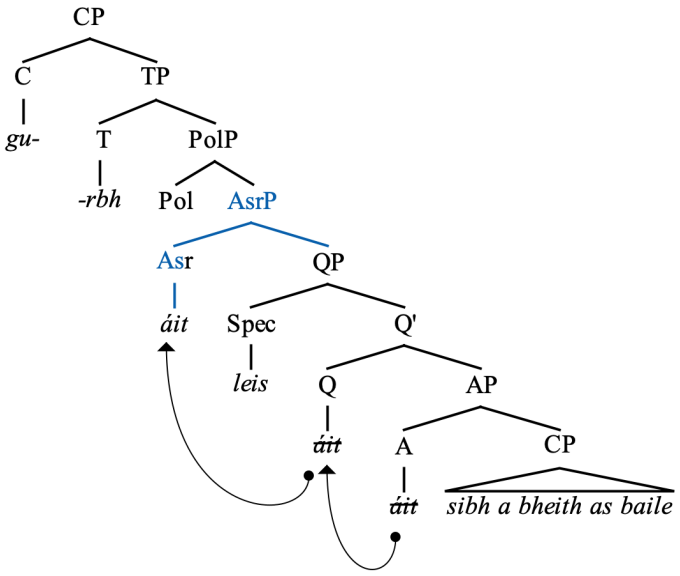
Whereas most researchers have treated these verbless clauses differently from those containing verbs, McCloskey (2021) assumes full parallelism of functional structure in the upper clausal spine: see (55) below (his [27]). By hypothesis, verbal and copular clauses are distinguished only by the lexical and associated functional projections *below* the landing site of predicate-raising (McCloskey's 'Pol', our assertion 'Asr' projection). Compare now McCloskey's treatment in (55 [27]) with the revised alternative in (56).

(55)

(27)



(56)



On McCloskey's analysis, consistent with traditional descriptions, the copular particle *is/ba* is treated a pure exponent of Tense (Past/Non-Past), directly inserted under T;[29] unlike thematic verbs, *is/ba* does not express aspectual distinctions. T-Pred-XP order in finite clauses is then derived by raising the non-verbal predicate out of a lower projection QP, whose head Q — approximately, the non-verbal counterpart of little *v*—expresses a Kimian state, see Maienborn (2008), for details.

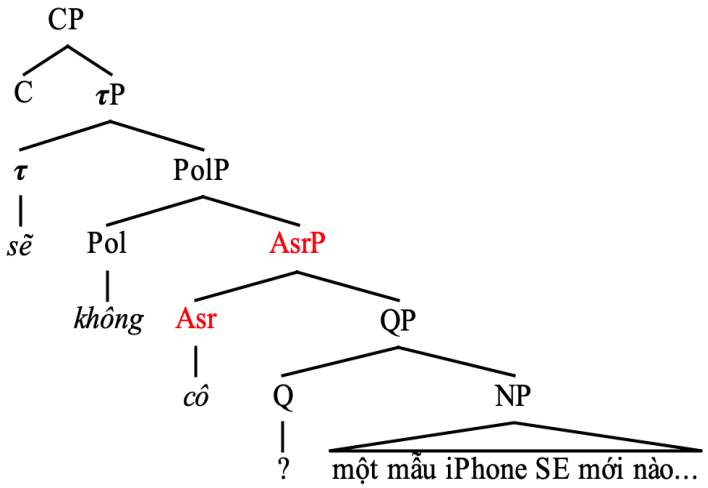
If this is correct, then Irish—just like Vietnamese—splits tense from assertion validity. The chief difference between the two languages is that *Asr* must be lexicalized through predicate-raising in Irish, whereas in Vietnamese the predicate typically remains low: *Asr* is filled by an independently projected particle, namely, *có:* compare the examples in (11) above. Notice that this is the same alternation as was observed in Vata, only one step lower down: that is to say, 'filled'-Asp *vs*. V-->Asp.

Translating McCloskey's analysis back to Vietnamese yields an analysis of *existential* constructions, such as those in (14), using the same cartography; furthermore, we can also derive constructions involving *lexical có* (HAVE), such as those in (49)—modulo the effects of subject raising. These two analyses are presented side-by-side, in (57) below.

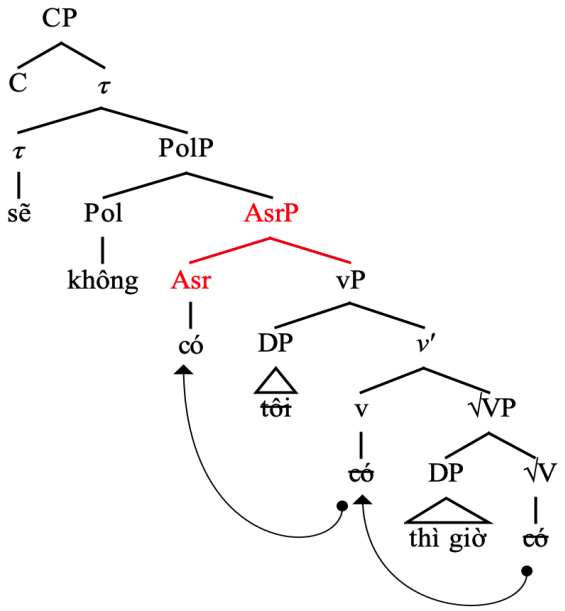
[29] Carnie (1997) is a notable exception: indeed, Carnie's analysis anticipates McCloskey's in several important ways.

(57) Existential vs. Lexical *có* in Vietnamese.[30]

a.



b.



The implications of this analysis take us beyond our current concerns. What *is* pertinent, however, is a contrast between the copular constructions in (54)-(56), and a semantically equivalent alternative. For, besides the pure tense particle *is/ba*, Irish also has the 'regular' copular verb *bí*: as well as appearing as verbal auxiliary (in progressive contexts, for example), this 'verbal copula' is compatible with many of the same predicates as those associated with *is/ba*, including *fíor* (58a,b) and *fuath* (58c,d).

(58)	a.	Tá	*(sé)	*fíor*	[gu-	-r	amhránaí	breá	é]?
		be.PRES	it	true	COMP	PAST	singer	fine	him
		'It is true that he's a fine singer.'							

[30] The analysis in (57b) explains why lexical *có*, alone of other verbal predicates, cannot co-occur with emphatic *có*: **Tôi có thì giờ!* ('I *do* have time!). The more *ad hoc* alternative is a haplology constraint.

b. Is (*sé) *fíor* [gu- -r amhránaí breá é]?
COP.PRES it true COMP PAST singer fine him
'It is true that he's a fine singer.'

c. Tá *fuath* agam dó.
be.PRES hatred at-me to.him
'I hate him.'

d. Is *fuath* liom é.
COP.PRES hatred with-me him
'I hate him.'

There are three significant differences between the two copula types. First, *bí* licenses—and *requires*—expletive subjects in rightward extraposition contexts: compare the contrast between verbal-(*tá*) (58a and particle-(*is*) in (58b), with respect to the subject pronoun *sé*. Contrary to common assumptions, then, it seems that Irish does not lack expletives entirely.

Second, unlike *is/ba*, *bí* shares all the conjugational possibilities of thematic verbs, including the expression of distinct aspectual (eventive *vs*. habitual) forms. These are illustrated in bold in the story extracts in (59):[31]

(59) a. **Tá** tamall fada anois a **bhí** fear ina chómhnaighe …
be.PRES time long now PTC be.PAST man in.his living
…i mbaile mór Chorcaighe…
…in town big Cork…
'It is a long time now since a certain man was living in the city of Cork...'

b. Fear saidhbhir agus ceannaidhe fairrge do **b'eadh** é.
man wealthy and merchant sea PAST be.IMP him.ACC
'...He was a wealthy man and a sea merchant.'

c. Do **bhíodh** luingeas ag teacht thar lear chuige.
PAST be-HAB ships PROG come from abroad to.him
'...Ships used to come to him from abroad.'

d. Do **bhí** aon inghean amháin aige gu-r **b'é**…
PAST be one daughter alone to.him C-PAST be=it…

…an ainm a **bhi** uirthi Máire Bhán.
…the name PTC be on.her Mary White
'...He had an only daughter whose name was Mary White.'

Finally—as might be predicted if Aspect is responsible for 'the set of interactions we call subjecthood'—this copular verb assigns *nominative* case to the subject of the predicate phrase, as illustrated by the examples in (60):

[31] From the story Inghean an cheannaidhe (description d'un parler de Kerry)

(60) a. ...agus do bhíodh *sé* ana-cheanamhail ar Mháire Bhán.
...and PAST be.HAB he.NOM very-fond on Mary White
'And he was very fond of Mary White.'

b. A: Mar sin …
A: then…
…ní raibh tú ag iarraidh jobannaí a chur i mbaol?
…NEG be.PAST you.NOM. PROG try.VN jobs PTC put.VN in risk
'So you weren't trying to put jobs at risk?'

B:.i ní raibh MÉ.
NEG be.PAST I
'
'Oh, I was NOT, I was NOT.' (radio interview)

B. ii. O, bhí MÉ
be.PAST I
'Oh, I WAS, I WAS.[32]

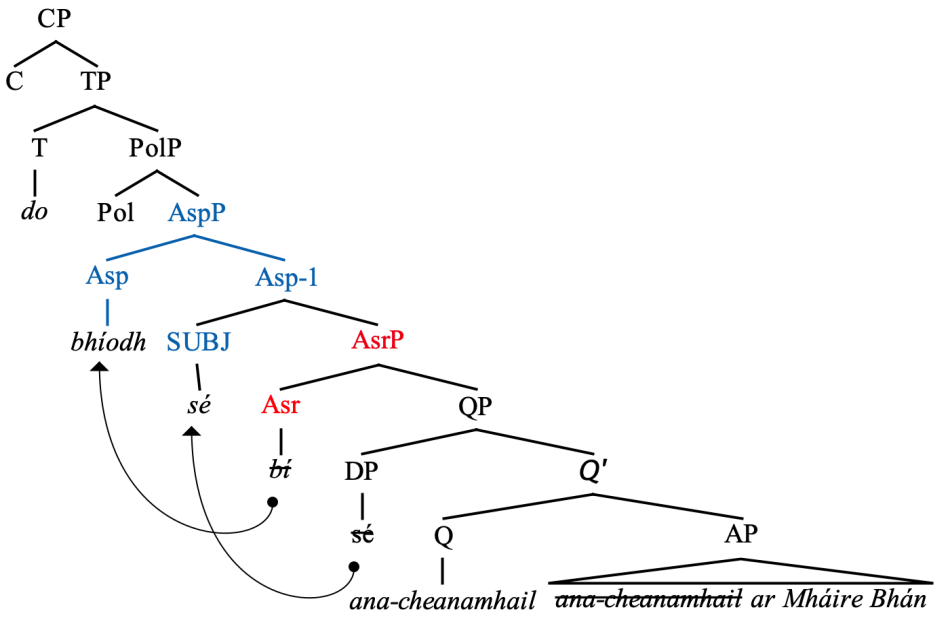
Taken together, the direct association between aspectual morphology and subject properties (Nom Case, Expletives) suggest unequivocally that *Asp*, rather than *Asr*, is the node responsible for subject licensing. Yet, as noted above, the subject remains subjacent to the Asp projection in clauses containing a verbal copula, as well as in regular verbal clauses (without an auxiliary).

The solution to this puzzle is as simple as it is radical. To explain the association between the aspect marked verb form and the lower subject—as well as the adjacency constraint, we only have to view the same stretch of phrase-structure from a different perspective: one in which—at least for functional categories—'heads are on top'. Opposite to the standard order of lexical projections, in which specifiers asymmetrically *c*-command their heads, as in (44a), specifiers of functional projections can be viewed as *sub*jacent to heads, tucked in (!) beneath (44b); *cf*. Richards (2001).

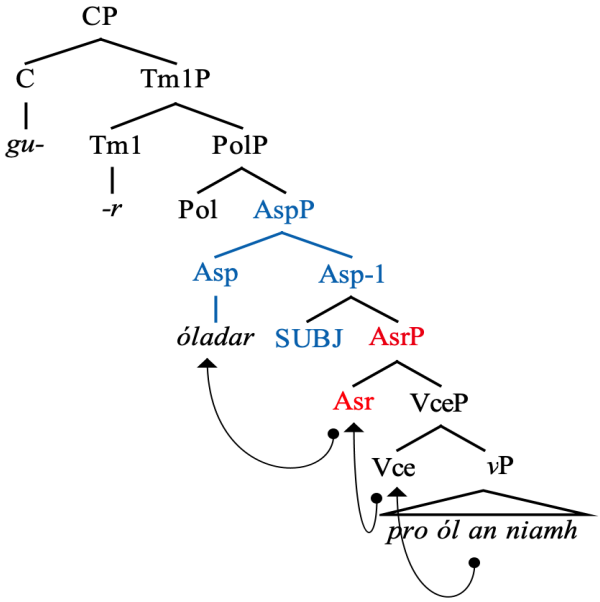
This move has the happy consequence of reconciling those people who claimed that Case was assigned under government with those claiming that Case was uniformly a specifier-head relationship: inverting the X'-skeleton allows both to be correct simultaneously. Given this change of perspective, verbal copular constructions in Irish such as (60a) would be analyzed as in (61a), while the analysis of verbal clauses given in (51) would receive the analysis in (61b):

[32] Notice that in emphatic responsive constructions, the subject pronoun survives ellipsis and receives focal stress. This survival of the pronoun contrasts with regular V-stranding VP-ellipsis in Irish, in which only the verb survives see, McCloskey (2012), for exposition. This can be shown to fall out from the analysis presented here, involving *AsrP*; see Duffield (in prep.)

(61) a. *Copular constructions in Irish (verbal variety)*



b. Finite verb-raising in Irish (Fourth Pass, {Spec, Asp$_{-1}$} analysis)



ASP agrees with the subject and attracts it into its specifier.

It is the particle which carries the set of interactions we call 'subjecthood'.

An immediate implication of this is that all specifier positions to the left of T/**τ**—and all the abstract features associated with these specifier positions—must belong to C-domain projections. In English then, for example, the clausal subject position must be a subjacent projection of C: {Spec, C$_{-1}$}, rather than {Spec, T'}. As well as accounting for the Comp-Subject adjacency facts in (41) and (42) above, this makes sense of the observation that expletives in languages like Icelandic and German are only found in the initial position of main clauses; *cf.* Roberts & Rousseau (2001, 2003), Svenonius (2002), from whom these examples are taken):

(62) a. *(það) voru mýs í baðkerinu í gær. [Icelandic]
(there) were mice in bathtub.the yesterday
'There were mice in the bathtub yesterday.'

b. *(Es) waren Habichte in der Luft. [German]
(there) were hawks in the air.
'There were hawks in the air.'

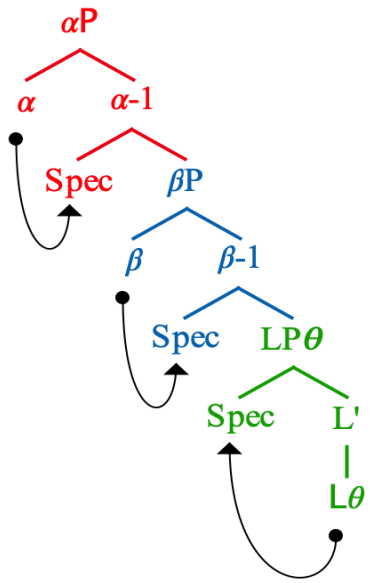
c. Í gær voru (*það) mýs íbaðkerinu. [Icelandic]
yesterday were (there) mice in bathtub.the
'Yesterday there were mice in the bathtub.'

d. In der Luft waren (*es) Habichte. [German]
In the air were (there) hawks
'There were hawks in the air.'

Moreover, if it turns out that T is responsible neither for Case licensing, nor for EPP features, it is reasonable to wonder why it is regarded, exclusively, as the only obligatory head of the cluster of properties formerly known as 'INFL' (Chomsky 1981); 'C' before that (Chomsky 1957). Insisting that all languages project TP at the top of their skeleton might turn out to be akin to the insistence of a stag that all male mammals have antlers. It all depends on where you're coming from.

A final point. It should be clear that—in those languages where it applies—this simple inversion has consequences for analyses of the highest specifier position, and of all head positions in the left periphery: it means that there must be a hidden head in every clause that drives movement to this highest Spec. As well as suggesting a revised treatment of Topic constructions in Vietnamese, this re-analysis has potentially significant implications for Accusative and Oblique Case-licensing, since at the point where thematic and functional projections meet, the two specifier positions will be string-adjacent, as shown in (63):

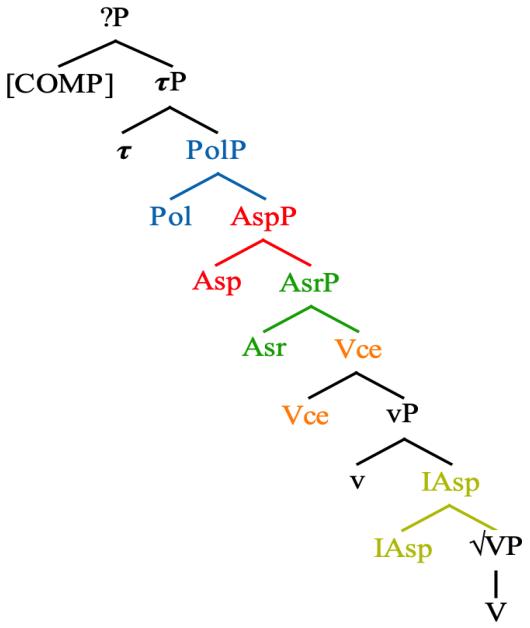
(63) *"The twain shall meet": LP~fp boundary effects*



Given time constraints, the discussion of Accusative/Oblique case must be postponed: see Duffield & Phan, *(in prep.)*

4. Interim Conclusion

This discussion nearly completes our investigation of the lower spine puzzle:[33] It provides confirmation of the putatively universal template in (64) below, which is consistent not only with all the data from Vata, Vietnamese, Irish and German, but also with the under-differentiated fuzziness that is English. This template does not need to be (declaratively) represented; instead, the order of functional projections can be shown to emerge directly from the interaction of our four principles, especially EE, *1-Arg* and Supervenience. Moreover, although these principles could have an innate source, this is not a necessary conclusion: externalist interpretations are also possible.
(64)



Even if this presentation raises more questions than it answers, it seems reasonable to claim that progress has been made. The point to stress here is that whatever understanding of UG has been achieved, could not have been reached by inspecting English facts only, however fine-grained the description, nor could it have been discovered by using the standard Minimalist lens, which abstracts too far from surface forms. I contend that it is at least interesting to see what one can find with just a pair of binoculars and an embrace of surface diversity.

Many questions remain, of course. What *does* drive movement beyond T? Is it more than one thing? Is functional inversion a parameter?[34] How does definiteness fit into this theory of phrase-structure?: How is COMP fractionated)? Why in all three languages—as well as in English does *future* not behave as a Tense feature, but as a modal category? How does the Vietnamese copula/complementizer *(là*) fit into the template? How does functional inversion help us to understand Accusative Case assignment (or whatever drives Object raising in languages where it takes place)? These and numerous other questions must remain unanswered, for another day, for a better lens.

[33] A crucial missing piece involves modal categories, especially deontic modals, including pre-verbal *phải/ nên/ được*: these should by rights surface high, but have been shown to be generated low in the structure, below *Asr*: see Duffield (2013).

[34] This is suggested by other facts observed in Vata, which show strict subject-ASP adjacency effects.

List of Sections in This Article

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