A microparametric approach to the head-initial/head-final parameter

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Abstract: The fact that even the most rigid head-final and head-initial languages show inconsistencies and, more crucially, that the very languages which come closest to the ideal types (the "rigid" SOV and the VOS languages) are apparently a minority among the languages of the world, makes it plausible to explore the possibility of a microparametric approach for what is often taken to be one of the prototypical examples of macroparameter, the "head-initial/head-final parameter." From this perspective—the features responsible for the different types of movement (attraction) of the constituents of the unique structure of Merge from which all canonical orders derive—are determined by lexical specifications of different generality: from those present on a single lexical item, to those present on lexical items belonging to a specific subclass of a certain category, or to every subclass of a certain category, or to every subclass of two or more, or all, categories, (always) with certain exceptions.[1]

1. Introduction

An influential conjecture concerning parameters, subsequent to the macro-parametric approach of Government and Binding theory (Chomsky 1981: 6ff and passim), is that they can possibly be "restricted to formal features with no interpretation at the interface" (Chomsky 1995: 6) (also see Borer 1984 and Fukui 1986). This conjecture has opened the way to a microparametric approach to differences among languages, as well as to differences between related words within one and the same language (Kayne 2005: §1.2). It also prompted the idea that macroparameters may possibly be reinterpreted as the

[1] I wish to thank Klaus Abels, Daniel Büring, Richard Kayne, Ad Neeleman, Massimo Piattelli-Palmarini, Ian Roberts and Luigi Rizzi for discussions on aspects of this analysis, as well as the audiences of the CamCos5 Conference in Cambridge (5-7 May 2016), and of my classes at Tel Aviv University (May-June 2016), especially Alex Grosu, Julia Horvath, Roni Katzir, and Tal Siloni. I also want to thank Mark Baker for his detailed comments on a previous draft of the paper.

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concerted action of some number of microparameters (Webelhuth 1992 (ante litteram), Legate 2002, Kayne 2005, Adger, Harbour and Watkins 2009, Rizzi 2009, among others), even though the question remains open to some extent (see Baker 2008; and Roberts 2012 for an attempt at reconciling the two approaches).

Here I want to explore the possibility of analyzing what is often considered a prototypical macroparameter (the head-initial/head-final parameter) in microparametric terms (generalizing to the worst case, of lexically encoded instructions).[2] This is rendered plausible by at least two considerations: 1) the fact that even the most rigid head-final and head-initial languages display a number of inconsistencies, and, more importantly, 2) the fact (actually, a paradox) that the languages which come closest to the ideal types (the "rigid" SOV and the VOS languages) are apparently a minority among the languages of the world (cf. Dryer 1992: fn.17 and § 4 below).

Before addressing the question of how to express the word order parameter(s) in microparametric terms (§ 4), I will consider some general issues of the head-final and head-initial orders.

In Cinque (2009b, 2013a) I had suggested that we should try to reconstruct the two *ideal* head-final and head-initial orders that transpire from the most rigid SOV and VOS languages, even if each of these may depart from such ideal orders in one or more ways (see § 4 below for relevant evidence and references). The reason for taking this position is threefold: first, because fairly clear patterns, or at least clear tendencies pointing to such patterns, are recognizable, as already observed in the works of Greenberg (1963), Vennemann (1973), Lehmann (1978), Hawkins (1983) and Dryer (1992); second, because the reconstruction of such ideal orders and, in particular, the way in which they are derived may constitute a "metric" on the basis of which one can measure the distance of each language from a "standard," and in principle determine the place that each language occupies in the space of admitted variation (the fact that the "stand-

[2] An important precedent of the microparametric approach to word order typology explored here is Webelhuth's (1992) restrictive notion of possible parameter of natural language, modulo internal Merge in place of specification of direction: "if no lexical entry can refer to feature F, then no parameter can refer to F" (Webelhuth 1992,31), which amounts to saying that the "parameters of natural language are nothing but generalized versions of lexical statements" (Webelhuth 1992,30), only differing in the number of categories to which they apply (in English, for example, to a single adjectival degree modifier, *enough* (*long enough* vs. *very*/*too*/*quite*/etc. *long*), or to all adjectival measure modifiers (*two feet (too) long*/*high*/etc.)).

ard" may be perfectly instantiated by no single language should not matter); [3] third, because the Merge structure and derivational options admitted by UG may provide a plausible account of acquisition in that they allow the child to reconstruct on the basis of the primary linguistic data the language particular options that derive his/her language (see § 4.4 below).

Of course, a full reconstruction of the ideal head-final and head-initial orders is out of the question here, as was in Cinque (2013a) (see the Appendix there, as well as Lehmann 1978, Dryer 1992, and Primus 2001: 856 for partial lists of the correlation pairs of each ideal order, still a long way from representing the *total* orders of the clause and its major phrases in the two ideal language types). In any event the basic generalizations are discernible and they raise the question of how they should be derived.[4]

2. The two ideal types

2.1 The head-final type

The generalization concerning the ideal head-final word order type appears to be that all higher (functional) heads follow the lexical V/N/etc. in an order which is the reverse of the order of Merge, and phrasal specifiers (arguments, circumstantials, and modifiers) precede V/N/etc. in their order of Merge. See (1)a, and (2)a, followed by some illustrative examples:[5]

[3] Deviations from the uniform application of the derivational mechanism that yields the ideal head-initial and head-final orders not only characterize, say, "how head-final language X is," but, more crucially, set specific restrictions on what variations are admitted and what variations are excluded (say the order Numeral Adjective Demonstrative Noun in the DP of a head-final language or the order C $ASP_{progressive}$ T_{past} V in the clause of a head-initial language).

[4] § 2. draws from Cinque (2013a). § 3. refines the derivational account proposed there.

[5] A particularly striking case is provided by Kiowa, which shows a mirroring effect around the axis of the verb, with preverbal evidential, epistemic, negation and aspectual (phrasal) particles co-occurring with (head) suffixes of the corresponding type in the reverse order after the verb (see Adger, Harbour and Watkins 2009, Chapter 3).

For simplicity, here I will keep to the tradition that takes complementizers, tense and aspect morphemes, determiners, Case markers, etc. (whether free or bound), to be heads, and arguments, circumstantials, adverbial and adjectival modifiers, etc., to be phrases. If Kayne (2015) is right in arguing that all heads are silent and that all overt elements are phrases, some other way will have to be found to draw the distinctions reported in 2.1 and 2.2. One possibility is to think that what are traditionally assumed to be heads are (perhaps "weak") XPs which have a special verbal or

(1) a. AdvP DP AdvP/PP **V** Asp° T° C°

b. **Japanese** (SOV – Endo Yoshio, p.c.)
Watasi-wa [kare-ga osoraku sore-o zyoozuni okona-e-ru
I-Top [he-Nom probably it-Acc well do-Mod-Present
to] it-ta.
COMP] say-Past
'I said that probably he can do it well'

c. **Evenki** (Tungusic, SOV – Nedyalkov 1997: 256)
Nunqan ulle-ve tulile lo:van-d'e-ngne-re-n
She meat-ACC outdoors hang-IMPRF-HAB-PAST-AGR
'She usually hangs meat outdoors for some time (for drying)'

d. **Maranungku** (Australian, Daly, SOV – Tryon 1970: 46)
yer ngeti tyapat me tu
tomorrow I sit.swim PROG FUT
'Tomorrow I shall be swimming'

(2) a. DemP RC NumP AP* **N** PL° D° Case°[6]

b. **Wolaytta** (West Cushitic, SOV – Lamberti and Sottile 1997: 215)
he [taa- w kuttuw[a] ehida] iccash[u] adussa laagge-t-I
those me-dat chicken having-brought five tall friend-PL-NOM
'those five tall friends who brought me a chicken'

c. **Mangghuer** (Mongolic, SOV - Slater 2003: 99)
bi [tuerghang kong ge =ni] ala ge-ba
Isg. [fat person det.indef ACC] kill do-subj:perf
'I have killed a fat person'

nominal feature that makes them behave like lexical V(P)s or N(P)s. As a matter of fact, we will see that the movements involved in deriving the two ideal orders are possibly best formulated in term of attraction of phrases.

[6] AP* stands for one or more APs. Mallinson and Blake (1981: 377) and Dryer (1988) point out that the often-claimed correlation between SOV order and adjective-N order is spurious, but see Cinque (2013a: fn.5) for discussion.

d. **Tsez** (Northeast Caucasian, SOV – Polinsky 2015: 41)
yisi Tolstoy-ä cäx-ru(-ni) łena y-exora t'ek
DEM Tolstoy-ERG write-PST.PTCP-DEF five II-long book.ABS.II
'these five long books written by Tolstoy'

2.2 The "head-initial" type

The generalization concerning the ideal head-initial word order type appears to be that all higher (functional) heads precede V/N/etc. in their order of Merge, and phrasal specifiers (arguments, circumstantials, and modifiers) follow V/N/etc., in an order which is the reverse of their order of Merge. See (3)a and (4)a, with some representative examples:

(3) a. C° T° Asp° **V** PP/AdvP DP AdvP[7]

b. **Malagasy**
(Malayo-Polynesian,VOS - Rackowski and Travis 2000: 125)
Tsy manasa intsony mihitsy ny lamba Rakoto
Neg Pres.AT.wash no longer at all det clothes Rakoto
'Rakoto does not wash at all any longer the clothes'

c. **Chol**
(Mayan, VOS - Coon 2010,241, from Vázquez Alvarez 2009: 19)
Tyi k-sub-u [che` mi i-bajb-eñ ts'ì` aj-Wãn].
PRFV A1-say-TV COMP IMPF A3-hit-D.NML dog CL-Juan
'I said that Juan hits the dog.'

[7] On the general order in (3)a, see § 1 and 2 of Rackowski and Travis (2000) on Malagasy (VOS) and Niuean (VSO), respectively: "there [..] seems to be a correlation between preverbal elements which appear in their hierarchical order and postverbal elements which are in the reverse order" (p.127). On what appears preverbally in "verb initial languages" see the first part of Greenberg's (1963) Universal 16: "In languages with dominant order VSO, an inflected auxiliary always precedes the main verb." Carnie and Guilfoyle's (2000b: 10) also state that a trait of VSO languages is represented by "preverbal tense, mood/aspect, question, and negation particles." Also see the Konstanz Universals Archive, no. 501 and 1553, Dryer (1992a: §4.3 and §4.5) and Hendrick (2000). On the phrasal, rather than head, status of the verbal, adjectival, nominal, prepositional predicate following the preverbal particles in a number of V-initial languages, see Massam (2000: §2), Lee (2000), and Cole and Hermon (2008).

d. **Sakun (Sukur)** (Chadic, VOS – Thomas 2014: 88)
a ɗǎ-r kərá=j nə dʒíf Lawu
PFV hit-EXT dog=REL with stick Lawu
'Lawu hit the dog with the stick.'

(4) a. Case° D° PL° **N** AP* NumP RC DemP[8]

b**. Tukang Besi**
(Malayo-Polynesian, VOS - Donohue 1999: 307, adapted from ex. (20))
[na wowine mandawulu dua-mia [umala te pandola]$_{RC}$ [meatu'e ai]$_{Dem}$]$_{KP}$
NOM woman beautiful two-CLF [fetch.SI art eggplant] REF-that ANA
'those two beautiful women who were bringing eggplants'

c. **Sakun (Sukur)** (Chadic, VOS – Thomas 2014: 84)
jím mə-dʒamak-ə´n xá=j pə´ka kí tʃitʃíji ná
stone HAB-big.PL-NOM PL=REL collect 2PL DEM TOP
'These big stones that you collect..'

d. **Tongan** (Oceanic,VSO/VOS - Ball 2009: 116; also see Macdonald 2014: §1.1)
Na'e kamata [langa 'e Sione 'a e ngaahi fale].
Pst begin build erg (name) Case$_{abs}$ D PL house
'Sione began building the houses.'

2.3 The over-arching generalization

The property which both the ideal head-final and head-initial word orders have in common is that whatever precedes the V/N/etc. reflects the order of Merge, and whatever follows is in the mirror image of the order of Merge (cf. Baker 1985). This, again, is an idealization based on the most rigid head-final and head-initial languages. The mirror-image order found postverbally and postnominally is however only the prevalent order; other, non-mirror-image orders being possible (see Cinque 2005b, 2013a, Koopman 2015b, and references cited there).

[8] On the order article (D°) > N in all VOS languages (except Toba Batak), in his sample, see Keenan (1978: G15: 298), and more generally in head-initial languages Dryer (1989b,1992: §4.6). On the order PL > N in VO languages, see Dryer (1989a, 1992: §4.7).

3. Deriving the two ideal word order types

As in Cinque (2013a), I take the two ideal (mirror-image) word order types to be epiphenomenal. They are the product of the consistent application of two different movement options (types of attraction) to one and the same structure of Merge, common to all languages. This common structure presumably reflects the relative semantic scope of the elements involved, though it remains to be seen whether the statement of their hierarchy in the extended projections of V, N, etc., can be expunged from narrow syntax and blamed in toto on the conceptual-intentional interface. Even if their hierarchy plausibly complies with the semantic scope of the elements involved, two caveats must be taken into account before concluding that it is of no syntactic concern. First, within a single clause the hierarchy of functional projections appears to be generally strict, even though in the semantics nothing precludes reversing their scope as we see whenever two clauses are involved (Cinque 1999: §6.3). A second possible reason why the encoding of such functional elements should not be eliminated from narrow syntax is the fact that our conceptual-intentional module contains many more concepts than those that receive a grammatical expression in the languages of the world (cf. Cinque 2006: 6, and especially 2013b). This means that the inventory of functional/grammatical concepts must presumably be encoded somewhere in UG, possibly in its (functional) lexicon.

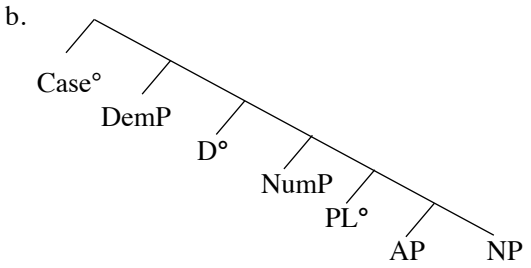
The striking fact concerning the ideal head-final and head-initial orders reconstructible from the most polarized SOV and VOS languages is the segregation of the heads, which appear on one side of V, N, etc., and of the phrases, which appear on the opposite side (but recall fn.5 on the question of "heads"). Given that a symmetrical merger of heads and phrases, to the left and to the right of V, N, etc., would still need to be supplemented by movement for some of the attested orders (e.g., V Tense Aspect or N Dem Num A), as even the proponents of symmetrical Merge concede (cf. Abels and Neeleman 2012), and given the redundancy that this implies in so far as under symmetrical Merge some of the orders would be derivable by both Merge *and* Move, I will assume here that only movement (attraction) is involved in deriving the different orders (including those that are not consistently head-final nor consistently head-initial).[9]

[9] Abels and Neeleman (2012) take the fact that the possible symmetric merger of phrases to the left or to the right of a head are more numerous than those that

Concerning the two prevalent orders of the demonstrative, the (cardinal) numeral, the adjective(s) and the noun, i.e., the mirror-image orders N A Num Dem and Dem Num A N, in Cinque (2005b), I had assumed that only the former involves movement (raising of the NP plus *whose-picture* or "progressive" pied-piping). In the case of the Dem Num A N order, I had instead assumed that no movement was involved in their derivation, given that this order directly reflects the underlying order of Merge of these elements in all languages; but this was wrong, as the N in many languages with such an order is followed by bound or free morphemes expressing gender, number, (diminution,) definiteness and/or Case (cf. (5a)—Svenonius 2008, Myler 2013, Cinque 2013a), which arguably originate as head morphemes interspersed in the base structure with the phrasal modifiers that precede the noun (as shown in (5)b):[10]

(5) a. DemP RC NumP AP **N** PL° D° Case°

b.



See, for example, the cases of the Tupí-Guaraní languages Kokama ((6)a.) and Nheengatú ((6)b.), which are all SOV, Dem Num (A) N

have to be derived by movement to suggest that learners disprefer movement and posit it only when they have to. Here I stick to a uniform movement derivation for all orders under antisymmetry.

[10] Also see Koopman and Szabolcsi's (2000: 24f) arguments that the "direct" order of verbal complexes in Hungarian, not just the "inverse" one, must be derived by movement. As implicit in (5b) I take demonstratives, (cardinal) numerals and adjectives to constitute phrases. For demonstratives see Giusti (1994) and Leu (2015: Chapter 2); for cardinals Kayne (2003b: fn.11, 2006) and for adjectives Cinque (2010a). Following the tradition I instead take Case morphemes, Determiners and Number morphemes (whether free or bound) to be heads (modulo what is said in fn.5 about "heads").

PL languages,[11] or those of the South Caucasian language Laz (7a), of the Mongolic language Mangghuer (7b), and of the language isolate Burushaski (7c), which are all SOV and Dem Num A N (PL) D Case languages:

(6) a. ca+ yawara kɨra +nu (Kokama-Cabral 1995: 336)
1(FS)+ dog DIM PL
'my little dogs'

b. mukũi tayera ita (Nheengatú-da Cruz 2011: 147)
two daughter PL
'two daughters'

(7) a. ham oxorza-lepe-şi (Laz-Kutscher 2001: 36)
Dem woman-PL-GEN
'of these women'

b. bi [tuerghang kong ge = ni] ala ge-ba
Isg.[fat person det.indef ACC] kill do-subj:perf
'I have killed a fat person' (Mangghuer-Slater 2003: 99)

c. hín mapéer-an-e (Burushaski-Yoshioka 2012: 141)
one aged-indefDet-ERG
'one old man'

[11] This order is the exact mirror image of the head-initial PL N A Num Dem order of Yoruba (Niger-Congo—SVO, Dryer 1989: §2.4 and Oládiípò Ajibóyè, p.c.), and Mwotlap (Oceanic—SVO, Crowley 2002: §2.6), which will also necessitate a refinement of the movement account of the N A Num Dem order of Cinque (2005b). For the relative order of determiner, number and diminutive free morphemes when they co-occur, see for example head-initial Teop (Oceanic—SVO, Mosel (with Thiesen) 2007: §7.6) (and their partial mirror image in head-final Kokama, cf. (6a):

a maa si mono iana
D PL DIM parcel fish
'little fish parcels'

If Case is also present, as in Tongan (ex. (4d), above and Macdonald 2014: §1.1), it appears to precede article and number (in head-initial languages): CASE D PL N. The head-final mirror-image order N PL D CASE is rarely found because in head-final languages D and Case are often in complementary distribution (for reasons that remain to be fully understood). But see the case of Mangghuer in (7b), Eastern Burushaski in (7c), and the examples of N D CASE in the Tibeto-Burman languages Japhug rGyalrong (Jacques 2010: 144) and Nar (Noonan 2003: 346).

I take this to mean that the NP must move up even in this type of language to the left of these heads (if they are free morphemes or agglutinative morphemes that can be "suspended"), or move up to the corresponding projections to check the relevant features (if they are inflectional morphemes).

In Cinque (2013a), I suggested that this can be achieved if the NP raises via *picture-of-whom* or "regressive" pied-piping. I will now sketch what I take to be the derivations for the ideal, consistent head-final and consistent head-initial orders. Since the more rigid SOV and VOS languages appear to be essentially harmonic across the different extended projections, I will exemplify with the extended projection of the VP, the clause, and the extended projection of the NP, coming back later to the general question of cross-category harmony, and the possible parameters of variation.

The reason to consider the two orders as derived from a common hierarchy is that irrespective of the different orders of the same elements in the two types of languages (see (8a-a') and (8b-b')) we would like to express the fact that the relative position and scope of these elements is the same, as represented in (9a and b).

(8) head-final

a. $\text{AdvP}_{\text{epistemic}}$ $\text{AdvP}_{\text{manner}}$ V Mod° C°

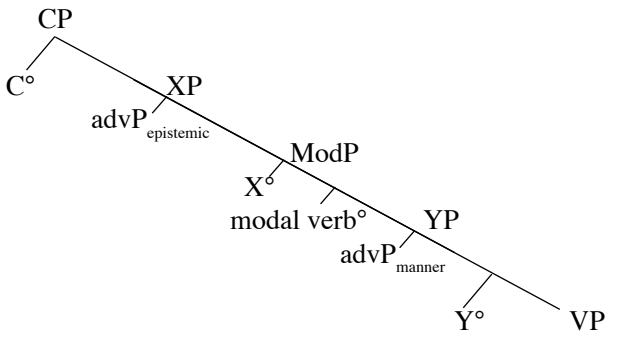
b. NumP $\text{AP}_{\text{manner}}$ N PL° D°

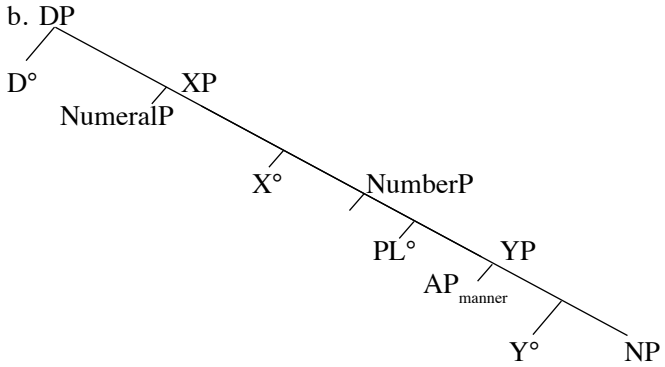
head-initial

a'. C° Mod° V $\text{AdvP}_{\text{manner}}$ $\text{AdvP}_{\text{epistemic}}$

b'. D° PL° N $\text{AP}_{\text{manner}}$ NumP

(9) a.

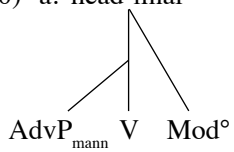




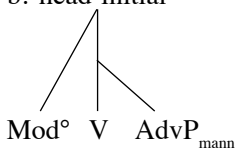
I thus take neither of the two orders in (8a-a') and (8b-b') to be more primitive than the other, but to derive from a common structure by blindly applying attraction, as we will see, of the verbal and nominal projections in either of two ways: regressive pied piping, for head-final languages, and progressive pied piping for head-initial ones.

While a symmetrical generation of the elements could easily capture the identical scope relations of (8a-a') and (8b-b') (cf. the simplified structures in (10)), a symmetrical generation could not capture the scope relations of certain other orders without violating the "No-Tangling" principle—see the case of (11).

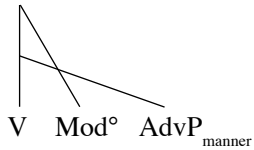
(10) a. head-final



b. head-initial



(11) a.



b. khun doong phoo **phaasa** thai **dai nit-nooi**
you must suffice **speak** Thai **can a little**
'You must be able to speak a little Thai.'
(Thai—Simpson 1998, cited in Duffield 1999: 118)

For (11), movement of VP, in (9a), above Mod° and $AdvP_{manner}$ in one fell swoop seems to be the only option (but then movement may also derive that which could be merged symmetrically, thus avoiding the redundancy of deriving some orders by both movement and base generation).[12]

I take (9a-b) above to be antisymmetric Spec > head > complement structures (Kayne 1994) terminating in (or rather originating from) a non branching VP/NP, with complements of V and N merged in specifier positions above VP/NP, to the effect that nothing is first merged with V or N (to their right), for reasons discussed in Cinque (2009a).[13]

In the present context, whether order is already present in narrow syntax (Kayne 1994), or is introduced in the mapping to PF (Chomsky 1995: §4.8; 2008: 7) is not crucial. What is crucial, given the LCA (also taken by Chomsky 2007: 10 to determine linearization "in the mapping to the SM interface"), is that underlying the two linear orders there are two different hierarchical structures built derivationally in narrow syntax.[14]

Let us consider the simplified structures of Merge in (9a-b) to tentatively sketch the kind of consistent types of attractions which appear to lead to the two ideal head-final and head-initial orders.[15] As noted, actual languages (very possibly, all languages) depart from

[12] I assume that local reordering of morphemes (as in Distributed Morphology) should ideally be avoided. Also see Koopman (2015a,b) for arguments that the same "computational engine" (phrasal movement within an antisymmetric Merge structure) underlies both narrow syntax and word formation.

[13] Namely, to capture the pervasive left-right asymmetry of natural languages. This will also require a different way to distinguish "(subcategorized) complements" from "non-complements." For some discussion see Cinque (2004: note 19, and relevant text).

The present proposal shares with Haider (1992, 2013: Chapter 3) and Barbiers (2000) the idea that the Merge structure of clauses originates from V and is strictly right branching, though it differs from them in assuming that movement is involved in deriving both head-initial and head-final languages, in the ways sketched below.

[14] Pair Merge, which introduces linear order in narrow syntax (Chomsky 2000) (and which under the Strong Minimalist Thesis should perhaps be dispensed with—cf. Chomsky 2013: 40ff, Oseki 2015) would in any event arguably overgenerate by deriving also unattested word orders.

[15] It is not important here to review the evidence for the richer ordered sequences of elements in the clause and in each of the other phrases discussed in the recent literature. See, for example, the sequencing of different types of complementizers (Rizzi 1997; Benincà and Munaro 2010), that of Mood, Modal, Tense, Aspect and Voice elements (heads and adverbial phrases) in the clause (Cinque 1999, 2006), that of the different functional (including adjectival) projections in the nominal phrase (Scott 2002, Svenonius 2008, Cinque 2005b, 2010), and the prepositional phrase (Cinque 2010b and Rizzi and Cinque 2016).

these ideal types to varying degrees, which are arguably a function of different combinations of the very same types of attraction (see below).

To anticipate the basic idea, VP, NP, and each higher functional projection endowed with the same categorial feature, +V, +N, (in the case of VP the projections of aspectual verbs, auxiliaries, modals, tense, complementizers; in the case of NP the projections of number, diminutive, determiner, Case) are attracted by a corresponding +V,+N feature in the Spec of functional projections activated by each projection that hosts overt material.[16]

For the sake of clarity I spell out the different assumptions that are involved in the derivation of the two hierarchies (ultimately *orders* under the LCA). These will be based for simplicity on traditional X-bar representations, where only the higher segment will be labeled: $[_{FP}$ XP [F]]).[17]

(12) a. The *verbal projections* endowed with a +V feature include VP, AspectP[18], AuxP, ModalP, TP, CP.

b. The *nominal projections* endowed with a +N feature include NP, NumberP, DiminutiveP, DP, CaseP.

c. A functional projection (FP), whose only aim is to provide a target for movement[19], is always merged above every projection containing overt material; the latter determines whether the Specifier of FP attracts the highest +V or +N projection with (obligatory) regressive pied-piping (+rp) or progressive pied-piping (+pp).[20]

[16] This can be thought of as a way to confer on the entire extended projection the verbal or nominal character of the nucleus of the extended projection.

[17] As far as I can see, these can be translated into a system adopting just Merge and Labeling, as presented in Chomsky (2013) and Rizzi (2015).

[18] An abbreviation for the different types of aspectual projections (progressive, perfect, durative, etc.).

[19] Cf. Nash and Rouveret's (1997) notion of "proxy category," and Biberauer, Holmberg and Roberts's (2014: §4.3.1) caret feature (which they postulate for the derivation of head-final languages) with "no semantic content, and no connection to phonological or morphological properties beyond simply causing movement" (p.209).

Quite clearly, the canonical word order(s) of a language must be distinguished from information related (A- and A'-) movements, which have an effect on interpretation (Cf. Chomsky's 2008: 7 idea that linearization "plays no role in core syntax and semantics").

[20] Here I assume a version of the traditional notion of pied piping (Ross 1967: §4.3), "whereby some particular movement operation T, designated to displace an

d. For reasons to be reviewed in section 4, the attractees are also endowed with the same pied piping features.

Let us then consider the two cases in turn (needless to say, at this stage, any proposal can only be programmatic in character, and tentative).

3.1 The ideal "head-final" type

Recall the generalization concerning the ideal head-final word order type: all higher (functional) heads follow the lexical V/N/etc. in an order which is the reverse of the order of Merge, and phrasal specifiers (arguments, circumstantials, and modifiers) precede V/N/etc. in their order of Merge (see the simplified (8a and b).

The mode of attraction is determined by the overt elements. Starting from a Merge structure like (9a), the order in (8a) can be achieved as indicated in (13).[21] Each projection above VP which contains overt material (advP$_{manner}$, ModP, advP$_{epistemic}$, CP) activates a functional projection (FP) and, in the regressive pied piping mode, attracts to the Spec of that FP the closest verbal (+v) projection in the Spec's

element A, ends up moving some constituent B that properly contains A." (Horvath forthcoming, section 1.) There are essentially two types: in one, A, the constituent bearing the feature that is attracted, is the highest specifier of B, the larger constituent that moves (*whose*-picture or *progressive pied piping*). In the other, A, the constituent bearing the feature that is attracted, is the lowest complement of B, the larger constituent that moves (pictures-of-*whom* or *regressive pied-piping*). It is sometimes assumed that the larger constituent B inherits, by upward percolation, the feature of A that is responsible for the attraction (here +V or +N). Later we will see that the former is possibly more marked than the latter. Later, I also consider a third (apparently even more marked) type of attraction, that of the nucleus (VP or NP) *without pied piping*, which yields such "less popular" (Greenberg 1963: 87) orders as N Dem Num A and V Mood Tense Aspect (Cinque 2014: 238f). Pied piping is generally optional (unless required to prevent some violation, e.g., of the Left Branch Constraint). In the derivation of all orders except the "less popular" ones just mentioned, it is however obligatory, something that remains to to be understood. For insightful discussion on classical pied piping and more recent alternative formulations (which do away with feature percolation) see Horvath (forthcoming).

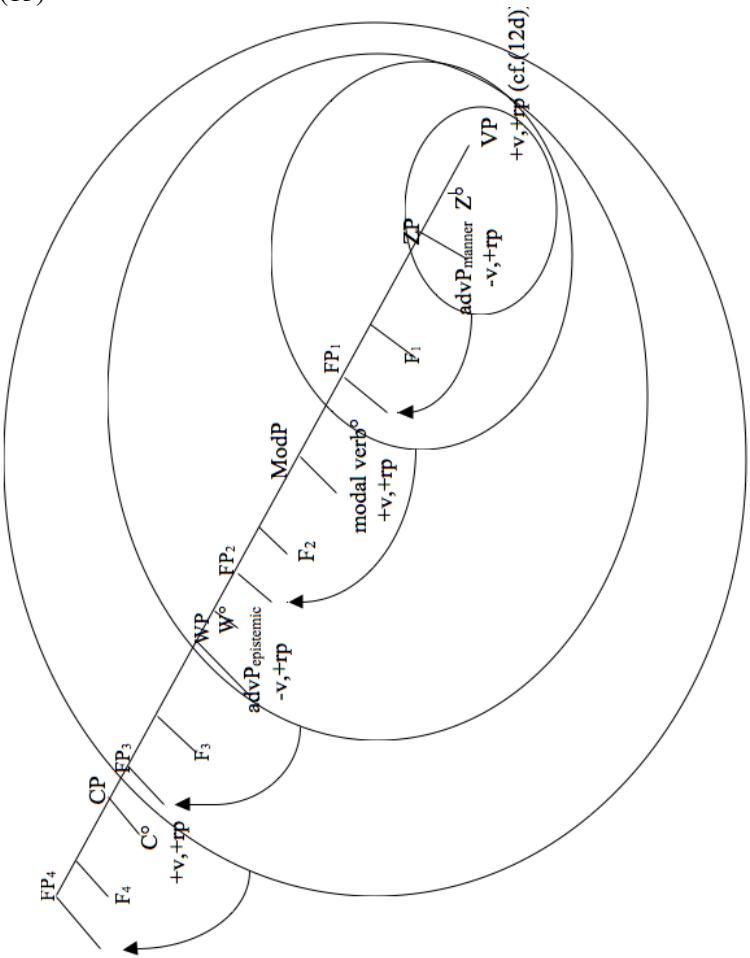
[21] This generalizes the derivation of agglutinative morphology in head-final languages sketched in Kayne (1994: §5.5):

…X [$_{YP}$… Y ZP]…→ …X [$_{YP}$ ZP Y t]…→ [$_{YP}$ ZP Y t_{ZP}] X t_{YP}

In Cinque (1999), I took AdvPs corresponding to a modal or other functional head to be be sitting in the Spec of that head, but this turns out to be problematic for head-final languages where the AdvP and its head can be separated by material which has raised to the immediate left of that head (e.g., AdvP$_{possibility}$ VP$_i$ Modal$_{possibility}$ t_i). This suggests that the correspondence between a head and the matching advP must rather be stated in terms of a "space" made out of more than one projection.

c-domain.[22] In the first step $advP_{manner}$ activates FP_1, and attracts the closest verbal (+v) projection, here VP, pied piping regressively any non-verbal (–v) projection, here ZP.[23]

(13)



[22] I.e., the one separated from it by fewer maximal projections.

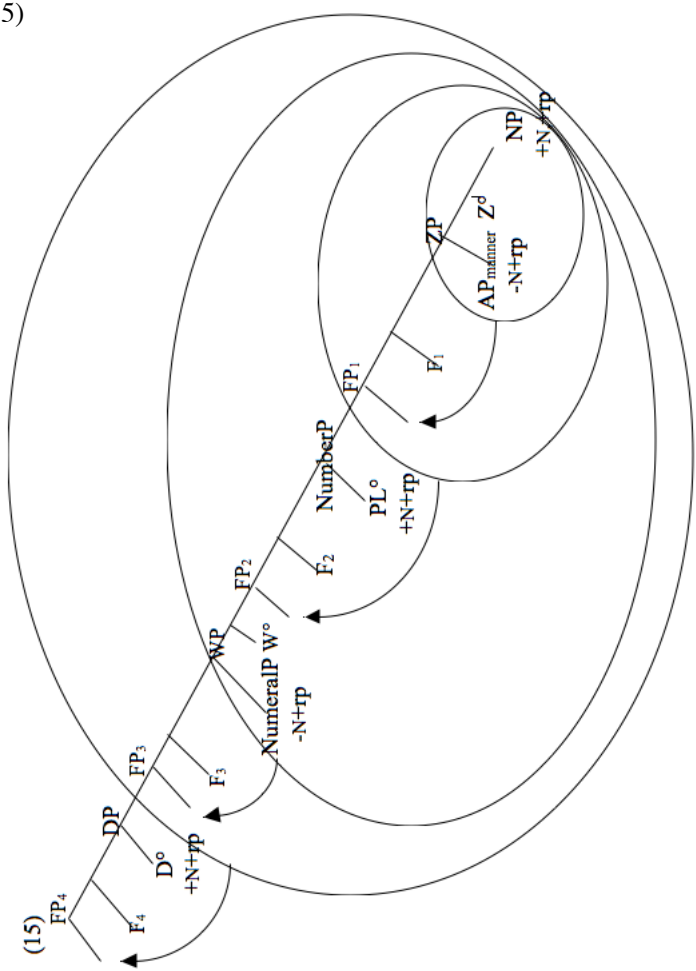
[23] Higher +v projections (ModPs, CPs, etc.) are not pied piped by the lower +v projection that is attracted. Only -v projections are. This can be seen as a means to transmit the +v feature of the +v projections (cf. (12)a) to projections that are not endowed with it (turning a –v to a +v feature under pied piping). Here I ignore issues of anti-locality (Abels 2003; Kayne 2005,§5.6, among others). Anti-locality can be enforced by assuming a further FP above each FP.

The next step involves the attraction of VP, again with regressive pied piping to the Spec of FP2, activated by ModP. After that what is attracted via regressive pied piping to Spec,FP3 is ModP, as this counts as the closest verbal (+v) projection in the c-domain of Spec,FP3. The final step consists in the attraction via regressive pied-piping of ModP to Spec,FP4, above CP, giving under the LCA the linear order: AdvPepistemic AdvPmanner VP modal verb° C°, with segregation of the phrases (in their order or Merge) to the left of V, and of the 'heads', or +v projections (in the reverse order of Merge) to the right of V. Cf. the Japanese example in (1)b., repeated here as (14):

(14) Watasi-wa [kare-ga osoraku sore-o zyoozuni
I-Top [he-Nom probably it-Acc well
okona-e-ru to] it-ta.
do-Mod-Present that] say-Past
'I said that probably he can do it well'

The derivation of the ideal head-final nominal phrase follows comparable lines. Once NP is attracted via regressive pied piping to Spec,FP1, dragging along ZP, and then to Spec,FP2 above NumberP, dragging along FP1, it will be NumberP (which is the closest +N projection in the c-domain of Spec,FP3) that will be attracted with regressive pied piping, as indicated in (15):

(15)



Finally, NumberP will be attracted (with regressive pied piping) from SpecFP3 to Spec,FP4 above DP to yield, under the LCA, the order NumeralP APmanner NP PL° D°. Cf. the Wolaytta example (2)b, repeated here as (16), with Case° replacing D°:

(16) Wolaytta (West Cushitic, SOV – Lamberti and Sottile 1997,215)
he [taa- w kuttuwa ehida] iccashu adussa laagge-t-I
those me-dat chicken having-brought five tall friend-PL-NOM
'those five tall friends who brought me a chicken'

Subject, object, and circumstantial DPs, when present, raise to higher licensing positions, and surface in the same relative order in which there were merged, which is arguably the order in (17) (cf. Schweikert 2005a and Takamine 2010):[24]

(17) DPtime DPlocation .. DPinstrument .. DPmanner… DPagent DPgoal DPtheme V°[25]

3.2 The "head-initial" type.

Recall the generalization concerning the "head-initial" word order type: all higher (functional) heads precede V/N/etc., in their order of Merge, and phrasal specifiers (arguments, circumstantials, and modifiers) follow V/N/etc., in an order which is the reverse of their order of Merge (see the simplified (8a' and b', repeated here as (18a-b).

(18) a. C° Mod° V AdvPmanner AdvPepistemic
b. D° PL° N APmanner NumP

Let's consider first the order in (18)a. This can be achieved, as shown in (19a-d). First the overt advPmanner (endowed with a +pp feature) activates an FP and attracts with (vacuous) progressive pied piping the VP to that Spec. After that ModP (also endowed with a +pp feature) activates an FP, FP_2, and attracts with progressive pied piping the closest +v projection, which is still the VP. See (19a):

[24] Order preservation may ultimately be a consequence of Relativized Minimality. See the discussion in Krapova and Cinque (2008: §7) and references cited there of the analogous order preservation with multiple *wh*-phrases in Bulgarian, which develops certain suggestions of Chomsky's and Rizzi's. Also see Haegeman (1993) on scrambling in West Flemish, which preserves the order of Merge of SU, IO and DO within a single clause.

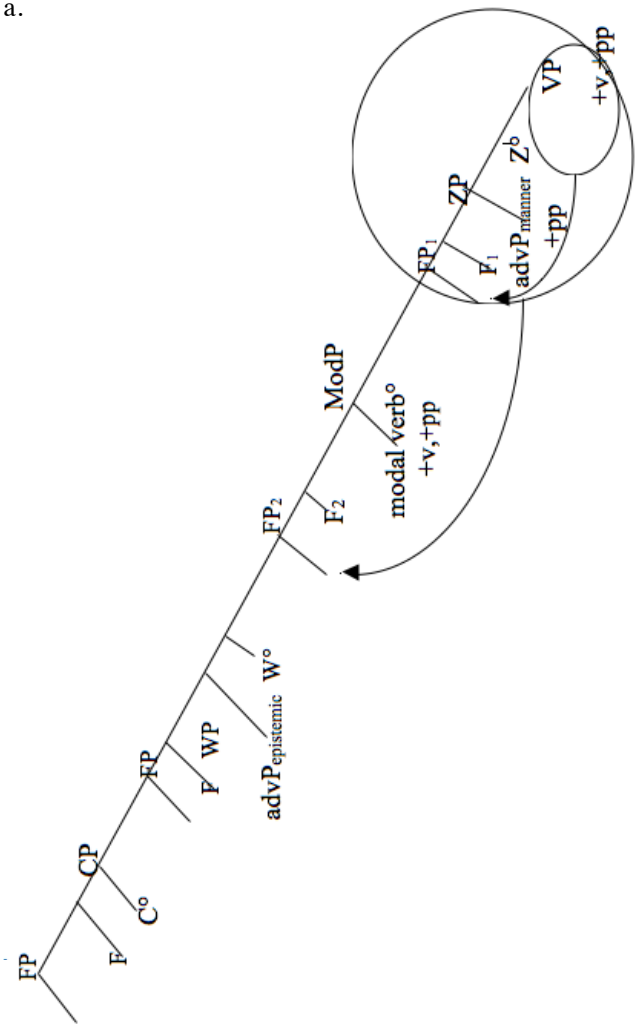
[25] In case a DP has to be licensed by a P, I will assume that it, rather than the remnant (as in head-initial languages), raises to Spec P, after raising to Spec K to check its Case. See Cinque (2013a: §2.4.2)

Particularly telling in this regard is the distribution of PPs in nominal phrases of head-initial and head-final languages. In Cinque (2005b: fn.34; see also Cinque 2010: chapter 6, note 14), it is observed that prepositional phrases are final in the DP of head-initial languages, while postpositional phrases are initial in the DP of head-final languages (which appears to betray the higher merger of P, as in Kayne 2000, obscured in head-initial languages by the movement of the remnant).

(i) a. **PP** Dem Num A N (Armenian, Hindi, Malayalam, Tatar, Turkish, etc.) vs.
b. N A Num Dem **PP** (Gungbe – Enoch Aboh, p.c.)/N Dem Num A **PP** (Kîîtharaka - Muriungi 2006: 36)/Dem Num A N **PP** (English, Bulgarian)

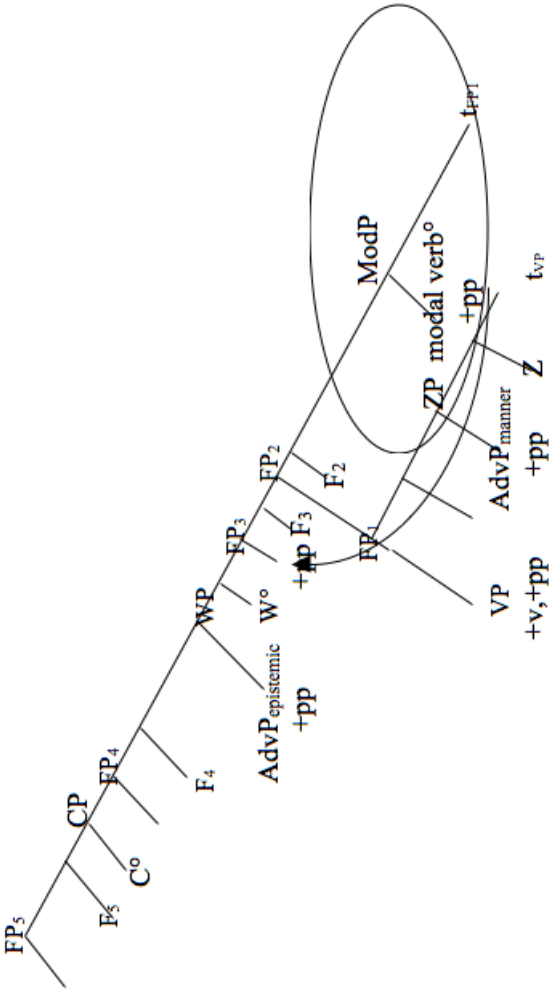
For recent discussion see Atlamaz (2016) and, for a non-movement approach which aims at capturing the same generalizations, Adger (2013).

(19) a.



At this point the VP, which is also endowed with a +pp feature, and which is the highest +v projection (under Kayne's 1994 definition of c-command is not contained in the Spec of FP_1 nor FP_2) activates an FP (FP_3) and attracts in the progressive pied piping mode the closest +v projection in the c-domain of Spec,FP_3, which is ModP. See (19b):

(19) b.

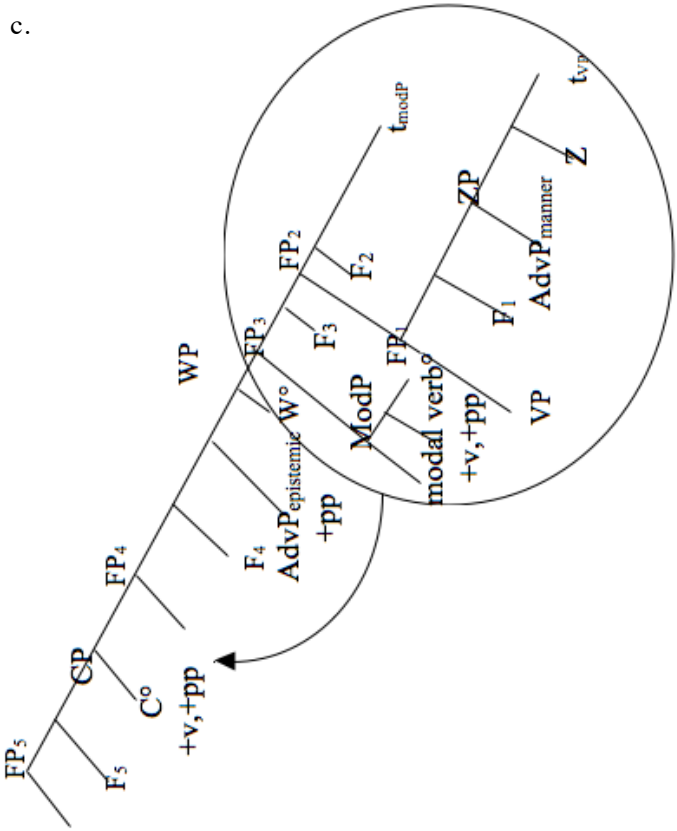


This generalizes Kayne's (1999, 2003a, § 4.5) derivation of the infinitival complementation of (functional) verbs like *try* in English, which restores the original hierarchical relation between the functional and the lexical verb (also see Koopman and Szabolcsi 2000):

a try leave (merger of K) →
b K try leave (movement of InfinP to Spec,K) →
c leave$_i$ K try t$_i$ (merger of P/C) →
d to leave$_i$ K try t$_i$ (movement of VP to Spec,P/C) →
e [try t$_i$]$_j$ to leave$_i$ K t$_j$

In (19b) it is the modal verb, rather than *try*, that is crossed over by its complement, after which it moves above it restoring the order of Merge of the two. After that ModP moves with progressive pied-piping to the Spec of the next available FP (FP_4) activated by the epistemic adverb phrase (see (19c).

(19) c.

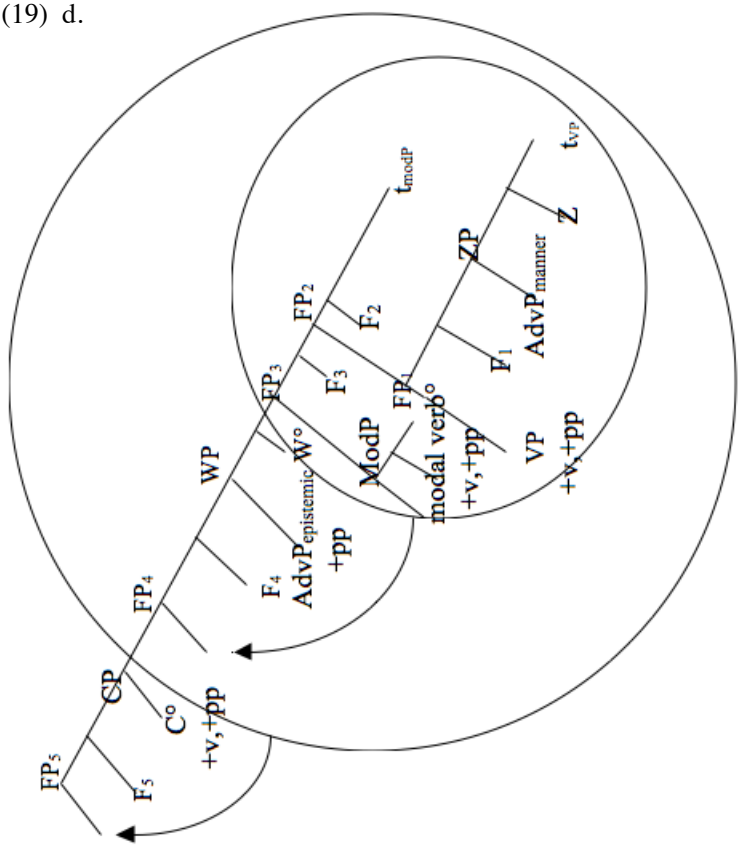


The order up to this point is modal verb V advPmanner advPepistemic, which closely corresponds to the order of elements in the VSO language Peñoles Mixtec (cf. Daly 1973: 15):[26]

[26] If the attraction of a higher verbal projection obtains without pied piping (an option that is also available in some language, cf. fn.20, and § 4), the illusion is created that a head may cross over another head in apparent violation of the "Head Movement Constraint." This may be welcome for those languages (like Bulgarian) which can move an auxiliary over a higher one, in so called "Long Head Movement," presumably to an Ā-position (i) (cf. Embick and Izvorski 1994):

ní šitu ba?a na?i-d
PAST plow well probably-he
'He probably plowed well'

(19) d.



(i) Bil$_i$ săm t$_i$ kupil knigata
been am. I bought book.the
'I have allegedly bought the book'

The movement of the second auxiliary (phrase), *bil* 'been', in (i), is one of the ways in which one can satisfy the requirement that the clitic auxiliary *săm* not be in first position (other options consist in having another phrase precede it, with different pragmatic effects (cf. Lambova 2004: Chapter 5), as in (ii)).

(ii) a. Az săm bil kupil knigata
b. kupil săm bil knigata
c. knigata săm bil kupil
'I have allegedly bought the book'

The derivation of head-initial nominal phrases proceeds similarly, yielding the overall order D° PL° N APmanner NumeralP, which closely corresponds to the order of elements in the nominal phrase of, for example, VSO Tahitian (Oceanic):

(20) te mau ʻānani para (Pearce 2012,85)[27]
Art PL orange ripe
'the ripe oranges'

Subject, complements, and circumstantial DPs, which I take to be merged above VP/NP in the order seen in (17) above (DPtime DPlocation .. DPinstrument .. DPmanner DPagent DPgoal DPtheme V°) in head-initial languages surface in the reverse order (owing to the roll-up derivation), after raising to higher licensing positions:[28]

(21)
V° DPtheme DPgoal DPagent DPmanner .. DPinstrument .. DPlocation DPtime

The order in (21) is again tentatively reconstructed from the order of arguments and circumstantials in more rigid verb-initial languages (see, for example, Massam 2000: 98 on Niuean and Sells 2000: 124 on Pangasinan).[29] There may be more than one (specialized) licensing position for each DP, as shown by the Malagasy case in (22), from Rackowski and Travis (2000: §1.3), where the object DP may occur in different places among the adverbs (depending on the position it reaches before the reversal operated by the raising of the (extended) VP with progressive pied piping). These different positions may correlate with distinct semantic interpretations (cf. Diesing 1992).

(22) Tsy manasa tsara foana <ny lamba> intsony
NEG PRES.AT. wash well always <DET clothes> anymore
<ny lamba> mihitsy <ny lamba> Rakoto
<DET clothes> at.all <DET clothes> R.
'Rakoto does not wash at all any longer always well the clothes'

[27] Numerals in Tahitian follow adjectives. Cf. Ruhlen (2008: 1316).

[28] It is interesting to note that virtually the same order/hierarchy of (17) appears to hold DP-internally in English complex nominals (Rae 2009) and, modulo the mirror-image order, with Romance relational adjectives (Bortolotto 2015), pointing to deep seated scope relations among these arguments.

[29] To judge from Schweikert (2005b) and Takamine (2010) circumstantial PPs are actually merged in specific points within the sequence of the adverbs (… $DP_{temporal}$ $AdvP_3$ $AdvP_2$ $DP_{locative}$ $AdvP_1$ DP_{manner} V°).

3.3 The ideal orders, cross-category harmony, and actual orders.

As already mentioned, the derivations reviewed above yield the (reconstructed) ideal head-final and head-initial orders through successive attractions of the verbal and nominal projections via uniform regressive or progressive pied pipings. However, the bewildering variation in (canonical) word orders found in the languages of the world clearly involves different departures from these simple derivations (a daunting task to address).

In the present perspective, a quite common departure from such uniform derivations can be found in the presence of opposite values in the mode of pied piping for verbal and nominal extended projections. For example the Trans-New Guinea language Bargam (like several other Papuan languages) is head-final in the verbal extended projection (in fact, quite strictly so) and in the PP (it is postpositional), but head-initial in the nominal extended projection:

(23) Bargam (Papuan (Trans-New Guinea) – Hepner 2006)
a. AdvP Subj PP Obj V (head-final)
b. N AP NumP DemP (head-initial)

Many Mayan languages show the reverse situation, being head-initial in the verbal extended projection and head-final in the nominal one. See for example the case of Tzutujil in (24):

(24) Tzutujil (Mayan (Qichean) VOS – Dayley 1985)
a. V Obj Subj AdvP PP (head-initial)
b. DemP NumP AP N (head-final)

Yet, some clear tendencies of different strength are observable.

3.3.1 Harmony of heads within the same extended projection is rather strongly obeyed.

As apparent from Dryer (1992: 94,100, 103) (also see Biberauer, Holmberg and Roberts 2014: §3), modal verbs, auxiliaries and subordinating conjunctions are predominantly verb patterners. They predominantly follow the verb in OV languages and predominantly precede the verb in VO languages. See (25),(26) and (27):

(25) a. OV and V modal (want): 29
b. VO and modal (want) V: 42
c. OV and modal (want) V: 10
d. VO and V modal (want): 4

(26) a. OV and VAux: 36
b. VO and AuxV: 28
c. OV and AuxV: 3
d. VO and VAux: 4

(27) a. OV and IP Sub: 38
b. VO and Sub IP: 59
c. OV and Sub IP: 17
d. VO and IP Sub: 1

3.3.2 Harmony of modifiers within the same extended projection is also fairly strongly obeyed.

In the nominal extended projection (see (28), from the larger sample of Cinque (in preparation)), the consistent (a) and (b) cases are much more numerous than the disharmonic ones (from (c) to (p):

(28) a. N A Num Dem: 462 languages; 120 genera
b. Dem Num A N: 339 languages; 106 genera
c. Dem N A Num: 143 languages; 70 genera
d. Dem Num N A: 133 languages; 53 genera
e. Num N A Dem: 198 languages; 49 genera
f. N A Dem Num: 85 languages; 31 genera
g. N Num A Dem: 50 languages; 28 genera
h. Dem N Num A: 41 languages; 25 genera
i. Dem A N Num: 40 languages; 24 genera
l. N Dem Num A: 57 languages; 20 genera
m. Num A N Dem: 46 languages; 19 genera
n. N Dem A Num: 26 languages; 18 genera
o. A N Num Dem: 26 languages; 11 genera
p. A N Dem Num: 16 languages; 6 genera

To judge from Dryer (1992: 123), see (29), the position of AdvP and PP modifiers with respect to the verb in the clause also tends to be harmonic:

(29) a. PP-V and Adv-V: 42 genera
b. V-PP and V-Adv: 36 genera
c. PP-V and V-Adv: 1 genus
d. V-PP and Adv-P: 6 genera

3.3.3 Harmony across different extended projections also seems to be more strongly obeyed by "heads" with respect to their complements than by heads with respect to their phrasal modifiers.

For example, if one composes the features "order of object and verb" and "order of adposition and NP" or those of "order of object and verb" and "order of genitive and noun" in the interactive tool of the World Atlas of Language Structures (WALS Online), the cross-categorial harmony between the extended projections of VP and PP and VP and NP with respect to heads and their complements (to the extent that N Gen includes genitive complements of the noun in addition to genitive subjects) emerges fairly robust. See the figures in (30) and (31):

(30) a. OV and OP: 427 languages
b. VO and PO: 417 languages
c. VO and OP: 38 languages
d. OV and PO: 10 languages

(31) a. O V and Gen N: 434
b. V O and N Gen: 352
c. V O and Gen N: 113
d. O V and N Gen: 30

And even if no comparable composition of the feature "order of object and verb" with "order of adjective and complement" is available from WALS, it seems not too far-fetched to hypothesize that a similar harmony obtains (at least to judge from a number of OV languages, which have PP/DP A as their canonical order, and, conversely, from a number of VO languages, which have A PP as their canonical order).[30]

[30] Also see Greenberg's (1963) Universal 22 on the order of adjective and (the adjunct) [marker + standard]. Characteristically, languages with postpositions have [standard + marker] > adjective ('that than clear(er)') while languages with prepositions have adjective > [marker + standard] ('(more) clear than that').

Harmony across different extended projections is instead much weaker (if present at all) when heads and their modifiers are considered. Compare for example the order of P and its complements and the order of the N and its genitive objects just reviewed, which align fairly well with the order of the verb and its complements, with the figures in WALS Online for the composition of the features "order of object and verb" and "order of adjective and noun" ((32)) or "order of numeral and noun" ((33)), as well as (24) and (25) from Bargam and Tzutujil above:

(32) a. OV and AN: 201 languages
b. VO and NA: 404 languages
c. OV and NA: 287 languages
d. VO and AN: 100 languages

(33) a. OV and Num N: 180 languages
b. VO and N Num: 246 languages
c. OV and N Num: 230 languages
d. VO and Num N: 208 languages

Note that it would not do to assume that nominal modifiers are adjuncts, rather than specifiers, and as such are outside the perview of the headedness parameters; this is because within the nominal extended projections they largely follow the relevant headedness parameter, as evident from (28).

Similarly for adjectives (in predicate position), whose order with respect to their PP complements appears to show more cross-category harmony than their order with respect to modifiers. For example, the combination of OV and VO with the order of degree word and adjective shows only rather weak cross-category harmony. See (34) from WALS Online:

(34) a. OV and Degree word-Adjective: 114
b. VO and Adjective-Degree word: 102
c. VO and Degree word-Adjective: 81
d. OV and Adjective-Degree word: 63

Nonethless, cases of disharmony obtain even within the same extended projection, and in the verbal extended projection, with auxiliaries, modals and complementizers. See § 4, below, for some examples, and the general discussion in Biberauer, Holmberg and

Roberts (2014), where it is however noted that some orders are never or very rarely found (e.g., (36), as opposed to (35)):

(35) a. Aux [O V]
b. C [O V (Aux)]

(36) a. (*)[V O] Aux
b. (*)[(Aux) V O] C

They propose that cases such as (36) fall under their Final over Final Constraint (FOFC), itself arguably following from more general principles. Even if there turned out to exist genuine exceptions to the FOFC,[31] the generalization holds quite clearly and must be captured.

In the present context, another way to understand the FOFC is in terms of the more marked character of regressive pied piping as opposed to progressive pied piping,[32] to the effect that changing pied piping from the more marked regressive type to the less marked progressive type (Aux [O V], C [O V (Aux)]) is an admitted departure from the uniform assignment of pied piping features, while the reverse ([V O] Aux), [(Aux) V O] C] is not (or is highly disfavored).

[31] See the apparent SVOAux orders of Kokama-Kokamilla (Tupí-Guaraní) ((i), from Vallejos Yopán 2010: §7.3.3.1):

(i) tsa=mama tseneta kanata ukua=tsuri penu=yaki=ka
1SG.F=mama turn.on fire HAB=PAST.AUX 3PL=head=LOC
'My mother used to turn on the light close to our heads'

and the case of an apparent final complementizer in the head-initial Southern Khoisan language East !Xóõ, mentioned in fn.31 and § 2.7 in Cinque (2013a).

[32] This is shown by the contrast between regressive and progressive pied piping in (English) embedded (ii) vs. matrix (i) contexts mentioned below, by the skewing toward progressive pied piping shown by the higher number of VO languages with respect to OV languages (if one adds together the number of SVO, VSO and VOS languages, and that of SOV, OVS, and OSV in WALS—cf. (iii) below—and if one considers the percentages of these types in Tomlin 1979, Mallinson and Blake 1981 and Cysouw 2008, reported in Cinque 2013a: §2.8), as well as by the higher number of genera of N A Num Dem languages in (28) above (which also, putatively, involves progressive pied piping) vs. Dem Num A N languages (putatively involving regressive pied piping):

(i) a. Whose pictures did you see?
b. Pictures of whom did you see?
(ii) a. I wonder whose pictures you saw.
b. *I wonder pictures of whom you saw.

(iii) SOV	SVO	VSO	VOS	OVS	OSV
497	435	85	26	9	4

As Luigi Rizzi observed (p.c.), the pictures-of-*whom* or *regressive pied-piping* involves a more complex upward percolation than the *whose*-picture or *progressive pied piping* (which can be thought of as the result of independent relations: Spec,Head agreement and projection).

In the nominal extended projection, disharmony is observable in the 12 attested orders of nominal modifiers other than the consistent head-final Dem Num A N and head-initial N A Num Dem (see (28) above).

Another, less common, departure from the uniform attractions leading to the ideal head-final and head-initial orders is attraction without pied piping ([-pied piping]), where the VP or NP moves by itself, without dragging along other material (cf. the notion of "complexity filter" of Koopman and Szabolcsi 2000 and Koopman 2014). In the nominal extended projection this yields, as noted, the "less popular" (Greenberg 1963: 87) order (37a); in the verbal extended projection V-medial Italian "head-final" order of certain postverbal adverbs (37b) rather than the "head-initial" mirror-image one of Malagasy (37c).

(37) a. N Dem Num A (Greenberg 1963: 87)

b. V > mica > più > sempre > completamente > bene
'negation' > 'anymore' > 'always' > 'completely' > 'well'
(Italian - Cinque 1999: Chapt 1)

c. V > tsara > tanteraka > foana > intsony > mihisty
'well' > 'completely' > 'always' > anymore > 'negation'
(Malagasy - Rackowski and Travis 2000: §1)

V2 may be another case (in both head-initial and head-final languages).[33] Other deviations from the ideal orders are (briefly) discussed in Cinque (2013a: §2.6).[34] In any case, as already noted, the reconstruction of the two ideal orders and their derivation via progressive and regressive pied piping, beyond their possible general value, may constitute a useful "metric" to locate each language in the space of admitted variation, whose range and limits remain to be discovered.

[33] Actally no single V2 parameter may exist, but rather a number of microparameters (cf. Westergaard 2009).

[34] A more complex set of departures from the ideal head-final order is provided by Germanic varieties which display different orders of lexical verbs, modals and

4. A micro-parametric approach to word order variation:

4.1 Two puzzles: the inconsistencies of the most rigid types and their minority status.

The derivation of the ideal head-final and head-initial word orders sketched above involves an absolute uniformity of the pied piping features lexically determined by each overt projection. However, as already noted, the actual situation departs from such an ideal picture in two important respects. First, even the most rigid head-final and head-initial languages display a number of inconsistencies; secondly, the very languages which come closest to the ideal types (the "rigid" SOV and the VOS languages) are apparently a minority among the languages of the world, which suggests that an absolutely uniform distribution of pied piping features within and across categories is rare.

Concerning the first aspect, for example, it is observed in the literature that even Japanese, Korean, and Tamil, which many authors consider the most rigid head-final languages (cf. e.g., Polinsky 2012), display some non head-final properties, with Japanese and Korean allowing numeral plus classifier phrases to occur postnominally before a closing case morpheme (Siegel and Bender 2004; Joo 2013),[35] and Tamil allowing postnominal universal quantifiers (Annamalai and Steever 1998: 118).[36]

Greenberg's (1963: 79) "rigid" subtype of SOV languages, i.e., his group 23.III/Po/GN/AN (p.109), contains additional SOV languages, which also manifest inconsistencies: Hindi and Bengali, with initial complementizers (Singh 1977: 204 and Bayer 1999: 2001), postverbal negative adverbs (Hindi: Bhatt 2007) and postverbal complement clauses (Bhatt and Dayal 2007: 291), Modern Armenian with differ-

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auxiliaries, combined with an order of argument and adverbial modifiers that reflects their unique order of Merge (for discussion of the attested orders of verb clusters see, among others, Haegeman and Riemsdijk 1986, Wurmbrand 2004 , Barbiers 2005, Hinterhölzl 2006, Svenonius 2007, Abels 2015). This possibly requires different attractions of the lexical verb, the modals, and the auxiliaries with regressive and/or progressive pied piping interspersed with successive evacuation of arguments and adverbials possibly along the lines proposed in Koopman and Szabolcsi (2000), Koopman (2002, 2015b) and Jayaseelan (2010).

[35] Also see Cinque (2013a: fn11) for further references to apparently inconsistent properties of Japanese, and Koopman (2015b: §3.1.4.1) on the unexpected NP-*man* ('only')-Case vs. NP-P-*man* in Korean.

[36] Postverbal material in Tamil (and head-final languages, more generally) seems instead to involve marked, discourse-related, non canonical orders (focalization, right dislocation, afterthoughts, see Herring 1994, Öztürk 2013a, and references cited there).

ent postverbal constituents (Dum-Tragut 2009: §3.5), Burmese with postnominal adjectives and numerals (Jones 1970: 5, Soe 1999: 39), Yukaghir with postverbal "informationally given" subjects (Maslova 2003: Chapter 9,§1.5.1), Ainu, with predominant prefixation (Bugaeva forthcoming) and Noun Numeral (in addition to Numeral Noun) (Tamura 2000: 190), Sidamo, with initial coordinating disjunctions (Teferra 2014: §3.7 and §5.5),[37] Nama with possible postnominal possessives and postverbal objects (Witzlack-Makarevich 2006: §3.3), Burushaski, with initial complementizers and postverbal complement clauses (Munshi 2006: §4.4.2), Harari with prepositions (in addition to postpositions) (Tosco 1998: 357), Newari with postnominal quantifiers and some postverbal constituents (Genetti 2007: Chapter 11,§2 and Chapter 14,§4), Maidu with alternative VSO orders (Siewierska 1998: endnote 23), Navaho, with certain initial subordinators ('if'), and postverbal adverbs (Speas 1990: 278), Abkhaz, with postnominal adjectives and quantifiers (Hewitt 1989: 59f and 236f), Quechua, with certain postverbal infinitival complements and certain postverbal adjuncts (cf.Cole 1982: 39ff,113), Altaic (Turkic, Mongolic and Tungusic) with various inconsistencies[38], like Paleo-Siberian (Chukotko-Kamchatkan, Nivkh),[39] and Finno-Ugric[40] (for the Ethiopian languages, Chamir, Bedauye, the North Caucasian language Khinalug, and the Papuan language Marind-Anim cited by Greenberg, I could not find relevant information).

Comparable inconsistencies are also been found in the most rigid head-initial languages, VOS (and VSO) languages.[41] These also display a number of inconsistencies. Malagasy (VOS) with pre-verbal topic

[37] See Zwart (2005) and references cited there for the relation between OV and "final" conjunctions and VO, and "initial" conjunctions, even though in Zwart's (2009) enlarged sample of 214 languages, head-final languages with initial coordinating conjunctions/disjunctions outnumber head-final languages with final ones 47 to 10.

[38] Turkish with postverbal constituents (Kural 1997) and postnominal (as well as pre-nominal) relative clauses, Mongolian with postverbal constituents (Öztürk 2013b), as well as one common N > proper N order (Poppe 1951,111) and N-Poss alongside Poss-N (Ruhlen 2008,792), Manchu with certain postverbal adverbs (Gorelova 1997,105).

[39] Cf. Chukchi, with N A Num Dem orders alongside Dem Num A N orders (Dunn 1999,§9.2), and **Nivkh**, with numerals up to five in postnominal position (Gruzdeva 1998,24).

[40] Finnish and Northern Saami display initial complementizers (cf. Biberauer,Holmberg and Roberts 2014,194), as do Hungarian and Estonian; Eastern Khanty can have preverbal modals (Filchenko 2007,446), Nenets postnominal finite relative clauses (Nikolaeva 2014, Chapter 13), Enets some postverbal adverbials (Künnap 1999,32).

[41] According to Polinsky (2012,§2), in addition to Malagasy, these are Tongan, Irish and most Mayan languages.

and focus phrases (Flegg 2003; Koopman 2015: §4.3.2.1), Anejom (VOS) with pre-nominal indefinite quantifiers (Lynch 1982: §2.5.1), Fijan (VOS), with pre-nominal numerals and certain pre-adjectival degree adverbs (Dixon 1988: 144 and §8.3.6), Seediq (VOS) with postverbal adverbial subordinators (Holmer 1996: 60) and postverbal aspect particles (Holmer 2005: 177), Tongan (VOS/VSO) with N Dem A Num and N A Dem Num orders (MacDonald 2014: 3 and 12f), Irish (VSO) with pre-nominal numerals, Yucatec Maya (and many other Mayan languages) (VOS/VSO), with pre-nominal Dem Num A modifiers (Vapnarsky 2011: 1421).

Concerning the second respect in which languages appear to depart from the ideal head-final/head-initial orders, we noted above that the languages that come closest to the ideal orders (the rigid SOV and the VOS languages) are a minority among the head-final and the head-initial languages, respectively.[42]

This makes it plausible to explore a microparametric approach to the derivation of word order, which simultaneously accommodates the lexical idiosyncrasies, the subregularities, and the tendencies which are observable in the languages of the world. The proposal I would like to put forth below, after considering the two kinds of lexical attractions, bears some similarity with Roberts's (2012) idea of "macro," "meso," "micro," and "nano" parameters, and Baker's (2008) intermediate position between macro- and micro-parameters in his fn.2; however, I will attempt to cast them in purely lexical terms.[43] In the next two sections I briefly review cases where the mode of attraction appears to be determined by the attractor (§ 4.2), and cases where it appears to be determined by the attractee (§ 4.3), where the attractors and attractees are single lexical items or lexical items belonging to successively larger classes. § 4.4 will then consider the implications of the micro-parametric approach for acquisition and for word order typology.

[42] The VOS languages, in Hammarström's sample of 5230 languages (cf. Hammerström 2015) are around 3.3% of the totality of languages; the VSO languages reach 9.5%. The SVO languages, which are often quite inconsistent but still display more head- initial than head-final properties (cf. Dryer 1991), and should thus be classified broadly as (non rigid) head-initial, reach 40.2%, while the SOV languages reach 43.3% (in terms of families SOV however is much more represented). There are unfortunately no figures for the "rigid" ones among the SOV languages, but the almost absolutely consistent ones are very likely also a minority among the SOV languages (possibly just as VOS languages are with respect to the totality of VO languages).

[43] My proposal also differs in not taking head-initial orders to be unmarked vis-à-vis head-final ones, and in assuming attraction plus pied piping to be involved in both head-final and head-initial languages.

4.2 Cases of attraction determined by the attractor

They will be arranged along a scale of successively larger generalizations.[44]

A) Single lexical item:[45]

In English the adjectival modifier *enough*, which has to follow the adjectives that it modifies (e.g., *good enough*) (Maling 1983: §1.4; Webelhuth 1992: 23f; Kayne 2005: §3.6; and references cited there), may be taken to be endowed with a [progressive pied-piping] feature that makes the AP move above it. The other elements belonging to the same class of adjectival modifiers (*very, quite, too,* etc.), which have to precede the adjectives that they modify (*very good, quite good*, etc.), may instead be taken to have a [regressive pied-piping] feature, with the effect of not inverting the order of Merge.[46]

The same appears to be true of certain direct modification adjectives in Italian.[47] *Vecchio* 'old' in the sense of 'long-standing' is only pre-nominal (hence, in the present context, characterized by a [regressive pied-piping] feature which does not cause the NP to raise above it (see (38a)). *Medio* 'average' is instead only postnominal (hence endowed with a [progressive pied-piping] feature which causes the NP to raise above it (see (38b)):

(38) a. *un* ***vecchio*** *amico*
'a friend of long-standing' (**un amico vecchio*)

[44] On the role of generalizations (and related exceptions) in language acquisition see Yang (2005,2015).

[45] A domain where in many languages (especially SVO ones – cf. Cinque 2011) single lexical items appear to have to be marked with either [progressive pied-piping] or [regressive pied piping] features is that of the order of proper nouns and common nouns (which correlates with the head-initial/head-final types, as noted in Greenberg 1963,89f).

[46] The *enough* which modifies nouns and prepositions appears instead to impose a [regressive pied-piping] feature to the attracting FPs as it (preferably) precedes NPs and PPs (cf. Maling 1983,§1.4).

[47] 'Direct modification' adjectives are attributive adjectives which either cannot have a relative clause source because they are non-predicative or if they can have a predicative usage are not derived through a reduced relative clause but modify the NP much as adverbsPs modify the VP. Some of their subclasses, in Italian, are necessarily post-nominal (classificatory, provenance, shape, etc.), others can appear both pre- and post-nominally (size, age, value, etc.). Cf. Cinque (2010).

b. *l'italiano **medio***
'the average Italian' (**il medio italiano*)

B) single adjectival subclass:

Cypriot Maronite Arabic colour adjectives of Arabic origin necessarily follow the NP while those of Greek origin may either follow or precede. See (39), from Panayidou (2013,179f):

(39) a. (tin-i) varka χabra (with progressive pied-piping)
(**tin-i χabra varka*)
(give-me) paper.def.f red.def.f
'(Give me) the red book/paper'

b. (tin-i) li-prasini varka (with regressive pied-piping)
(but also *varka li-prasini*)
(give-me) the-green.f paper.def.f
'(Give me) the green book/paper'

Istro-Romanian (Zegrean 2012: 93) presents a minimal pair of the same general type. The provenance adjective *taljanski* (of Croatian origin) has to precede the noun (thus characterized by a regressive pied-piping feature), while the adjective *taljan* (of Romance origin) has to follow the noun (thus characterized by a progressive pied-piping feature).[48]

(40) a. ur taljanski fečor (*ur fečor taljanski)
ur fečor taljan (*ur taljan fečor)
'an Italian boy'

Another case is provided by Italian provenance adjectives which are only postnominal (see 41a), in contrast with size adjectives, which can be either pre- or post-nominal. See (41b):[49]

[48] The fact that their origin may ultimately be responsible for the different pied piping features of the different adjectival classes in Cypriot Maronite Arabic and Istro-Romanian is irrelevant. A child has to determine the feature responsible for the correct order without necessarily knowing from which grammars the adjectives were borrowed.

[49] Also see the case of classifying adjectives in Polish, the only class of adjectives that can be postnominal, thus apparently triggering overt raising of the NP gfff (Rutkowski and Progovac 2005).

(41) a. l'invasione **romana** della Tracia/*la **romana** invasione della Tracia)
'the Roman invasion of Thrace'

b. l'**enorme** cupola di S.Pietro/la cupola **enorme** di S.Pietro
'the enormous cupola of S.P.'s'

C) single category (AP) within an extended projection

Farsi adjectives are all postnominal (except those in the superlative form) (Cf. Kayne 2008: note 15 and reference cited there). This can be achieved, in the spirit of Webelhuth (1992: §1.6), if all lexical items that contain the [+Adj] categorial feature are marked as having the progressive pied piping feature (the pre-nominal position of superlative adjectives being instead a function of the movement of the adjective to a high position within the extended nominal phrase (cf. Cinque 2010: 124n13).

D) All categories within a particular extended projection

In the Kwa language Gungbe adjectives, numerals, demonstratives, and other nominal modifiers are all post-nominal (Aboh 2004: Chapter 3). In the present context, this means that all lexical items of any of the nominal modifier classes are marked as having a progressive pied piping feature.

E) All categories within all extended projections

All lexical items (whatever their categorial label) of Japanese would instead be marked as having a regressive pied piping feature (thus yielding virtual "cross-category" harmony, with the exception of numerals which can also be post-nominal, possibly with a discourse-related difference with respect to pre-nominal ones, cf. Kim 1995).

So far, we have observed cases in which the regressive pied piping or the progressive pied piping feature appears to be a property of the attractor.

As mentioned above, there seem to be reasons to also endow the attractee with the same type of features, as there are cases where it is the attractee which apparently determines the kind of attraction involved. This implies that the features of the attractee and those of the attractor must match for the derivation not to crash.[50]

4.3 Cases of attraction determined by the attractee.

In Swedish, adjectives taking a DP complement fall into three classes (Platzack 2014: §4): 1) those, like *bekant* 'known to', *kär* 'dear', *värdig* 'worthy of', *likgiltig* 'indifferent to', etc., which can only follow their DP complement (see (42)); 2) those, like *kvitt* 'be/get rid of' *lik* 'like' *värd* 'worth', etc., which can only precede their DP complement (see (43)); and 3) those, like *trogen* 'true to', *underlägsen* 'inferior to', *överlägsen* 'superior to', etc., which can either precede or follow their DP complement (see (44)):

(42) a. Hon var honom likgiltig.
She was him indifferent

b. Hon var likgiltig *(för) honom.
She was indifferent to him
'She was indifferent to him'

(43) a. Han är kvitt sina plågor.
He is rid-of his.REFL pains

b. *Han är sina plågor kvitt.
He is his.REFL pains rid-of
'He got rid of his pains'

(44) a. Hunden är sin husse trogen
The dog is his master faithful

b. Hunden är trogen sin husse
The dog is faithful his master
'The dog is faithful to his master'

[50] That both attractor and attractee may share features is also suggested in Rizzi (2015: §6).

Assuming, as we have done throughout, that nothing is merged to the right of a lexical category (with the consequence that any complement will be merged in the Spec of a projection above the lexical XP),[51] in the first case, the adjective must be endowed with a regressive pied piping feature; in the second with a [-pied piping] feature;[52] and in the third with either a regressive pied piping or a [-pied piping] feature (alternatively, left unspecified).

Nouns in certain languages also appear to determine the mode of attraction. In Yugambeh-Bundjalung (Bandjalang) (Pama-Nyungan, Australia), adjectives "follow nouns denoting humans, but precede those denoting trees and neuters" (Sharpe 2005: 98).[53]

(45) N_{+hum} AP or AP N_{-hum}

This would seem to suggest that in this case it is a feature of the N that determines the mode of pied piping attraction to the Spec,FP above the adjective (whether it is progressive or regressive pied piping, yielding N_{+hum} AP or AP N_{-hum}). As noted above, the AP must have a feature matching that feature.

Similarly, in Tuyuca (Tucanoan, South America) "numerals precede inanimate nouns and follow animate nouns [my translation]" (Barnes 2000: 446), suggesting once again that it is the noun that dictates the type of pied piping involved:

[51] Raising further, above any adverbial modifiers of the adjective, as shown in (i), from Platzack (2014: §5):

(i) Han var [sina motståndare$_i$ mycket t_i överlägsen].
he was his.REFL opponents very superior
'He was quite superior to his opponents'

The same is true of Quechua (Cole 1982: 74f) and German (Riemsdijk 1983), whose case marked complements invariably precede the adjective.

[52] That the AP is plausibly attracted in this case without pied piping (the third case of attraction mentioned above) may be indicated by the fact that whenever an adjective takes two DP complements (like *skyldig* 'owing'), attraction is possible (in fact necessary) above just the lower one, or above both, in the direct, not the mirror, order (cf. Platzack 2014: §2):

(i)a. Han var skyldig sin son en ursäkt.
He was owing his.REFL son an excuse
b. Han var sin son skyldig en ursäkt.
He was his.REFL son owing an excuse

Modulo phrasal instead of head movement, this is similar to what Platzack (2014) proposes. See Platzack (2014: §1) for arguments that the DP complement is not preceded by a silent preposition, and see also Platzack (1982).

[53] Note also the case of Vanimo (Papuan), which has the order N Num A Dem with human nouns and either the same order or the alternative order N A Num Dem with non-human nouns (Ross 1980: §2.1).

(46) a. sika-'ga 'dii-ga
one-clf ball-clf
'one ball'

b. ĩbĩ-'ã iti'a-rã
man-PL three-PL
'three men'

A similar situation is found with adpositions, which in certain languages also appear to determine, depending on the particular adposition, the mode of attraction.[54] See, for example, the case of Michif (Mixed (French-Cree) language, Bakker 1997: 112), where *d* 'of' is a preposition (i.e., endowed with a progressive pied piping, or a [-pied piping] feature, see (47a), and *pour* is a postposition (i.e., endowed with a regressive pied piping feature, see (47b):

(47) a**. d** sa:b
of sand

b. bi:bi: **pour**
baby for
'for the baby'

In other languages the DP complement can, indifferently, precede or follow the same adposition, which we consequently take to be endowed with either a progressive pied piping or a regressive pied piping feature. See the case of German, (48) (Haider 2014: §2), and of Homeric Greek, (49) (Hagège 2010: 116f):[55]

(48) a. **nach** meiner Meinung

b. meiner Meinung **nach**
'in my opinion'

[54] I am not concerned here with axial part (or relator) "prepositions" (like 'under', 'behind', 'next to', etc.), which can follow the DP even in head-initial languages, possibly in correlation with the position of genitives (cf. Cinque 2010b and references cited there).

[55] These are often called "ambipositions," among other terms. See Libert (2006) for discussion and distinctions to be made.

(49) a. **apò** hês alókhoio
from Poss.3sg.gen wife.gen
'(far) from his wife'

b. neṓn **ápo**
ship.gen.pl from
'from the ships'

Also modals, auxiliaries and complementizers in the extended projection of the VP appear to be able to determine the mode of pied piping attraction.

In Vietnamese the deontic modal precedes the lexical verb while the ability modal follows:

(50) a. Co áy se không **phâi** gap em. (Duffield 1999: 97)
PRN DEM FUT NEG **must** meet PRN
'She will not have to meet with you.'

b. Co áy se không gap em duợc. (Duffield 1999: 97)
PRN DEM FUT NEG **meet** PRN **can**
'She will not be able to meet with me.'

In Persian Farsi, "the perfect auxiliary *budan* ("to be") must appear after the main verb. On the other hand, the future tense auxiliary, used in formal contexts, is expressed by adding the auxiliary verb *xastan* ("to want"), inflected for person and number immediately before the verb stem" (Goldberg 2002: §6.1). See (51a-b):[56]

(51) a. (man) rafte **budam**
(I) go.PART be-PAST.PERF.1.sg
'I had gone'

b. (man) **xâham** raft
(I) FUT-1.sg go
'I will go.'

As for complementizers, in one and the same language, Bangla, one complementizer (of nominal origin), *je*, precedes its complement

[56] I thank Alireza Soleimani for corrections in these examples and glosses.

clause (cf. (52a)) (we take it to be endowed with a progressive pied piping feature), and another (of verbal origin), *bole*, follows it (cf. (52) b) (we take it to be endowed with a regressive pied piping feature):

(52) a. Chele-Ta Sune-che [je [or baba aS-be]] (Bayer 1996: 255)
Boy-CL hear-Pst3 COMP his father come-will
'The boy heard that his father will come'

b. Chele-Ta [[or baba aS-be] bole] Sune-che (Bayer 1996: 255)
Boy-CL his father come-will COMP hear-Pst3
'The boy heard that his father will come'

This seems to suggest that nouns, adjectives, prepositions, auxiliaries, modals, complementizers (hence, by inheritance, their maximal projections), must be endowed with a regressive pied piping or progressive pied piping feature, as it is them in some cases that determine the mode of attraction. This suggests, as noted, generalizing the endowment of such features to both the attractor and the attractee, that their attraction features will then have to match those of the attractor so that attraction can take place in the ordinary way.

Differently from such categories, it would seem that V(P)s cannot be endowed either with a progressive pied piping or with a regressive pied piping feature. Webelhuth (1992: 49) suggested that verbs take their complements on the same side so that no verb can differ from any other verb in the direction in which it takes a complement.[57] This remains to be ascertained at a cross-linguistic level because all other categories, as seen, seem to be able to be endowed even lexically with one such pied piping feature.

4.4 Reconciling the microparametric approach with the tendencies for intra- and cross-category harmony and with the acquisition problem.

Any microparametric lexical approach to word order parameters will however have to ensure certain types of (intra-category and cross-category) harmony, since otherwise, as noted in Baker (2008: 360),

[57] In old Swedish one could have OVinf with objects whose D is not filled and VO otherwise (Holmberg and Platzack 2005: 449f), but here the difference depends on the object (whose associated FP may consequently be marked with a progressive pied piping feature or a regressive pied piping feature), not on the verb.

languages should distribute in a continuum of every possible combination of word order properties if each lexical item could differ from all others *ad libitum*. But we have seen that there are clear tendencies, in particular that there is a much stronger cross-category harmony when heads and their complements are involved (V/O and P/O) than there is when heads and their modifiers are (V/AdvP and N/AP), and again a stronger intra-category harmony in the extended projection of a certain lexical head when heads (V, Modal, Aux; N PL Art) rather than modifiers (V $AdvP_1$ $AdvP_2$; N AP, RelC) are involved.[58] These partial harmonies can perhaps be captured even in a microparametric approach if lexical specifications can be the result of certain generalizations, ultimately encoded in the lexicon. The special word order behavior of a single lexical item (i.e., *enough* in English) is a limiting case. More common are larger generalizations—all adjectives belonging to a certain subclass, say that of provenance adjectives. This means, for example, that in the lexicon of Italian all such adjectives will be endowed with the progressive pied piping feature. Larger generalizations (like the Persian Farsi case) would be governed by the same logic; in this case, the lexical category adjective (hence all of its members) would be endowed with a progressive pied piping feature, and the same mechanism would apply to higher generalizations, like the case of all nominal modifiers in Gungbe (which would be lexically endowed with a progressive pied piping feature).[59]

The conjecture that word order may be governed by lexical specifications of a successively larger type (from a single lexical item to subclasses of a lexical category, to an entire lexical category, to two or more, or all, lexical categories) relates immediately to the problem of acquisition. It is possible that this is guided by a default assumption that once the lexical category is attracted in one of the two ways (progressive or regressive pied piping) the default expectation is that it (or any other category of the same verbal or nominal type) will continue to be attracted in the same mode of pied piping, up to disconfirmation. This may even lead to (almost) perfect cross-category harmony if the default expectation of a uniform attribution of the pied piping feature is not contradicted by the primary linguistic data.[60]

[58] Cf. Dryer (1992: fn17).

[59] This comes close to the intermediate position (between micro- and macro-parametric approaches) that Baker (2008) discusses in his footnote 2. Still, it can be cast, it seems to me, as a lexical rather than a general grammatical property.

[60] For similar ideas, within a somewhat different system, see Biberauer, Holmberg and Roberts (2008, 2014).

Ultimately, the language internal generalizations will be fixed, down to the most minute details (say, titles, which in English are attracted via the progressive pied piping mode (*Lady Windermere, Sir John, professor Chomsky, Mount Auburn*, etc.) while common nouns are attracted either via regressive pied piping (*Auburn mountain, Ormond road*) or progressive pied piping (*letter 'k', Cape Canaveral*, etc.), or both ((*the*) *Mississippi river/river Mississippi*)).

Works Cited

1. Abels, Klaus. 2003. *Successive Cyclicity, Anti-locality, and Adposition Stranding*. Doctoral dissertation, University of Connecticut.
2. —. 2015. The fundamental left-right asymmetry in the Germanic verb cluster. Unpublished MS, University College, London.
3. Abels, Klaus, and Ad Neeleman. 2012. Linear Asymmetries and the LCA. *Syntax* 15.25-74.
4. Aboh, Enoch Oladé. 2004. *The Morphosyntax of Complement-Head Sequences. Clause Structure and Word Order Patterns in Kwa*. New York: Oxford University Press.
5. Adger, David. 2013. *A Syntax of Substance*. Cambridge, Mass.: The MIT Press.
6. Adger, David, Daniel Harbour and Laurel J. Watkins. 2009. *Mirrors and Microparameters: Phrase Structure Beyond Free Word Order*. Cambridge: Cambridge University Press.
7. Atlamaz, Ümit. 2016. Merging Modifiers of an NP before its Arguments. In K.-m. Kim et al., eds., *Proceedings of the 33rd West Coast Conference on Formal Linguistics*. 47-56. Somerville, Mass.: Cascadilla. http://www.lingref.com/cpp/wccfl/33/paper3224.pdf.
9. Baker, Mark C. 1985. The Mirror Principle and Morphosyntactic Explanation. *Linguistic Inquiry* 16. 373-415.
10. —. 2008. The macroparameter in a microparametric world. In T.Biberauer, ed., *The Limits of Syntactic Variation*. 351-373. Amsterdam: Benjamins.
11. Bakker, Peter. 1997. *A Language of Our Own. The Genesis of Michif. The Mixed Cree-French Language of the Canadian Métis*. New York: Oxford University Press.

12. Ball, Douglas L. 2009. *Clause structure and argument realization in Tongan*. Doctoral dissertation, Stanford University.
13. Barbiers, Sjef. 2000. The right periphery in SOV languages: English and Dutch. In In P.Svenonius, ed., *The Derivation of VO and OV*. 181 - 218. Amsterdam: Benjamins.
14. —. 2005. Word order variation in three-verb clusters and the division of labour between generative linguistics and sociolinguistics. In L.Cornips and K.P.Corrigan, eds., *Syntax and variation: reconciling the biological and the social*. 233-264. Amsterdam: Benjamins.
15. Barnes, Malone. 2000. El tuyuca. In M.S.González de Pérez, ed., *Lenguas indígenas de Colombia. Una visión descriptiva*.437-452. Santafé de Bogotá: Instituto Caro y Cuervo.
16. Bayer, Josef. 1999. Final complementizers in hybrid languages. *Journal of Linguistics* 35:233-271.
17. Bayer, Josef. 2001. Two Grammars in One: Sentential Complements and Complementizers in Bengali and other South Asian Languages. In P.Bhaskararao and K.V.Subbarao, eds., *The Yearbook of South Asian Languages and Linguistics*. 11-36. New Delhi, Sage Publications.
18. Benincà, Paola and Nicola Munaro. 2010. *Mapping CPs. The Cartography of Syntactic Structures, Vol.5*. New York: Oxford University Press.
19. Bhatt, Rajesh. 2007. Little or Nothing. Unpublished MS. Univerity of Massachusetts at Amherst.
20. Bhatt, Rajesh and Veneeta Dayal. 2007. Rightward Scrambling as Rightward Remnant Movement. *Linguistic Inquiry* 38:287-30.
21. Biberauer, Theresa, Anders Holmberg and Ian Roberts. 2008. Disharmonic Word-Order Systems and the Final-Over-Final-Constraint (FOFC). In A.Bisetto and F.E.Barbieri, eds., *Proceedings of the XXXIII Incontro di Grammatica Generativa*. 86-105. http://amsacta.unibo.it/2397/1/PROCEEDINGS_IGG33.pdf.
22. —. 2014. A syntactic universal and its consequences. *Linguistic Inquiry* 45:169-225.
23. Borer, Hagit. 1984. *Parametric syntax: case studies in Semitic and Romance languages*. Dordrecht: Foris.
24. Bortolotto, Laura. 2015. *The Syntax of Relational Adjectives in Romance*. Doctoral dissertation, Ca' Foscari University, Venice.

25. Bugaeva, Anna. Forthcoming. Noun-Modifying Clause Constructions in Ainu. In Matsumoto Comrie and Sells, eds., *Noun-Modifying Clause Constructions in Languages of Eurasia: Reshaping theoretical and geographical boundaries*. Amsterdam: Benjamins.
26. Cabral, A. C. Ana Suelly. 1995. *Contact-induced language change in the Western Amazon: the non-genetic origin of the Kokama language*. Doctoral dissertation, University of Pittsburgh. http://etnolinguistica.wdfiles.com/local--files/tese:cabral-1995/cabral_kokama1995.pdf.
27. Carnie, Andrew and Eithne Guilfoyle. 2000. "Introduction". In Carnie,A and E. Guilfoyle, eds.,*The Syntax of Verb Initial Languages*. 3-11. New York: Oxford University Press.
28. Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.
29. —. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.
30. —. 2000. Minimalist Inquiries: The Framework. In R.Martin, D.Michaels and J. Uriagereka, eds, *Step by step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. 89–155. Cambridge, MA: MIT Press.
31. —. 2007. Approaching UG from below. In U.Sauerland and H.-M.Gärtner,eds., *Interfaces _ recursion _ language?*. 1–29. Berlin: Mouton de Gruyter.
32. —. 2008. On phases. In R.Freidin, C.Otero, and M.L. Zubizarreta, eds., *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*. 133–165. Cambridge,MA: MIT Press.
33. —. 2013. Problems of Projection. *Lingua* 130:33-49.
34. Cinque, Guglielmo. 1999. *Adverbs and Functional Heads. A Cross-linguistic Perspective*. New York: Oxford University Press.
35. —. 2004. Issues in Adverbial Syntax. *Lingua* 114.683-710.
36. —. 2005. Deriving Greenberg's Universal 20 and Its Exceptions. *Linguistic Inquiry* 36:315-332 http://lear.unive.it/jspui/bitstream/11707/82/1/Greenberg-LI.pdf.
37. —. 2006. *Restructuring and Functional Heads. The Cartography of Syntactic Structures*, *Vol.4*. New York: Oxford University Press.

38. —. 2009a. The Fundamental Left-Right Asymmetry of Natural Languages. In S.Scalise, E.Magni, A.Bisetto, eds., *Universals of Language Today*. 165-184. Dordrecht: Springer. http://lear.unive.it/jspui/bitstream/11707/99/1/CINQUE%201.pdf.
39. —. 2009b. Some Observations on Disharmonic Word Orders. Paper given at the conference "Theoretical Approaches to Disharmonic Word Orders," Newcastle, May 30- June 1 2009.
40. —. 2010a. *The Syntax of Adjectives. A Comparative Study*. Cambridge, Mass.: MIT Press.
41. —. 2010b. Mapping Spatial PPs: an introduction. In G.Cinque and L.Rizzi, eds., *Mapping Spatial PPs. The Cartography of Syntactic Structures, vol.6*. 3-25. New York and Oxford: Oxford University Press. (reprinted in G.C. *Typological Studies. Word Order and Relative Clauses*. 86-95. London: Routledge). http://lear.unive.it/jspui/bitstream/11707/142/1/Mapping%20Spatial%20PPs.pdf.
42. —. 2011. Greenberg's Universal 23 and SVO Languages. In M.Frascarelli, ed., *Structures and Meanings: Cross-theoretical perspectives*. 75-80. Paris/Roma: L'Harmattan (reprinted in G.C. *Typological Studies. Word Order and Relative Clauses*. 110-113. London: Routledge). http://lear.unive.it/jspui/bitstream/11707/139/2/Universal%2023.Cinque.x.Fest.Puglielli.pdf.
43. —. 2013a. Word Order Typology. A Change of Perspective. In Biberauer, T. M. Sheehan, eds., *Theoretical Approaches to Disharmonic Word Orders*. 47-73. Oxford: Oxford University Press (reprinted in G.C. *Typological Studies. Word Order and Relative Clauses*. 13-33. London: Routledge). http://lear.unive.it/jspui/bitstream/11707/154/2/TADWO_Cinque.13.08.10.pdf.
44. —. 2013b. Cognition, Universal Grammar, and typological generalizations. *Lingua* 130:50-65. http://lear.unive.it/jspui/bitstream/11707/153/2/LINGUACognition%26UG.pdf.
45. —. 2014. Again on Tense, Aspect, Mood Morpheme Order and the "Mirror Principle". In P.Svenonius, ed., *Functional Structure from Top to Toe. The Cartography of Syntactic Structures, Volume 9*. 232-265. New York: Oxford University Press. http://lear.unive.it/jspui/bitstream/11707/157/2/TAM.Order%26MirrorP.pdf

46. —. (in preparation) On the movement account of Greenberg's Universal 20: Refinements and Replies.
47. Cinque, Guglielmo and Luigi Rizzi 2010. The Cartography of Syntactic Structures. In B.Heine and H.Narrog, eds., *Oxford Handbook of Linguistic Analysis*. 51-65. Oxford: Oxford University Press. http://lear.unive.it/jspui/bitstream/11707/119/1/Cinque-Rizzi.pdf.
48. Cole, Peter. 1982. *Imbabura Quechua*. Amsterdam: North Holland.
49. Cole, Peter and Gabriela Hermon. 2008. VP raising in a VOS language. *Syntax* 11:144-197.
50. Crowley, Terry. 2002. Mwotlap. In J.Lynch, M.Ross and T.Crowley, eds., *The Oceanic languages*. 587-598. Richmond: Curzon Press.
51. Comrie, Bernard. 1980. Morphology and word order reconstruction: Problems and prospects. In J.Fisiak, ed., *Historical morphology*. 83–96. Den Haag: Mouton.
52. Coon, Jessica. 2010. *Complementation in Chol (Mayan): a theory of split ergativity*. Doctoral dissertation, MIT. http://ling.auf.net/lingbuzz/001072.
53. Cysouw, Michael. 2008. Linear Order as a Predictor of Word Order Regularities. *Advances in Complex Systems* 11:415–420 http://cysouw.de/home/articles_files/cysouwLINEARORDER.pdf.
54. da Cruz, Aline. 2011. *Fonologia e Gramática do Nheengatú. A língua geral falada pelos povos Baré, Warekena e Baniwa*. Doctoral dissertation, Vrije Universiteit Amsterdam.
55. Daly, John P. 1973. *A generative syntax of Peñoles Mixtec*. Norman (Okl.): University of Oklahoma and Summer Institute of Linguistics.
56. Dayley, Jon P. 1985. *Tzutujil Grammar*. Berkeley: University of California Press.
57. Diesing, Molly. 1992. *Indefinites*. Cambridge, Mass.: MIT Press.
58. Dixon, R.M.W. 1988. *A Grammar of Boumaa Fijian*. Chicago: Chicago University Press.
59. Dörfer, Gerhard. 1957. Der Numerus nach Zahlwörtern in Mandschu. *Studia Altaica: Festschrift für Nicholas Poppe zum 60 Geburtstag*. 46-50. Wiesbaden: Harrassowitz.
60. Donohue, Mark. 1999. *A grammar of Tukang Besi*. Berlin: Mouton de Gruyter.

61. Dryer, Matthew S. 1988. Object-verb order and adjective-noun order: dispelling a myth. *Lingua* 74:77-109.
62. —.1989a. Plural Words. *Linguistics* 27:865-895.
63. —. 1989b. Article-Noun Order. In *Papers from the 25th Regional Meeting of the Chicago Linguistic Society*. 83-97. Chicago: Chicago Linguistic Society.
64. —. 1991. SVO Languages and the OV/VO Typology. *Journal of Linguistics* 27. 443-482.
65. —. 1992. The greenbergian word order correlations. *Language* 68:81-138. http://linguistics.buffalo.edu/people/faculty/dryer/dryer/wordOrder.htm.
66. Duffield, Nigel. 1999. Final modals, adverbs and antisymmetry in Vietnamese. *Revue québécoise de linguistique* 27.92-129.
67. Dum-Tragut, Jasmine. 2009. *Armenian. Modern Eastern Armenian*. Amsterdam: Benjamins.
68. Dunn, Michael John. 1999. *A grammar of Chukchi*. Doctoral dissertation, Australian National University.
69. Embick, David and Roumyana Izvorski. 1994. On Long Head Movement in Bulgarian. In J. Fuller, H. Han, and D. Parkinson, eds., *ESCOL '94*. 104–115. DMLL Publications, Cornell University.
70. Erguvanlı, Eser Emine. 1984. *The Function of Word Order in Turkish Grammar*. Berkeley: University of California Press.
71. Filchenko, Andrey Yuri. 2007. *A Grammar of Eastern Khanty*. Doctoral dissertation, Rice University.
72. Flegg, Jill H. 2003. Topics and Clitic Left Dislocation in Malagasy. Paper presented at AFLA X. http://westernlinguistics.ca/afla/meetings/alfla10/abstracts/flegg_topics_and_clitic_left_dislocation_in_malagasy.pdf.
73. Fukui, Naoki. 1986. *A Theory of Category Projection and its Application*. Doctoral dissertation, MIT.
74. Genetti, Carol. 2007. *A Grammar of Dolakha Newar*. Berlin: Mouton de Gruyter.
75. Giusti, Giuliana. 1994. Enclitic articles and double definiteness: A comparative analysis of nominal structure in Romance and Germanic. *The Linguistic Review* 11.241-255.
76. Göksel, Aslı. 2013. Flexible word order and anchors of the clause. *SOAS Working Papers in Linguistics* 16.3-25.

77. Goldberg, Adele. 2002. Persian Auxiliaries. Unpublished MS. Princeton University. https://www.princeton.edu/~adele/papers/Papers.
78. Gorelova, Liliya M. 1997. Manchu-Chinese Syntactical Parallels. *Acta Orientalia Hungarica*. L.99-106.
79. Greenberg, J. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In J. Greenberg, ed., *Universals of language*. 73-113. Cambridge MA: MIT Press.
80. Gruzdeva, Ekaterina. 1998. *Nivkh*. München: Lincom Europa.
81. Guntsetseg, Dolgor. 2008. *Differential Object Marking in Mongolian.* In F. Schäfer, ed., *SinSpeC Working papers of the SFB 732 "Incremental specification in Context"* 1: 53-69. http://elib.uni-stuttgart.de/opus/volltexte/2008/3544/pdf/SinSpeC1_volume.pdf.
82. Haegeman, Liliane. 1993. The morphology and distribution of object clitics in West Flemish. *Studia Linguistica* 47.57-94.
83. Haegeman, Liliane and Henk van Riemsdijk. 1986. Verb Projection Raising, scope, and the typology of rules affecting verbs. *Linguistic Inquiry* 17.417-466.
84. Hagège, Claude. 2010. *Adpositions*. Oxford: Oxford University Press.
85. Haider, Hubert. 1992. Branching and Discharge. *Working Papers of the SFB 340, #23* (Universität Stuttgart) (reprinted in P.Coopman, M.Everaert and J.Grimshaw, eds., *Lexical Specifications and Insertion*. 135-164. Amsterdam: Benjamins).
86. —. 2013. *Symmetry Breaking in Syntax*. Cambridge: Cambridge University Press.
87. —. 2014. Head directionality in syntax and morphology. To appear in A.Fábregas, J.Mateu, M.Putnam, eds., *The Handbook of Parameters*. Bloomsbury Academic. http://www.uni-salzburg.at/fileadmin/multimedia/Linguistik/documents/2014-Directionality-revised_abriged.pdf.
88. Hammarström, Harald. 2015. The basic Word Order Typology: An Exhaustive Study. Slides of a paper presented in Leipzig on March 3 2015. http://www.eva.mpg.de/fileadmin/content_files/linguistics/conferences/2015-diversity-linguistics/Hammarstroem_slides.pdf.

89. Hawkins, J.A. 1983. *Word Order Universals*. New York: Academic Press.
90. Hendrick, Randall. 2000. Celtic Initials. In Carnie, A and E. Guilfoyle, eds., *The Syntax of Verb Initial Languages*. 13-37. New York: Oxford University Press.
91. Hepner, Mark. 2006. *Bargam Grammar Sketch*. Ukarumpa, Papua New Guinea: Summer Institute of Linguistics. http://www.sil.org/pacific/png/pubs/49645/Bargam_Grammar_Sketch.pdf.
92. Herring, Susan C. 1994. Afterthoughts, Antitopics, and Emphasis: The Syntacticization of Postverbal Position in Tamil. In M.Butt, T.Holloway King and G.Ramchand, eds., *Theoretical Perspectives on Word Order in South Asian Languages*.119-152. Stanford, CA.: CSLI Publications.
93. Hewitt, B. G. (in collaboration with Z. K. Khiba). 1989. *Abkhaz*. London: Routledge.
94. Hinterhölzl, Roland. 2006. *Scrambling, Remnant Movement, and Restructuring in West Germanic*. New York: Oxford University Press.
95. Holmer, Arthur. 1996. *A parametric grammar of Seediq*. Lund: Lund University Press.
96. —. 2005. Antisymmetry and final particles in a Formosan VOS language. In A.Carnie, H.Harley, S.A.Dooley, eds., *Verb First. On the Syntax of verb-initial languages*. 175-201. Amsterdam: Benjamins.
97. Horvath, Julia. Forthcoming. Pied Piping. To appear in the new edition of SynCom.
98. Jacques, Guillaume. 2010. The inverse in Japhug Rgyalrong. *Language and Linguistics* 11.127- 157.
99. Jayaseelan, K.A. 2010. Stacking, Stranding, and Pied-Piping: A Proposal about Word Order. *Syntax* 13.298-330.
100. Jones, Robert B. 1970. Classifier constructions in Southeast Asia. *Journal of the American Oriental Society* 90.1–12.
101. Joo, Kum-Jeong. 2013. Universal 20 and Word-Order Variation in Korean. *Working Papers in Linguistics: University of Hawai'i at Mānoa* 44(2).3-10. http://www.ling.hawaii.edu/research/WorkingPapers/wp-KumJeongJoo.pdf.
102. Julien, Marit. 2002. *Syntactic Heads and Word Formation*. New York: Oxford University Press.

103. Kashaeva, Goljihan. 2012. The Tatar IP-field. *Generative Grammar in Geneva* 8.77-94. http://www.unige.ch/lettres/linge/syntaxe/journal/Volume8/5_Kashaeva_2012.pdf.
104. Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
105. —. 1999. Prepositional Complementizers as Attractors. *Probus* 11.39-73 (reprinted in Kayne 2000, *Parameters and Universals*. New York: Oxford University Press, pp. 282-313).
106. —. 2000. A Note on Prepositions, Complementizers, and Word Order Universals. In R.S. Kayne *Parameters and Universals*. 314-326. New York: Oxford University Press.
107. —. 2003a. Antisymmetry and Japanese. *English Linguistics* 20.1-40 (reprinted in Kayne 2005, *Movement and Silence*. New York: Oxford University Press, pp.215-240).
108. —. 2003b. Silent Years, Silent Hours. In L.-O. Delsing et al., eds., *Grammar in Focus. Festschrift for Christer Platzack. Vol.2*. 209-226. Lund: Lund University (reprinted in R.S. Kayne 2005 *Movement and Silence,* 241-260. New York: Oxford University Press).
109. —. 2005. Some notes on comparative syntax, with special reference to English and French. In G.Cinque and R.S.Kayne, eds., *The Oxford Handbook of Comparative Syntax*. 3–69. New York: Oxford University Press.
110. —. 2006. A Note on the Syntax of Numerical Bases. In Y. Suzuki, ed., *In Search of the Essence of Language Science: Festschrift for Professor Heizo Nakajima on the Occasion of his Sixtieth Birthday*. 21-41. Tokyo: Hituzi Syobo (reprinted in R.S. Kayne 2010 *Comparisons and Contrasts*. New York: Oxford University Press, pp.57-72). http://linguistics.as.nyu.edu/docs/IO/2652/Kayne0705NumericalBases.pdf.
111. —. 2008. Some Preliminary Comparative Remarks on French and Italian Definite Articles. In R. Freidin, C.P. Otero and M.L. Zubizarreta, eds., *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*. 291-321. Cambridge, Mass.: MIT Press. (reprinted in R.S. Kayne 2010 *Comparisons and Contrasts*. New York: Oxford University Press, pp.3-28). http://linguistics.as.nyu.edu/docs/IO/2652/Kayne1004DefiniteArticles.pdf.
112. —. 2015. *The silence of heads*. Unpublished MS., Dept of Linguistics, NYU. http://linguistics.as.nyu.edu/docs/IO/2652/Kayne0115TheSilenceOfHeads.pdf.

113. Keenan, Edward L. 1978. The syntax of subject final languages. In W.P. Lehmann, ed., *Syntactic typology*: *studies in the phenomenology of language*. 267-327. Austin: University of Texas Press.
114. Kilian-Hatz, Christa. 2008. *A grammar of modern Khwe (central Khoisan)*. Köln: Köppe.
115. Kim, Alan Hyun-Oak. 1995. Word Order at the noun phrase level in Japanese. Quantifier constructions and discourse functions. In P.Downing and M.Noonan, eds., *Word Order in Discourse*. 199-246. Amsterdam: Benjamins.
116. Koopman, Hilda. 2002. Derivations and complexity filters. Unpublished MS. http://www.linguistics.ucla.edu/people/koopman/fr/derivations%20and_filters_final.pdf.
117. —. 2014. Recursion restrictions: Where grammars count. In T.Roeper and M.Speas, eds., *Recursion: Complexity in Cognition*. 17-38. Dordrecht: Springer. http://ling.auf.net/lingBuzz/001463.
118. —. 2015a. A Note on Huave morpheme ordering: Local dislocation or (generalized) U20? Unpublished MS., UCLA.
119. —. 2015b. Generalized U20 and Morpheme Order. Ms, UCLA.
120. Koopman, Hilda and Anna Szabolcsi. 2000. *Verbal Complexes*. Cambridge, MA: MIT Press.
121. Krapova, Iliyana and Guglielmo Cinque. 2008. On the Order of *wh*-Phrases in Bulgarian Multiple *wh*-Fronting. In G.Zybatow et al., eds., *Formal Description of Slavic Languages: the Fifth Conference, Leipzig 2003*. 318-336. Frankfurt am Main: Peter Lang.
122. Künnap, Ago. 1999. *Enets*. München: Lincom Europa.
123. Kural, Murat. 1997. Postverbal constituents in Turkish and the Linear Correspondence Axiom. *Linguistic Inquiry* 28:498-519.
124. Kutscher, Silvia. 2001. *Nomen und nominales Syntagma im Lasischen. Eine descriptive Analyse des Dialekts von Ardeşen*. München: Lincom Europa.
125. Lamberti, Marcello and Roberto Sottile. 1997. *The Wolaytta language*. Köln: Köppe.
126. Lambova, Mariana. 2003. On Information Structure and Clausal Architecture: Evidence from Bulgarian. Doctoral dissertation, University of Connecticut, Storrs.

127. Lee, Felicia. 2000. VP Remnant Movement and VSO in Quiaviní Zapotec. In A.Carnie and E.Guilfoyle, eds., *The Syntax of Verb Initial Languages*. 143-162. New York: Oxford University Press.
128. Legate, Julie Anne. 2002. *Warlpiri: Theoretical Implications*. Doctoral dissertation, MIT.
129. Lehmann, Winfred P. 1978. The Great Underlying Ground Plans. In W.P.Lehmann, ed., *Syntactic Typology*: *Studies in the Phenomenology of Language*. 3-56. Austin: University of Texas Press. http://www.utexas.edu/cola/centers/lrc/books/type00.html.
130. Leu, Thomas. 2015. *The Architecture of Determiners*. New York: Oxford University Press.
131. Libert, Alan. 2006. *Ambipositions*. München: Lincom Europa.
132. Lynch, John. 1982. Anejom Grammar Sketch. *Papers in Linguistics of Melanesia* 4.93-154.
133. Macdonald, Catherine Marie. 2014. *Functional Projections and Non-Local Relations in Tongan Nominal Phrases*. Doctoral dissertation, University of Toronto. https://tspace.library.utoronto.ca/handle/1807/68305.
134. Maling, Joan. 1983. Transitive Adjectives: A Case of Categorial Reanalysis. In F.Heny and B.Richards, eds., *Linguistic Categories: Auxiliaries and Related Puzzles*. *Volume One: Categories*. 253-289. Dordrecht: Reidel.
135. Mallinson, Graham and Barry J. Blake. 1981. *Language Typology: Cross-linguistic Studies in Syntax*. Amsterdam: North Holland.
136. Maslova, Elena. 2003. *A Grammar of Kolyma Yukaghir*. Berlin: Mouton de Gruyter.
137. Massam, Diane. 2000. VSO and VOS. Aspects of Niuean Word Order. In A.Carnie and E.Guilfoyle, eds., *The Syntax of Verb Initial Languages*. 97-116. New York: Oxford University Press.
138. Mosel, Ulrike (with Yvonne Thiesen). 2007. *The Teop sketch grammar*. Ms., University of Kiel. http://www.linguistik.uni-kiel.de/Teop_Sketch_Grammar_May07.pdf.
139. Munshi, Sadaf. 2006. *Jammu and Kashmir Burushaski: Language, Language Contact and Change*. Doctoral dissertation, University of Texas at Austin. https://repositories.lib.utexas.edu/bitstream/handle/2152/2777/munshis96677.pdf?sequence=2.

140. Muriungi, Peter. 2006. Categorizing Adpositions in Kîîtharaka. In P. Svenonius and M. Pantcheva, eds., *Adpositions*. Special issue of *Nordlyd: Tromsø Working Papers in Linguistics* 33(1): 26–48. http://www.ub.uit.no/munin/nordlyd.
141. Myler, Neil. 2013. Linearization and post-synatctic operations in the Quechua DP. In.T.Biberauer and I.Roberts, eds., *Challenges to Linearization*.171-209. Berlin: Mouton de Gruyter.
142. Nash, Lea and Alain Rouveret. 1997. Proxy categories in Phrase Structure Theory. *Proceedings of NELS 27*. 287-304.
143. Nedyalkov, Igor. 1997. *Evenki*. London: Routledge.
144. Nikolaeva, Irina. 2014. *A grammar of Tundra Nenets*. Berlin: Mouton de Gruyter.
145/ Nikolaeva, Irina, and Maria Tolskaya. 2001. *A Grammar of Udihe*. Berlin: Mouton de Gruyter.
146. Noonan, Michael. 2003. Nar-Phu. In R.LaPolla and G.Thurgood (eds.), *The Sino-Tibetan Languages*. 336-352. Richmond, England: Curzon Press.
147. Oseki, Yohei. 2015. Eliminating Pair-Merge. In U.Steindl et al., eds., *Proceedings of West Coast Conference on Formal Linguistics 32:*303-312.
148. Öztürk, Balkiz. 2013a. Postverbal Constituents in SOV Languages. In T.Biberauer and M.Sheehan, eds., *Theoretical Approaches to Disaharmonic Word Orders*. 270-305. Oxford: Oxford University Press.
149. —. 2013b. Rightward Movement, EPP and specifiers. Evidence from Uyghur and Khalka. In G.Webelhut, M.Sailer and H.Walker, eds., *Rightward Movement in a Comparative Perspective*. 175-211. Amsterdam: Benjamins.
150. Panayidou, Fryni. 2013. *(In)flexibility in Adjective Ordering*. Doctoral dissertation, Queen Mary College, London. http://linguistics.sllf.qmul.ac.uk/sites/default/files/30-QMOPAL-Panayidou.pdf.
152. Pearce, Elizabeth. 2012. Number within the DP: A view from Oceanic. In L.Brugè, A.Cardinaletti, G.Giusti, N.Munaro and C.Poletto, eds., *Functional Heads*. 81-91. New York: Oxford University Press.
153. Platzack, Christer. 1982. Transitive Adjectives in Swedish. A Phenomeon with Implications for the Theory of Abstract Case. *The Linguistic Review* 2.39-56.

154. —. 2014. Predicative Adjectives with NP Complement(s): A case of Optional Head Movement. In K.Helgesson, H.Landqvist, B.Lyngfelt, J.Nilsson and C.Norrby, eds., *Fint språk/ Good Language, Festskrift till Lars-Gunnar Andersson*. 129-142. Göteborg: Meijerbergs arkiv för svensk ordforskning.
155. Polinsky, Maria. 2012. Headedness again. *UCLA Working Papers in Linguistics* 17.348-359. http://www.linguistics.ucla.edu/faciliti/wpl/issues/wpl17/papers/40_polinsky.pdf.
156. —. 2015. *Tsez Syntax: A Description*. Ms., Harvard University. file:///C:/Users/utente/Downloads/polinsky_15_Tsez-Syntax-A.7%20(1).pdf.
157. Poppe, Nicholas N. 1951. *Khalkha-mongolische Grammatik, mit Bibliographie, Sprachproben und Glossar*. Wiesbaden: Steiner Verlag.
158. Primus, Beatrice. 2001. Word Order Typology. In M. Haspelmath, E.König, W.Oesterreicher and W.Raible, eds., *Language Typology and Language Universals. Vol 2*. 855-873. Berlin: Mouton de Gruyter.
159. Rackowski, Andrea and Lisa Travis. 2000. V-initial Languages. X or XP Movement and Adverbial Placement. In A.Carnie and E.Guilfoyle, eds., *The Syntax of Verb Initial Languages*. 117-141. New York: Oxford University Press.
160. Rae, Megan. 2009. *Ordering restrictions of modifiers in complex nominals*. Doctoral dissertation, Ca' Foscari University, Venice. http://lear.unive.it:8080/jspui/handle/11707/331.
161. Riemsdijk, Henk van. 1983. The Case of German Adjectives. In F.Heny and B.Richards, eds., *Linguistic Categories: Auxiliaries and Related Puzzles. Volume One: Categories*. 223-252. Dordrecht: Reidel.
162. Rizzi, Luigi. 1997. The fine structure of the left periphery. In L.Haegeman, ed., *Elements of Grammar: A Handbook of Generative Syntax*. pp. 281–337. Dordrecht: Kluwer.
163. —. 2009. Some elements of syntactic computation. In D.Bickerton and E.Szathmáry, eds., *Biological Foundations and Origin of Syntax*. 63-88. Cambridge, Mass.: MIT Press.
164. —. 2015. Labeling, maximality and the head-phrase distinction. Unpublished MS., University of Geneva and Università di Siena.
165. Rizzi, Luigi and Guglielmo Cinque. 2016. Functional Categories and Syntactic Theory. *Annual Review of*

Linguistics 2. 2:15.1–15.25. http://lear.unive.it/jspui/bitstream/11707/5564/1/RizziCinqueAnnualRevLing.pdf.
166. Roberts, Ian. 2012. On the nature of syntactic parameters: A programme for research. In C.Galves, S.Cyrino, R.Lopez and J.Avelar, eds., *Parameter Theory and Linguistic Change*. 319–334. Oxford: Oxford University Press.
167. Ross, John Robert. 1967. *Constraints on Variables in Syntax*. Doctoral dissertation, MIT.
168. Ross, Malcolm. 1980. Some Elements of Vanimo, a New Guinea Tone Language. *Papers in New Guinea Linguistics* 20.77-109.
169. Ruhlen, Merritt. 2008. *Language Database*. (starling.rinet.ru/typology.pdf).
170. Sapir, Edward. 1949[2]. *Language. An Introduction to the Study of Speech*. New York: Harcourt, Brace and Co.
171. Rutkowski, Paweł and Ljiljana Progovac. 2005. Classification Projection in Polish and Serbian: The Position and Shape of Classifying Adjectives. In S.Franks, F.Y.Gladney and M.Tasseva-Kurktchieva, eds., *Formal Approaches to Slavic Linguistics: The South Carolina Meeting 2004*. 289-299. Ann Arbor: Michigan Slavic Publications.
172. Schweikert, Walter. 2005a. *The Order of Prepositional Phrases in the Structure of the Clause*. Amsterdam: Benjamins.
173. Schweikert, Walter. 2005b. The position of prepositional modifiers in the adverbial space. *Rivista di grammatica generativa* 30:115-134. http://lear.unive.it:8080/jspui/handle/11707/404.
174. Scott, Gary-John. 2002. Stacked Adjectival Modification and the Structure of Nominal Phrases. In G.Cinque, ed., *Functional Structure in DP and IP. The Cartography of Syntactic Structures, Vol.1*. 91-120. New York: Oxford University Press.
175. Sells, Peter. 2000. Raising and the Order of Clausal Constituents in the Philippine Languages. In I.Paul, V.Phillips, L.Travis, eds., *Formal Issues in Austronesian Linguistics*. 117-143. Dordrecht: Kluwer.
176. Sharpe, Margaret C. 2005. *Grammar and texts of the Yugambeh-Bundjalung dialect chain in Eastern Australia*. München: Lincom Europa.
177. Shimizu, Kiyoshi. 1983. *The Zing dialect of Mumuye: a descriptive grammar with a Mumuye-English dictionary and an English-Mumuye index*. Hamburg: Buske.

178. Siegel, Melanie and Emily M. Bender. 2004. "Head-initial" Constructions in Japanese. In S.Müller, ed., *Proceedings of the HPSG04 Conference*. Stanford: CSLI. http://cslipublications.stanford.edu/HPSG/5/siegel-bender.pdf.
179. Siewierska, Anna. 1998. Variation in major constituent order. In A.Siewierska, ed., *Constituent order in the languages of Europe*. 475-551. Berlin: Mouton de Gruyter.
180. Simpson, Andrew and Arunima Choudhury. 2015. The Non-uniform Syntax of Postverbal Elements in SOV Languages: Hindi, Bangla, and the Rightward Scrambling Debate. *Linguistic Inquiry* 46: 533–551.
181. Singh, Rajendra**.** 1977. Hindi: COMP-initial or COMP-final. *Montreal Working Papers in Linguistics*, 9.203-207.
182. Smith, Neil V. 1981. Consistency, markedness and language change: on the notion of "consistent language." *Journal of Linguistics* 17:39-54.
183. Soe, Myint. 1999. *A grammar of Burmese*. Doctoral dissertation, University of Oregon.
184. Speas, Margaret J. 1990. *Phrase Structure in Natural Language*. Dordrecht: Reidel.
185. Svenonius, Peter. 2007. 1 … 3–2. In G.Ramchand and C.Reiss, eds., *The Oxford Handbook of Linguistic Interfaces*. Oxford: Oxford University Press.
186. —. 2008. The position of adjectives and other phrasal modifiers in the decomposition of DP. In L.McNally and C.Kennedy, eds., *Adjectives and Adverbs.Syntax, Semantics, and Discourse*. 16-42. Oxford: Oxford University Press.
187. Takamine, Kaori. 2010. *The postpositional hierarchy and its mapping to clause structure in Japanese.* Doctoral dissertation, University of Tromsø. http://www.ub.uit.no/munin/bitstream/10037/2465/2/thesis.pdf.
188. Tamura, Suzuko. 2000. *The Ainu language*. Tokyo: Sanseido.
189. Testelec, Yakov G. 1998. Word Order in Daghestanian Languages. In A.Siewierska, ed., *Constituent Order in the Languages of Europe*. 257-280. Berlin: Mouton de Gruyter.
190. Thomas, Michael F. 2014. *A Grammar of Sakun (Sukur)*. Doctoral dissertation, University of Colorado. http://scholar.colorado.edu/cgi/viewcontent.cgi?article=1004&context=ling_gradetds.

191. Thompson, Chad L. 2000. Iconicity and Word Order in Koyukon Athabaskan. In T.B.Fernald and P.R.Platero, eds., *The Athabaskan languages: perspectives on a native American language family*. Oxford: Oxford University Press.
192. Tomlin, Russell S. 1986. *Basic Word Order. Functional Principles.* London: Croom Helm.
193. Tosco, Mauro. 1998. A parsing view of inconsistent word order: Articles in Tigre and its relatives. *Linguistic Typology* 2.355-380.
194. Tryon, Darrell T. 1970. *An introduction to Maranungku (Northern Australia)*. Canberra: The Australian National University.
195. Vallejos Yopán, Rosa. 2010. *A Grammar of Kokama-Kokamilla*. Doctoral dissertation, University of Oregon.
196. Vapnarsky, Valentina. 2011. Le yukatek. In E.Bonvini, J.Busuttil and A.Peyraube, eds., *Dictionnaire des Langues*. 1419-1425. Paris: Presses Universitaires de France.
197. Vázquez Alvarez, Juan J. 2009. Dos tipos de cláusulas no finitas en chól. Ms., University of Texas at Austin.
198. Vennemann, Theo. 1973. Explanation in Syntax. In J.P.Kimball, ed., *Syntax and Semantics. Volume 2*. 1-50. New York: Seminar Press.
199. Webelhuth, Gert. 1992. *Principles and Parameters of Syntactic Saturation*. New York: Oxford University Press.
200. Westergaard, Marit. 2009. *The Acquisition of Word Order. Micro-cues, information structure, and economy*. Amsterdam: Benjamins.
201. Witzlack-Makarevich, Alena. 2006. *Aspects of Information Structure in Richtersveld Nama*. M.A. Thesis, Universität Leipzig. http://www.uni-leipzig.de/~witzlack/MA_final.pdf.
202. Wurmbrand, Susi. 2004. West Germanic verb clusters: The empirical domain. In K.É.Kiss and H. van Riemsdijk, eds., *Verb clusters: A study of Hungarian, German, and Dutch*. 43-85. Amsterdam: Benjamins.
203. Yang, Charles. 2005. On Productivity. *Linguistic Variation Yearbook* 5.333-370.
204. —. 2015. Negative knowledge from positive evidence. *Language* 91.938-953.

205. Yasugi, Yoshiho. 1995. *Native Middle American Languages. An Areal-Typological Perspective*. Osaka: National Museaum of Ethnology. http://ir.minpaku.ac.jp/dspace/bitstream/10502/740/1/SES39_001.pdf.
206. Yoshioka, Noboru. 2012. *A reference grammar of Eastern Burushaski*. Doctoral dissertation, Tokyo University of Foreign Studies. http://repository.tufs.ac.jp/handle/10108/72148.
207. Zegrean, Iulia. 2012a. *Balkan Romance: Aspects on the Syntax of Istro-Romanian*. Doctoral dissertation. Ca' Foscari University, Venice. http://lear.unive.it/handle/10278/2984.
208. Zegrean, Iulia. 2012b. On the Functional Layer of Modified Nouns in Istro-Romanian. In K.K. Grohmann, A.Shelkovaya and D.Zoumbalides, eds., *Linguists of Tomorrow: Selected Papers from the 1st Cyprus Postgraduate Conference in Theoretical and Applied Linguistics*. 232-259. Newcastle upon Tyne: Cambridge Scholars Publishing.
209. Zwart, Jan-Wouter. 2005. Some notes on coordination in head-final languages. *Linguistics in the Netherlands 2005*: 231-242.
210. —. 2009. Relevance of typology to minimalist inquiry. Lingua 119.1589–1606.