Free word order, (non-)configurationality, and phases[1]

1. Goal

Hungarian has been know to display a partially free word order, fixed in the preverbal area and free in the postverbal domain. The question whether the free postverbal constituent order is the reflection of a flat structure, or is the result of some scrambling-type operation, could, in principle, be answered on the basis of syntactic phenomena sensitive to c-command; however, facts of Hungarian involving Binding Principle A, Binding Principle C, Weak Crossover, and scope relations between quantifiers give contradictory information about the underlying structure of the sentence. Some facts – e.g. those controlled by Binding Principle A – are indicative of a hierarchical structure, whereas others – e.g. those controlled by Binding Principle C – provide clear evidence of a flat verb phrase with the subject and the object being sisters to each other. So far no single Hungarian sentence model has been able to predict the full array of relevant facts. This paper will argue that phase theory (Chomsky 2001, 2004, 2005) yields a framework in which both the particular distribution of free word order and fixed word order, and the particular distribution of syntactic phenomena indicative of a flat structure and those indicative of a hierarchical structure can be accounted for. The proposed analysis of Hungarian also provides empirical confirmation of a version of phase theory.

Section 2 of the paper discusses the contradictory word order facts of Hungarian. Section 3 argues that what seems to be free word order is only syntactically free; constituents are ordered according to their phonological weight, in observance of Behaghel's (1932) Law of Growing Constituents. Section 4 deals with the question if the verb, invariably separating the fixed word order section and the free word order section of the sentence, occupies an invariant position, or there is V-movement. Section 5 examines the question if the postverbal free word order derives from a flat or a hierarchical structure. Section 5.1 enlists arguments for an underlying hierarchy subjected to Scrambling, whereas section 5.2 discusses evidence for an underlying flat structure – concluding that neither a configurational description, nor a non-configurational theory can cover the full range of facts attested. Section 6 revisits the facts surveyed in section 2, and arrives at a new a generalization. It is argued that the Hungarian sentence is built up hierarchically, however, when the head of a verbal projection is extracted into a functional head position, the headless projection „collapses", with its major constituents becoming sisters to each other. Section 7 reinterprets this generalization in the framework of

Chomsky's „derivation by phase" approach. As predicted by the theory, the flattening process affects a phasal domain closed for further computation. The evidence concerning the configurationality of the *v*P is contradictory because the *v*P is configurational for local relations interpreted on the *v*P phase, and is flat for relations interpreted in higher phases, which have the *v*P in their flattened domain. Section 8 summarizes the main ingredients and the main results of the proposed analysis, and raises the possibility of their extension to other languages.

2. Fixed and free word order domains in the Hungarian sentence
Certain facts of Hungarian suggest that the extended projections of the V are built up configurationally; at the same time, the word order of the postverbal section of every extended verbal projection is free. The same constituents that have a fixed relative order preverbally can end up in the postverbal domain of a more extended projection, where they can be ordered at random.

The Hungarian verb phrase (to be labelled tentatively as a VP) can be a head-initial structure, with the arguments following the V in an arbitrary order:

(1)a. **Bosszantották** egymást   a   fiúk.

      annoyed   each-other-ACC the boys

     'The boys annoyed each other.'

   b. **Bosszantották** a fiúk egymást.

(For expository purposes, no constituent is topicalized, as a consequence of which the examples are slightly marked out of context but still fully grammatical.) In most predicate types the verb is preceded by a so-called verb modifier, a secondary predicate represented by a verbal particle or a bare nominal complement. A resultative or terminative verbal particle is an ingredient of accomplishment and achievement predicates; it predicates the resulting state or resulting location of the theme argument (2a,b). The bare nominal complement typically appears in activity predicates; it is predicated of the incorporated theme (3a,b). It has been argued by several authors (e.g. Koopman and Szabolcsi 2000, Olsvay 2000a, É. Kiss 2002, 2006b) that the verb modifier is subject to phrasal movement. Its landing site has been identified in different ways, e.g. as a Spec,PredP by É. Kiss (2006b), a Spec,AspP by Csirmaz (2006), and a Spec,TP by Olsvay (2000a). Tentatively, I adopt Olsvay's TP label. There is

evidence that the V moves up to the head position of this projection (see É. Kiss 2002:60). The order of postverbal arguments is free also in this construction:

(2)a. [$_{TP}$ Össze-**vesztek**$_i$ [$_{VP}$ t$_i$ a   fiúk   egymással]]

         out   fell   the boys each-other-with

    'The boys fell out with each other.'

   b. [$_{TP}$Össze-**vesztek**$_i$ [$_{VP}$ t$_i$ egymással a fiúk]]

(3)a. [$_{TP}$ Könyvet   **vett**$_i$ [$_{VP}$ t$_i$ Péter Évának]]

         book-ACC bought   Peter Eve-for

    'Peter bought some book(s) for Eve. [Peter bough something for Eve, and it was of the

       type 'book']'

   b. [$_{TP}$ Könyvet **vett**$_i$ [$_{VP}$ t$_i$ Évának Péter]]

The projection harboring the verbal particle/bare nominal can be preceded by predicative adverbials (adverbials of degree, manner, and frequency). They are adjoined to TP – if we assume the adjunct theory of Ernst (2002). The order of a frequentative adverbial, a manner adverbial, a degree adverbial, and a verbal particle in the preverbal area is strictly fixed (see 4a-d). The TP-adjoined adverbials precede the particle in Spec,TP for structural reasons, while the relative order of the adverbials is determined by their selectional properties and their relative scope. At the same time, the order of the postverbal constituents is free (as shown by 4a,b).

(4)a. [$_{TP}$ Sokszor [$_{TP}$ nagyon [$_{TP}$ össze **vesztek**$_i$ [$_{VP}$ t$_i$ a   fiúk   egymással]]]]

         many-times very.much out   fell   the boys each-other-with

    'The boys many times fell out with each other very much.'

   b. Sokszor nagyon össze-**vesztek** egymással a fiúk

   c.*Nagyon össze sokszor **vesztek** egymással a fiúk.

   d. *Össze sokszor nagyon **vesztek** egymással a fiúk.

When a sentence like (4a) is to be negated, the verbal particle and the predicative adverbials surface postverbally – either because negation involves V-movement across the left periphery of TP, as indicated in (5a), or because negation blocks movement out of the VP. Interestingly, the relative order of the verbal particle, the degree adverb, and the frequentative adverb,

strictly fixed on the left-hand side of the verb, is „freed up" in the postverbal domain. The word order variants in (5b-d) are just as grammatical as that in (5a):

(5)a. Nem **vesztek**ᵢ sokszor   nagyon   össze (tᵢ) a   fiúk egymással.

　　 not fell   many-times very.much out   the boys each-other-with

　　 'The boys did not many times fell out with each other very much.'

　b. Nem **vesztek** össze egymással sokszor nagyon a fiúk.

　c. Nem **vesztek** nagyon össze a fiúk sokszor egymással.

　d. Nem **vesztek** össze a fiúk sokszor egymással nagyon.

　　 etc.

The projection tentatively called TP, and its negated counterpart can both be preceded by a focus, expressing exhaustive identification. The focus constituent must be adjacent to the V or to the 'negative particle, V' string; neither a verbal particle, nor any predicative adverbial can intervene between them. The adjacency of the focus and the (possibly negated) verb may be the consequence of the V moving up across the verbal particle (as shown in (6a)), or the consequence of the focus being an alternative filler of the position occupied by the verbal particle. Crucially, the relative order of the verbal particle and the predicative adverbials, which is strictly fixed preverbally, is completely free in the postverbal domain. Compare with (3):

(6)a. CSAK EGYSZER **veszett**ᵢ nagyon   össze (tᵢ) Éva Péterrel.

　　 only   once   fell   very.much out   Eve Peter-with

　　 'It was only once that Eve fell out with Peter very much.'

　b. CSAK EGYSZER **veszett** nagyon Éva össze Péterrel.

　c. CSAK EGYSZER **veszett** össze Péterrel Éva nagyon.

　d. CSAK EGYSZER **veszett** össze Éva nagyon Péterrel.

　　 etc.

In Hungarian, certain types of constituents, e.g. *csak* 'only' phrases, are obligatorily focussed – see (7a,b). In the presence of a preverbal focus, obligatory foci can also surface postverbally – see (7c).

(7)a. *Nagyon   össze **veszett** CSAK EGYSZER Éva két barátjával　　　　 .

very-much out   fell   only   once   Eve two friend-her-with

b. CSAK EGYSZER **veszett** Éva nagyon össze két barátjával.

’It was only once that Eve fell out very much with two friends of hers.

c. KÉT BARÁTJÁVAL **veszett** CSAK EGYSZER nagyon   össze Éva.

two   friend-her-with fell   only   once   very.much out   Eve

’It was with two friends of hers that Eve fell out very much only once.’

The lower focus has narrow scope with respect to the higher one, which is interpreted by É. Kiss (1998) as evidence of the lower focus also occupying a scope position. If the lower focus were *in situ*, and were to be adjoined to the higher focus in LF, they would mutually c-command each other, and would have identical scopes. If this conclusion is right, then the construction is derived by the iteration of the focus projection (tentatively called FocP), with the V raised first into the head position of the lower FocP, and then into the head position of the higher FocP:

(7c’) [$_{FocP}$ KÉT BARÁTJÁVAL [$_{Foc’}$ **veszett**$_i$ [$_{FocP}$ CSAK EGYSZER [$_{Foc’}$ t$_i$ [nagyon össze Éva]]]]]

Despite the hierarchical structure assumed by É. Kiss (1998), the word order of the postverbal section of the sentence is free:

(8)a. KÉT BARÁTJÁVAL **veszett** össze CSAK EGYSZER nagyon Éva.

b. KÉT BARÁTJÁVAL **veszett** össze nagyon Éva CSAK EGYSZER.

c. KÉT BARÁTJÁVAL **veszett** Éva CSAK EGYSZER nagyon össze.

d. KÉT BARÁTJÁVAL veszett CSAK EGYSZER Éva össze nagyon.

etc.

Q-raising is an overt operation in Hungarian; distributive quantifiers land in pre-focus position – by adjunction according to e.g. É. Kiss (1991a) and Surányi (2002).[2] Preverbal quantifiers c-command their scope, and their surface order corresponds to their scope order:

(9) [$_{FocP}$ *Mindenki* [$_{FocP}$ CSAK EGY SZELET TORTÁT [$_{Foc’}$ **evett** [meg vacsora után]]]]

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[2] Szabolcsi (1997), on the contrary, argues that overt quantifier preposing is substitution into the specifier of a designated functional projection called DistP.

everyone   only ONE slice   cake-ACC   ate   PRT dinner after

'For everyone, it was only one piece of cake that he ate after dinner.'

The scope order of the universal quantifier and the focus in (9), determined structurally, represents the only pragmatically possible scope order. In case a higher focus is built on top of the extended verb projection in (9), the relative order of the quantifier and the lower focus is freed up (even if their relative scope remains fixed for pragmatic reasons):

(10)a. Miért **evett** meg *mindenki* CSAK EGY SZELET TORTÁT vacsora után?

     why ate PRT everyone only   one piece   cake-ACC dinner after

    'Why did everyone eat only one piece of cake after dinner?'

  b. Miért **evett** meg vacsora után CSAK EGY SZELET TORTÁT *mindenki*?

  c. Miért **evett** meg *mindenki* vacsora után CSAK EGY SZELET TORTÁT?

  d. Miért **evett** meg vacsora után *mindenki* CSAK EGY SZELET TORTÁT?

    etc.

3. The 'Law of Growing Constituents'

In fact, the different permutations of the postverbal section of a sentence are equally unmarked only if the permuted constituents have roughly the same phonological weight. If the postverbal constituents in the above examples are replaced by elements of different lengths, the only unmarked permutation will be that in which the elements are ordered according to length, with the shortest one immediately following the verb, and the longest one standing last. Compare:

(11)a. Fel-**hívta** Péter a   legjobb barátját.

    up called Peter his best   friend-ACC

    'Peter called up his best friend.'

  b.?Fel-**hívta** a legjobb barátját Péter.

(12)a. Fel-**hívta** Pétert   a legjobb barátja.

    up called Peter-ACC his best   friend

    'His best friend called up Peter.'

  b.?Fel-**hívta** a legjobb barátja Pétert.

Construction (5) tolerated free postverbal scrambling because the postverbal noun phrases, the verbal particle, and the adverbial were roughly of the same length. In the following example involving a short particle and a long adverbial, the most unmarked permutation is that in which the monosyllabic particle precedes the disyllabic noun phrases, and the long adverbial stands last:

(13)a. Nem **hívták** fel a   fiúk egymást   kettőnél   többször.
        not   called up the boys each-other-ACC twice-ADESS more
        'The boys did not call up each other more than twice.'
    b. Nem **hívták** fel egymást a fiúk kettőnél többször.
    c.(?)Nem **hívták** egymást fel a fiúk kettőnél többször.
    d.?Nem **hívták** kettőnél többször egymást fel a fiúk.
    e.??Nem **hívták** kettőnél többször egymást a fiúk fel.

Compare with (6) the following example, containing a monosyllabic particle, a disyllabic adverb, and a long noun phrase. In the optimal version, the adverb precedes the noun phrase, and the particle precedes the adverb:

(14)a. JÁNOS **sértette** meg nagyon   Éva nagyapját.
        John   offended PRT very-much Eve's grandfather-ACC
        'It was John who offended Eve's grandfather very much.'
    b.?János **sértette** Éva nagyapját meg nagyon.
    c.??JÁNOS **sértette** nagyon Éva nagyapját meg.

The stress associated with indefinites compensates for length; unstressed definite arguments, conveying known information, can precede indefinite ones even if they are longer (cf. Varga 1981):

(15)a. Fel-**hívta** az intézet   igazgatóját   egy újságíró.
        up called the institute's director-ACC a   journalist
        'A journalist called up the director of the institute.'
    b. Fel-**hívta** egy újságíró az intézet igazgatóját.

The ordering principle requiring that shorter elements precede longer ones was formulated by Otto Behaghel as das Gesetz der wachsenden Glieder ('the law of the growing constituents') in several studies, among them in Behaghel (1932). The domain of the Hungarian sentence observing Behaghel's law is its postverbal section.

4. Does the verb move?

Previous accounts of the free constituent order of the postverbal section of the Hungarian sentence fall into two main types. In one type of accounts, the V-initial, free word order section of the Hungarian sentence is a base-generated head-initial, flat VP – see e.g. É. Kiss (1994, 2002). The arguments of the verb phrase are generated in an arbitrary order. The different theta-roles are mapped on specific Kase Phrases, rather than on specific structural positions – along the lines of the following proposal of Neeleman (1994):

(16) A theta-grid must be projected. It can be projected hierarchically or morphologically.

In the flat-VP approach, the verb either does not move, or does not move beyond the functional projection harboring the verbal particle. The different types of immediately preverbal constituents, among them the verbal particle and the focus, are claimed to be alternative fillers of the same preverbal position. In the most recent version of this theory, É. Kiss (2006a), the immediately preverbal slot is a predicative position (the specifier of a PredP). The verbal particle is licensed in Spec,PredP as a secondary predicate predicated of the theme argument, whereas the focus is licensed there as a predicate predicated of the open sentence represented by the verbal projection. The advantage of this framework is that the free order of postverbal constituents falls out for free; any permutation of the postverbal constituents can be generated, with the permutation observing Behaghel's law valued most highly in the phonological component.

If the focus and the verbal particle are alternative fillers of the specifier of the same PredP projection, then we expect them to behave identically in every context – which is not the case. The focus, for example, can be followed by negation, whereas the verbal particle cannot:

(17)a. Csak ÉVA nem veszett össze Jánossal.
      only Eve   not fell   out   John-with
      'It was only Eve who did not fall out with John.'

b.*Össze nem veszett Éva Jánossal.[3]

É. Kiss (2006a) accounts for this difference by assuming that the V must move up to the Pred head only in case Spec,PredP is filled by a particle. Under this assumption, (17b) is ungrammatical because the intervening negation blocks V-to-Pred movement.

The other major type of approaches assume that the 'V, particle' order attested in negative sentences and focus constructions is the result of V movement across the particle. Marácz (1989) analyzes Hungarian as a V2 language, with the focus occupying Spec,CP, and the V moving up to C. The particle is generated as the left sister of V under a V' node.

(18) $[_{CP}$ PÉTER$_i$ hívta$_j$ $[_{IP}$ t$_i$ $[_{VP}$ $[_{V'}$ fel t$_j]$ Marit]]]

    Peter   called   up   Mary-ACC

   'It was Peter who called up Mary.'

Brody's theory differs from Marácz's in that the focus constituent occupies the specifier of a designated functional projection called Focus Phrase. FocP subsumes the VP in Brody (1990), and it also subsumes an AgrOP, an AgrSP and a TP projection in Brody (1995). The Foc head attracts T(ense), merged with the V in finite clauses:

(19) $[_{FocP}$ PÉTER$_i$ hívta$_j$ $[_{TP}$ t$_j$ $[_{VP}$ t$_i$ $[_{V'}$ fel t$_j]$ Marit]]]

In infinitives, V-movement into Foc across the verbal particle is optional:

(20)a. Szeretném $[_{FocP}$ csak MARIT   [fel-**hívni**]]

    like-COND-1SG   only Mary-ACC   up call-INF

    'I would like to call up ONLY MARY.'

   b. Szeretném $[_{FocP}$ csak MARIT **hívni**$_i$ [fel t$_i]$]

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[3] The ungrammatical order of (17b) is acceptable in the following constructions, for unclear reasons:
(i) Amíg össze nem veszett Éva Jánossal, …
   until   out   not   fell   Eve   John-with
   'Until Eve fell out with John, …'
(ii) Össze nem veszne Éva Jánossal.
   out   not   fell-COND.3SG Eve John-with
   'Eve wouldn't fall out with John.'

Brody derives the optionality of V-movement in (20) by assuming that the V feature of a T head marked as [-tense] is optionally strong. If the V feature of the [-tense] T is weak, no V-to-T movement takes place, and the Foc head only attracts the empty T.

Negation, not discussed by Brody, somewhat complicates the picture – because in focus constructions the negative particle intervenes between the focus constituent and the V. Hence if the tensed V indeed sits in the Foc head, then it must have taken along the negative particle, as well. This is the position taken by Olsvay (2000b) and Puskas (2000).[4] The Neg head attracts the tensed V, given that the 'Particle, V' order is also reversed in focusless negative sentences – see (21a). The V moves across the verbal particle, surfacing in a position right-adjoined to the negative particle. The assumption that V-raising to Neg is right-adjunction is forced in the framework of Brody's FocP theory by the requirement that the tensed V land in Foc. Since the V follows the negative particle in focus constructions, as well, the negative particle cannot be sitting in Spec,NegP – see (21b).

(21)a. [$_{NegP}$ [$_{Neg'}$ Nem hívta$_i$ [$_{TP}$ meg t$_i$ [Péter Marit]]]]

                 not   invited   PRT   Peter Mary-ACC

    b. [$_{FocP}$ PÉTER$_i$ [$_{Foc'}$ [$_{Foc}$ [nem hívta$_j$]$_k$] [$_{NegP}$ [$_{Neg'}$ t$_k$ [$_{TP}$ meg t$_j$ [t$_i$ Marit]]]]]]

     'It was Peter who did not invite Mary.'

Negation can also dominate FocP; however, the higher Neg head does not attract the V. Surányi (2002) handles this fact by assuming that the focus and the negative particle are both specifiers of the same ZP projection (reminiscent of Laka's SigmaP (1990), adapted to Hungarian by Piñon (1992)), and their order is free.

(22)a. [$_{ZP}$ Nem [$_{ZP}$ PÉTER [$_{Z'}$ V+Z …]]]

     'It wasn't Peter who…'

    b. [$_{ZP}$PÉTER [$_{ZP}$nem [$_{Z'}$ V+Z …]]]

     'It was Peter who didn't…]]]

In the theory of Olsvay (2002a), sentences involving negation and/or focussing project a Non-Neutral Phrase. The V moves up into the Non-Neutral head, while the negative particle and the focus occupy the specifiers of a higher NegP and a higher FocP projection, respectively.

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[4] Puskas also assumes a projection called Definite Phrase between NegP and FP, harboring the subject.

Theories involving V-movement give a principled account of why the verbal particle and the predicative adverbials, preceding the verb in neutral sentences, surface postverbally in focus constructions and in negative sentences. It also falls out that in multiple focus constructions the second focus follows the V, and has narrow scope with respect to the preverbal focus. As was discussed in section 2 in connection with example (7), the focus projection is iterated, hence the first focus constituent c-commands the second one, and the verb moves up through the lower Foc head into the Foc head of the higher focus phrase. At the same time, these theories face a problem which has proved to be insurmountable until now: they predict an – at least partially – fixed post-verbal word order. If the raised V crosses a verbal particle in Spec,XP and a predicative adverbial adjoined to XP, the resulting sentence ought to contain a '(Focus) V AdvP Prt YP' string. In fact, however, the order of postverbal elements is syntactically completely free.

5. Evidence for a hierarchical VP versus evidence for a flat VP

For theories involving no V-movement, the Hungarian VP is a flat V-initial structure. Theories which derive the 'V particle' order by V-movement, on the other hand, are compatible with either a hierarchical VP or a flat VP. Both views have proponents; e.g. Marácz (1989) and Brody (1995) argue for a hierarchical VP, whereas e.g. É. Kiss (2002) argues for a flat VP. The question whether the underlying structure of the Hungarian VP is flat or hierarachical is an empirical question; however, the evidence is contradictory. Some phenomena sensitive to c-command provide evidence for a flat VP, in which the subject and the object mutually c-command each other, while in other areas of grammar a subject-object asymmetry is attested.

5.1. Evidence for a hierarchical VP

5.1.1. Unergative and unaccusative verbs

Certain Hungarian syntactic and morphosyntactic phenomena are sensitive to the external argument–internal argument distinction, which suggests that they access a hierarchical verb phrase comprising a VP shell and a *v*P shell. As shown by Bene (2005), for example, not all intransitive verbs can take a non-thematic object; unergatives can be complemented by a „fake" reflexive object, whereas unaccusatives cannot:

(23)a. István   betegre táncolta magát.
         Stephen sick-to danced himself

'Stephen danced himself sick.'

  b.*István   betegre este magát.

     Stephen sick-to fell himself

     'Stephen fell himself sick.'

The ungrammaticality of (23b) falls out if the subject of unaccusative verbs is generated in the internal argument position, thereby making it unavailable for the insertion of a non-thematic object. In the case of the unergative *táncol* 'dance' in (23a), on the other hand, the subject occupies the external argument position, hence there is room for a non-thematic internal argument. Bene (2005) concludes that the Hungarian verb phrase must be hierarchical, consisting of a VP shell dominating the internal argument, and a *v*P shell dominating the external argument.

     A number of morphosyntactic heads subcategorize for a VP, whereas others subcategorize for a *v*P. Thus the *-va/-ve* suffix can derive a stative adverbial participle phrase only from an unaccusative VP – see (24a), or from the VP shell of a transitive V – see (24b); it cannot merge with the *v*P shell of a transitive V – see (24c), or with that of an unergative V – see (24d):

(24)a. Az ajtó   ki van nyíl   -va

     the door out is   open$_{intr}$-ADV

     'The door is opened.'

  b. Az ajtó ki van nyit -va

     the door out is   open$_{tr}$-ADV

     'The door is opened.'

  c.*Péter ki van nyit -va   az ajtót.

     Peter out is   open$_{tr}$-ADV the door-ACC

  d.*Péter telefonál -va   van.

     Peter telephone-ADV is

Similar is the distribution of the *-t/-tt* adjectival participle suffix:

(25)a. a   ki -nyíl   -t   ajtó

     the out open$_{intr}$-ADJ door

     'the opened door'

b. a   ki -nyit   -ott   ajtó
   the out open$_{tr}$-ADJ door
   'the opened door'

c.*az   ajtót   ki -nyit   -ott   fiú
   the door-ACC out open$_{tr}$-ADJ boy

d.*az   énekel-t   fiú
   the sing   -ADJ boy

The causative -*tat/-tet* suffix, on the contrary, only combines with verb phrases projecting a *v*P, i.e., with unergatives and transitives:

(26)a.*Péter ki -nyíl   -tat   -ta   az ajtót.
      Peter out open$_{intr}$-CAUS-PAST-3SG the door-ACC
      'Peter made the door open.'

   b. Péter ki -nyit -tat   -ta   az ajtót.
      Peter out open$_{tr}$-CAUS-PAST-3SG the door-ACC
      'Peter had the door opened.'

   c. Péter énekel-tet   -te   a   fiút.
      Peter sing   -CAUS-PAST-3SG the boy-ACC
      'Peter made the boy sing.'

These morphosyntactic processes also argue against the flat VP approach, and for the generation of separate VP and *v*P shells.

5.1.2. Anaphora

As is well-known (see e.g. É. Kiss 1991b), anaphora reveals an articulated argument hierarchy in Hungarian, as well; an anaphor must be bound by an antecedent that precedes it in the following argument hierarchy:

(27) subject > object/dative > instrument > location

For example:

(28)a. Péter és   Kati észrevette egymást.

Peter and Kate noticed   each-other-ACC

   b.*Pétert   és   Katit   észrevette egymás.

     Peter-ACC and Kate-ACC noticed   each-other-NOM

(29)a. A   fiúknak   üzenetet   küldtem egymással.

     the boys-DAT message-ACC sent-I   each-other-with

     'I sent a message to the boys with each other.'

   b.*A   fiúkkal   üzenetet   küldtem egymásnak.

     the boys-with message-ACC sent-I   each-other-DAT

     'I sent a message with the boys to each other.'

(30)a. Vitatkoztam a   fiúkkal   egymásról.[5]

     argued-I   the boys-with each-other-about

     'I argued with the boys about each other.'

   b.*Vitatkoztam a   fiúkról   egymással.

     argued-I   the boys-about each-other-with

     'I argued about the boys with each other.'

The argument hierarchy manifested in Hungarian anaphora falls out from Binding Principle A if the Hungarian verb phrase is assigned a binary branching structure with the locative argument occupying the deepest complement position. (In the framework of Larson (1988, 2004), the verb is generated in the deepest head position, and is moved up through the empty heads. According to Frey and Pittner (1998), on the other hand, the projections harboring the instrumental and locative noun phrases, located below that dominating the verb and the object, are extraposition sites generated with their heads empty.)

     The surface c-command relation and the relative order of the antecedent and the anaphor do not affect the interpretation of anaphora, in other words, reconstruction is obligatory. Cf.

(31) Egymást   jól   ismerik a   felek.

    each-other-ACC well know   the parties

    'The parties know each other well.'

---

[5] In Hungarian, the dative, instrumental and locative Cases are expressed by bound morphemes realized on the nominal head. No PPs being involved, the conventional notion of c-command is sufficient to describe the structural licensing condition of antecedent–anaphor relations.

5.2. Evidence for a flat VP

5.2.1. Binding Principle C

The clearest evidence of the Hungarian VP being flat is provided by Binding Principle C. If the subject asymmetrically c-commands the object, then an object pronoun does not c-command the genitive specifier of the subject, but a subject pronoun c-commands the genitive specifier of the object, i.e., disjoint reference is elicited only in the latter case:

(32)a. John's$_i$ mother loves him$_i$.

    b. Everyone's$_i$ mother loves him$_i$.

    c. Whose$_i$ mother loves him$_i$?

(33)a.*He$_i$ loves John's$_i$ mother.

    b.*He$_i$ loves everyone's$_i$ mother.

    c.*Whose$_i$ mother does he$_i$ love?

The Hungarian equivalents of both the examples in (32) and those in (33) display disjoint reference:

(34)a.*János$_i$ anyja   szereti pro$_i$ (őt$_i$).

    John's mother loves   him

    b.*Mindenkinek$_i$ az anyja   szereti pro$_i$ (őt$_i$).

    everyone's   the mother loves   him

    c.*Kinek$_i$ az   anyja   szereti pro$_i$ (őt$_i$)?

    whose the mother loves   him?

(35)a.*pro$_i$ (Ő$_i$) szereti János$_i$ anyját.

    he   loves John's mother-ACC

    b.*pro$_i$ (Ő$_i$) szereti mindenkinek$_i$ az anyját.

    he   loves everyones   the mother-ACC

    c.*Kinek$_i$ az anyját   szereti pro$_i$ (ő$_i$)?

    whose the mother-ACC loves   he

The disjoint reading of the object pronoun and the genitive specifier of the subject in examples (34) only falls out if the subject and the object mutually c-command each other.

The surface order of elements does not affect the interpretation – cf.

(36)a.*Szereti pro/őt$_i$ János$_i$ anyja.

    loves   him   John's mother-NOM

  b.*János$_i$ anyját   pro/ő$_i$ szereti.

    John's mother-ACC he   loves

Interestingly, coreference in (34a) becomes possible if the two elements participating in the binding relation are both lexical DPs:

(37)a. János$_i$ anyja   szereti Jánost$_i$.

    John's mother-NOM loves   John-ACC

cf. b.*János$_i$ anyját   szereti János$_i$.

    John's mother-ACC loves   John-NOM

According to Reinhart (1983), the (co-)reference relation between two lexical noun phrases falls outside the realm of binding theory, hence (37a) does not represent a major problem for proponents of the flat VP approach (they claim disjoint reference between lexical noun phrases is thematically determined). Proponents of the hierarchical VP approach, on the other hand, have found no plausible explanation for the disjoint reference attested in (34a-c) (for an attempt, see Brody (1995)).

5.2.2. Free postverbal word order

The free postverbal order of the Hungarian verb phrase falls out for free in a flat-VP framework. The movement rule employed for the derivation of non-canonical orders from a hierarchical verb phrase, Scrambling, is known to target only specific noun phrases in other languages (see e.g. Dayal 2003, Karimi 2003, Diesing 1992). In Hungarian, however, a non-specific noun phrase can also be „scrambled":

(38) Csak matematika tagozaton   oldanak meg *példákat* szívesen a   diákok.

    only math   specialization-in solve   PRT problems gladly   the students

     'It is only in special math classes that students solve problems gladly.'

5.2.3. Superiority?

Hungarian multiple questions display no Superiority effect – which was also believed to provide evidence for a flat VP; however, as Chomsky (2005) argues, in the current framework no Superiority effect is predicted in a hierarchical verb phrase, either. It is the appearance of Superiority in English that requires justification.

5.3. Mixed evidence

Weak Crossover phenomena were first thought to provide clear evidence for a flat VP. In the classical Weak Crossover configuration, a variable is in disjoint reference with a pronoun on its left – see (39a) and (40a). If the pronoun is on the right of the variable, as in (39b) and (40b), disjoint reference is not enforced:

(39)a.*Who_i does his_i mother love t_i?

b. Who_i t_i loves his_i mother?

(40)a.*His_i mother loves $everyone_i$.

b. $Everyone_i$ loves his_i mother.

In Hungarian, the pronoun has a bound reading in all the cases illustrated in (39) and (40):

(41)a. Kit_i szeret az pro_i anyja?

     whom loves the pro mother-his-NOM

    'Who does his mother love?

b. Ki_i szereti az pro_i anyját?

   who loves the pro mother-his-ACC

   'Who loves his mother?'

(42)a. $Mindenkit_i$ szeret az pro_i anyja.

    everyone-ACC loves the pro mother-his-NOM

    'His mother loves everyone.'

b. $Mindenki_i$ szereti a pro_i anyját.

    everyone loves the pro mother-his-ACC

    'Everyone loves his mother.'

In Weak Crossover configurations, the bound reading of the pronoun is possible if the variable, A'-bound by the operator, A-binds the pronoun. In Hungarian, the bound reading of pro in the (a) examples has been interpreted as evidence that not only a subject variable A-binds the genitive specifier of the object, but also an object variable A-binds the genitive specifier of the subject.

Surprisingly, the Hungarian Weak Crossover construction has turned out to be sensitive to surface order. Thus the bound reading of the pronominal in the (a) examples disappears if the pronominal precedes the operator:

(43)a.*Az pro$_i$ anyja   kit$_i$ szeret?

     the pro mother-NOM whom loves

   b.*Az pro$_i$ anyja   mindenkit$_i$ szeret.

      the pro mother-NOM everyone-ACC loves

Thus Weak Crossover phenomena pose a problem for both the hierarchical and the flat-VP approaches.

So far, no theory of Hungarian word order has been able to derive all the facts surveyed in section 5. I will argue below that Phase Theory provides means by which both the fixed-word-order and the free-word-order aspects of Hungarian word order can be accounted for, and both the facts indicative of a hierarchical VP and those indicative of a flat VP can be predicted.

The proposal to be put forth will be built, on the one hand, on a novel empirical generalization based on the word order facts surveyed in section 2, and on the other hand, on a particular implementation of Chomsky's (2001, 2004, 2005) phase theory.

6. A reinterpretation of the facts surveyed in Section 2

Adhering to prevailing hypotheses concerning Universal Grammar, I will assume that the extended verbal projection of the Hungarian sentence is built up configurationally. It always involves a VP, a vP, a PredP, and a TP. Spec,PredP is the landing site of the [+predicative] complement of the V, represented by a resultative or terminative verbal particle predicated of the overt internal argument in telic sentences (see (2) above), and by a bare nominal predicated of the incorporated internal argument in a type of atelic sentences (see (3)). According to Koster (1994), a predicative element must move to Spec,PredP for semantic

predicate incorporation to be possible. The V invariably raises to Pred, whether or not Spec,PredP is filled. For example:

(44)a.

```
        PredP
       /     \
    Spec     Pred'
    fel_i    /    \
          Pred     vP
          hívott_j /  \
                Spec    v'
                Péter  /  \
                      v    VP
                      t_j  /  \
                        Spec    V'
                        egy lányt / \
                                 V   AdvP
                                 t_j  t_i

     up  called Peter   a  girl-ACC
```

b.

```
        PredP
       /     \
    Spec     Pred'
  levelet_i  /    \
          Pred     vP
          írt_j   /  \
                Spec    v'
                Péter  /  \
                      v    VP
                      t_j  /  \
                         Spec   V'
                          t_i  /  \
                              V    NP
                              t_j  Évának

     letter-ACC wrote Peter   Eve-DAT
```
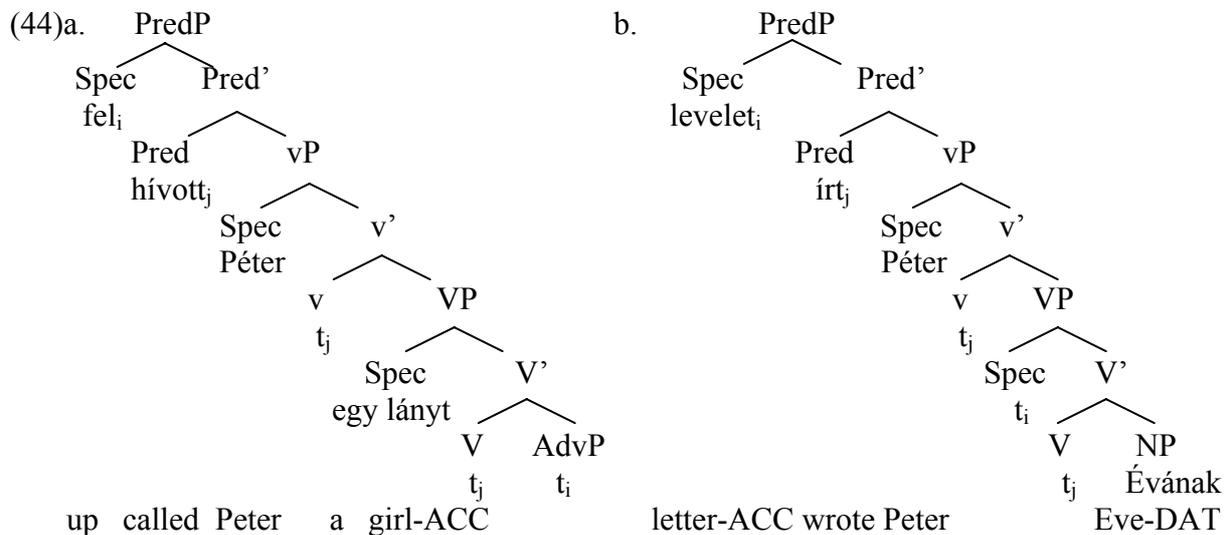
PredP represents the maximal lexically extended verb phrase. Incidentally, its constituent order corresponds to the order in which a verb and its arguments are stored in the mental lexicon of Hungarians and in dictionaries of Hungarian, e.g. *fel-hív valaki valakit* 'up call someone-NOM someone-ACC'; *levelet ír valaki valakinek* 'letter-ACC write someone-NOM someone-DAT').

PredP is extended into a TP.[6] The V is raised from Pred to T, and the filler of Spec, PredP is moved to Spec,TP. As is well-known, the checking of nominative case does not involve subject movement into Spec,TP in Hungarian, hence Spec,TP is available as a landing site; the question is what triggers particle/bare nominal movement there. It seems that the local spec-head relation between the adverbial or nominal predicate and the verbal predicate, required by predicate incorporation, must also be preserved after the primary predicate has merged with Tense.[7]

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[6] Csirmaz (2006) also assumes an AspP projection between PredP and TP, and Bartos (2000) argues for a series of further morphosyntactic projections, among them a ModP, a MoodP, an AgrOP, and an AgrSP. Since these projections can be disregarded in the derivation of the the word order possibilities, I ignore them here, for perspicuity's sake.

[7] In imperfective telic sentences, the terminative or resultative verbal particle is not preposed into Spec,TP, e.g.
(i) [TP Ment [**fel** János a   lépcsőn]] amikor találkoztunk.
       went   up John the stairs-on when   met-we
    'John was going upstairs when we met.'
For simplicity's sake, we can assume that *fel* functions in such sentences as a directional adverb rather than a terminative secondary predicate predicated, i.e., sentences like (i) are atelic, and their particle has no [+Pred] feature to check. In the more detailed analysis of Csirmaz (2006), in which an AspP projection also intervenes

TP is a possible adjunction site of predicate adverbials and distributive quantifiers, e.g.:

(45) [TP Mindenkit   [TP gyorsan [TP fel [T' hívtam [PredP]]]]]

      everyone-ACC quickly   up   called-I

  'I called up everyone quickly.'

TP can also be further extended into a Non-Neutral Phrase (NNP).[8] NNP can have two specifiers, an identificational focus, and a negative particle.[9] The order of the two specifiers is free, but the different orders yield different scope readings:

(46)a. [NNP Nem [NN' hívtam_i [TP fel t_i Jánost]]]

      not   called-I   up   John-ACC

  'I didn't call up John.'

  b. [NNP CSAK JÁNOST [NN' hívtam_i [TP fel t_i]]]

      only   John-ACC   called-I   up

  'It was only John that I called up.'

  c. [NNP CSAK JÁNOST [NNP nem [NN' hívtam_i [TP fel t_i]]]

  'It was onlyJohn that I did not call up.'

  d. [NNP Nem [NNP CSAK JÁNOST [NN' hívtam_i [TP fel t_i]]]][10]

  'It wasn't only John that I called up.'

Whereas in non-neutral finite clauses the V always lands in NN, in non-neutral infinitival clauses V-to-NN movement is optional, as was discussed in connection with (20). If no V-to-NN movement takes place, as in (47a), predicative adverbials, adjoined to TP, precede the

---

between PredP and TP, the particle moves up to Spec,PredP; it is the movement of the endpoint-denoting particle into the specifier of a [-perfective] Asp head that is blocked by a semantic constraint.

[8] The term 'NNP' is borrowed from Koopman and Szabolcsi (2000) and from Olsvay (2002a), whereas its structural analysis as a projection with two specifiers, one housing the focus, the other one housing negation, is borrowed from Surányi (2002).

[9] In the analysis of Olsvay (2002a), the focus and the negative particle occupy the specifiers of a FocP and a NegP projection subsuming NNP, while the V is raised only as far as the NN head. In Olsvay's approach, the coordination and ellipsis possibilities fall out more straightforwardly than in the present framework, adopted from Surányi (2002), where the coordination and ellipsis of non-maximal projections (NN' and the lower segment of NNP) must also be allowed. I have chosen Surányi's approach here because it is simpler, more transparent (particularly in multiple focus constructions), and therefore more suitable for expository purposes.

[10] In fact, *Nem JÁNOST nem hívtam fel*, containing two negative particles, is also grammatical. According to Surányi (2002), the higher negative particle expresses metalinguistic negation.

infinitive. If the option of V-to-NN movement is chosen, as in (47b), the adverbials follow the infinitive:

(47)a. Nem elég   csak EGYSZER *alaposan*   el -olvasni a   könyvet
      not   enough only once   thoroughly PRT read-INF the book
      'It is not enough to read the book thoroughly only ONCE.'
   b. Nem elég csak EGYSZER olvasni el *alaposan* a könyvet

The lack of V-movement in (47a) suggests that the projection of NNP is optional in case a [-tense] TP is extended by a focus or a negative particle. If no NNP is projected, the V stays in T, and the focus or negative particle is adjoined to TP. Notice that when a negative particle or an identificational focus is associated with a projection involving no Tense, e.g. an AP or an AdvP, no V-movement is triggered, either. Since the NN head has a T feature to check, APs and AdvPs cannot be subsumed by an NNP; their negative particle and their focussed complement must simply be left-adjoined to the AP/AdvP projection. Example (48a) involves a negated AdjP. In (48b-c), the AdjP contains two complements in left- adjoined positions, a phrase-internal topic and a phrase-internal focus, with the focus closer to the head.

(48)a. egy [AP NEM [AP fiatal]] rokon
     a   not   young relative
   b. egy [AP nálam [AP (CSAK) KÉT ÉVVEL [AP fiatalabb]]] rokon
     a   than.me   only   two year-with   younger   relative
    'a relative only two years younger than me'
   c.*egy [AP (CSAK) KÉT ÉVVEL [AP nálam [AP fiatalabb]]] rokon

The following examples illustrate that the preposing of a focus constituent into scope position – via adjunction – is obligatory in non-verbal projections, as well:

(49)a. [AdvP szemben Péterrel]
        opposite Peter-INSTR
    [AdvP Péterrel szemben]
   b.*[AdvP szemben CSAK PÉTERREL]
        opposite only Peter-INSTR
    [AdvP CSAK PÉTERREL [AdvP szemben]]

Apparently, for a growing number of speakers, a [-tense] TP cannot be merged with an NNP head, either (presumably because for them, the NN head has a [+tense] feature to check). For these speakers, the focus or negative particle associated with a [-tense] TP is in a left-adjoined position, as follows:

(50) Nem elég   [TP csak EGYSZER [TP alaposan [TP el   olvasni [PredP a   könyvet]]]]
       not   enough   only once   thoroughly PRT read-INF   the book
       'It is not enough to read the book thoroughly only ONCE.'

Whether extending a [+tense] TP or a [-tense] TP, an NNP is an adjunction site for distributive quantifiers and adverbials, e.g.:

(51) [NNP Mindenkinek [NNP állandóan [NNP UGYANAZT [NN' mondja [TP János]]]]]
        everyone-DAT   permanently   same-ACC   says   John
       'John always says the same thing to everyone.'

The NNP projection can be iterated (52a), unless it involves a negative particle in its specifier, which blocks V-movement into a higher NN head (52b).

(52)a.[NNP KETTEN [NN' ettek [NNP CSAK KÉT SÜTEMÉNYT]]]
        two   ate   only   two   cake-ACC
       'It was only two persons who ate only two cakes.'
    b.*[NNP Két süteményt [NN' sütötti [NNP **nem** [NNP ÉVA [NN' ti]]]]]
          two cakes-ACC   baked   not   Eve-NOM

The facts surveyed in section 2 suggested that word order is free in the postverbal section of the Hungarian sentence. The freedom of word order correlates with the extraction of the V into a functional head. A metaphor comes to mind: the removal of the V from PredP to T, from TP to NN, or from a lower NNP to a higher NN has the same effect as the removal of the central beam of a building; it leads to the collapse of the structure. The projection that has been deprived of its head is flattened, and its constituents can be reordered according to a phonological criterion. Here is a more explicit formulation of the observation in the terminology of Chomsky (1995: 178-180):

(53) When a V-chain is extended functionally, the maximal constituents in its

   internal domain become freely permutable sister nodes.

The generalization in (53) correctly predicts the word order facts surveyed in section 2. The term 'internal domain' of Chomsky (1995) covers the complement of the root of the V-chain, the specifiers of the intermediate verbal projections, and anything adjoined to the intermediate verbal projections. The freedom of word order does not extend to the subconstituents of these elements.

   The first exponent of generalization (53), example (2), involves a PredP extended into a TP, with the verbal particle landing in Spec,TP. The removal of the V (more precisely, the removal of the [[V+*v*] Pred] complex) leaves the PredP projection headless, and causes the collapse, or flattening, of its structure, with the major constituents linearized at random, or – optimally – linearized according to their phonological weight. That is:

(54)a. [TP Össze [T' vesztek [PredP a   fiúk egymással]]]

         fell   out   the boys each-other-with

      'The boys fell out with each other.'

   b. [TP Össze [T' vesztek [PredP egymással a fiúk]]]

   When PredP is extended not only into a TP but also into an NNP, the tensed V is moved from Pred through T into NN, also leaving the TP projection headless. This move extends the internal domain of the V-chain, in other words, the domain of free word order, to all the constituents that are internal to the outmost TP segment:

(55)a. [NNP Nem [NN' vesztek [TP sokszor   nagyon   össze a   fiúk egymással]]]

         not   fell   many-times very.much out   the boys each-other-with

      'The boys didn't many times fall out very much with each other.'

   b. [NNP Nem [NN' vesztek [TP össze sokszor a fiúk nagyon egymással]]]

   c. [NNP Nem [NN' vesztek [TP egymással nagyon össze sokszor a fiúk]]]

      etc.

(56)a. [NNP CSAK EGYSZER [NN' veszett [TP nagyon   össze Éva Péterrel]]]

            only   once   fell   very.much out   Eve Peter-with

'It was only once that Eve fell out with Peter very much.'

b. [NNP CSAK EGYSZER [NN' veszett [TP Éva össze Péterrel nagyon]]]

c. [NNP CSAK EGYSZER [NN' veszett [TP össze Péterrel Éva nagyon]]]

    etc.

In the case of NNP iteration, the V moves into the higher NN head across the lower NN, thereby leaving also the lower NNP headless. The free word order section of such sentences extends over the headless lower NNP:

(57)a. [NNP KÉT BARÁTJÁVAL [NN' veszett [NNP CSAK EGYSZER nagyon   össze Éva]]]
        two friend-her-with   fell   only   once   very.much out   Eve
   'It was two friends of hers that Eve fell out with very much only ONCE.'

b. [NNP KÉT BARÁTJÁVAL [NN' veszett [NNP össze Éva nagyon CSAK EGYSZER]]]

c. [NNP KÉT BARÁTJÁVAL [NN' veszett [NNP össze CSAK EGYSZER Éva nagyon]]]

    etc.

If the lower NNP, a potential adjunction site of Q-Raising, has a universal quantifier adjoined to it, the headless domain with a free word order will begin with the universal quantifier:

(58)

a.[NNP MIÉRT [NN' evett [NNP *mindenki* CSAK EGY SZELET TORTÁT meg vacsora után?]]]
     why   ate   everyone only   one   slice   cake   up   dinner after
  'Why was it only one piece of cake that everyone ate after dinner?'

b.[NNP MIÉRT [NN' evett [NNP meg vacsora után *mindenki* CSAK EGY SZELET TORTÁT?]]]

c.[NNP MIÉRT [NN' evett [NNP meg CSAK EGY SZELET TORTÁT vacsora után *mindenki*?]]]

   etc.

   In sum: the assignment to the Hungarian sentence of a regular configurational structure, involving a VP, a *v*P, a PredP, a TP and optionally an NNP projection, with V-movement into the highest head position, and the generalization formulated in (53) yield all and only the word order possibilities attested in Hungarian.

7. (Non-)configurational phenomena from a phasal perspective

It has been demonstrated that the distribution of fixed and free word order attested in Hungarian falls out if the Hungarian sentence is built up configurationally, and the extraction of the verbal head into a functional head position is assumed to cause the flattening of the internal domain of the extended verbal projection. If a string can be associated with both a configurational structure and a flat one in different stages of the derivation, as suggested in section 6, then the symptoms of configurationality and those of non-configurationality displayed by the given string can both be accounted for; the phenomena indicative of a configurational structure are those interpreted on the construction before its collapse, and the phenomena indicative of a non-configurational structure are those interpreted on the construction after its flattening. In earlier generative frameworks with a single representation (LF) subjected to semantic interpretation, these assumptions would have violated basic tenets of the theory; in the framework of phase theory (see Chomsky 2001, 2002, 2005), on the other hand, they are tenable.

According to Chomsky (2001, 2004, 2005), the computation of sentences takes place in phases. A phase consists of a head, a syntactically active left periphery, and a post-head domain which is impenetrable for further syntactic operations. A phase already constructed, and merged into a higher phase is transferred to Spell-Out and to semantic interpretation, i.e., no final, unique level LF is assumed. v*P and CP are generally regarded as phases, whereas the phasehood of TP is debated (see Grohmann (2000), and Sauerland and Elbourne (2002) contra Chomsky (2005)).

The Earliness Principle requires that a grammatical operation be performed as early as possible in the course of the derivation. This means that e.g. anaphora, which is a local relation interpreted on the vP, is interpreted as soon as the vP-phase has been constructed; quantifiers, which have scope over the functionally extended verb phase, are interpreted when the functionally extended verb phrase has been built; and disjoint reference, which is a cross-clausal relation, is interpreted when the complex sentence has been constructed.

In section 6, it was argued that the vP is hierarchical when constituting the internal domain of the V moved to Pred. However, when the V is moved on from Pred into a functional head, the hierarchy in PredP collapses, and the major constituents become sisters to each other. Hence the vP must be transferred to semantic interpretation after V-movement from v to Pred, but before V-movement from Pred to T. This is possible in phase theory if not only vP but also PredP, the maximal lexically extended verbal projection, forms a phase. Then the vP is subjected to semantic interpretation after it has been merged with Pred, the next higher phasal head.

When the *v*P is transferred to semantic interpretation, it contains the root copies of all the constituents which have been preposed into the left periphery of PredP for further computation. In the interpretive component, the *v*P is checked for Binding Principle A, among others.

An intermediate copy of an anaphor in an A'-chain can also enter into a binding relation with a local antecedent in the matrix predicate:

(59) [$_{NNP}$ Egymás$_{i/j}$ melyik fényképét   gondolták [$_{vP}$ a   szülők$_i$ [$_{CP}$ egymás$_i$ melyik
        each-other's which photo-ACC thought   the parents   each-other's which

fényképét [$_{C'}$ hogy [$_{TopP}$ a   fiatalok$_j$ [$_{TP}$ ki-teszik [$_{PredP}$ a   falra [$_{vP}$ a   fiatalok$_j$

photo-ACC   that   the young   out put   the wall-on the young

egymás$_j$ melyik   fényképét]]]]]]]]]]

each-other's which photo-ACC

'Which photo of each other did the parents think that the young ones put on the wall?'

It is presumably the copy of the WH-phrase in the embedded Spec,CP which is bound by the subject in the matrix *v*P.

Whereas Binding Principle A requires anaphors to find a c-commanding antecedent locally, Binding Principle C imposes a global requirement on R-expressions; they must be free in every phase of the derivation. In fact, it is sufficient to check Binding Principle C in the highest phase – because the disjoint readings established in the subsequent phases cannot be overwritten but are all preserved. When Binding Principle C is checked in the highest phase, the *v*P has already been flattened, i.e., the subject and the object have already become sisters to each other – that is why coreference between an object pronoun and the genitive specifier of the subject, and coreference between a subject pronoun and the genitive specifier of the object are equally excluded. Material in the domain of a phase is claimed not to be available for syntactic movement; nevertheless, the interpretable features of the domain-internal constituents must be visible, i.e., the person, number and gender features of R-expressions must be comparable. Cf.

(60)a.*[$_{NNP}$ EZÉRT [$_{N'}$ szereti [$_{TP}$ [a   fiúk$_i$ anyja] őket$_i$]]]
            therefore   loves   the boys' mother them
        'That is why the boys' mother loves them.'
    b.*[$_{TP}$ [Minden gyerek anyja] [$_{TP}$ [$_{T'}$ szereti [$_{PredP}$ [(minden) gyerek$_i$ anyja]   őt$_i$]]]]

every   child's mother   loves   every   child's mother him

            'Every child's mother loves him.'

In the flattened TP of (60a), the 3rd person plural pronoun *őket* c-commands the phrase *a fiúk*
'the boys', a DP with the same features, hence Binding Principle C imposes disjoint reference
on them. In (60b), the feature complex [3rd person singular] is shared by the pronoun *őt* and
the variable in the position of the genitive specifier of the subject, bound by the Q-Raised
quantifier. The quantifier pied-pipes the whole subject into a TP-adjoined position. In the
flattened PredP, the pronoun c-commands the root copy of the genitive noun phrase with the
same φ-features, triggering a Binding Principle C effect.

The so-called Weak Crossover phenomena involve a combination of A'-binding, and local
argument binding (or the lack of it) between the bound variable and a pronominal. Recall the
relevant minimal pairs in (41)-(42); a pronoun, and a clause-mate variable bound by an
operator are disjoint in reference unless the variable argument-binds (i.e., locally c-
commands) the pronoun. Since the primary domain of argument binding is the *v*P, we expect
Weak Crossover to reflect the subject-object asymmetry present in the *v*P phase. This
expectation is apparently fulfilled:

(61)a. A pro_i tanítványait minden tanár$_i$ szereti.
        the his students-ACC every   teacher-NOM likes
        'Every teacher likes his students.'
    b.??A pro_i tanítványai   minden tanárt$_i$ szeretnek.
        the his students-NOM every   teacher-ACC like
        'His students like every teacher.'

In both sentences, the noun phrase containing the bound pronominal is topicalized, and the
quantified noun phrase is Q-raised into a TP-adjoined position. The different binding
possibilities must be due to the different c-command relation between the *v*P-internal copies:

(62)a. [$_{vP}$ minden tanár$_i$ [$_{VP}$ a pro_i diákjait…]]
    b.??[$_{vP}$ a pro_i diákjai [$_{VP}$ minden tanárt$_i$…]]

In (62b), pro is not c-commanded by the bound variable, hence the bound reading of pro is not licensed. Unexpectedly, however, if the operator precedes and c-commands the pronominal on the surface (i.e., in the highest phase), the bound reading becomes possible:

(63)a. [$_{TP}$ Minden tanárt$_i$ [$_{TP}$ szeretnek [$_{PredP}$ a   pro$_i$ tanítványai]]]

         every   teacher-ACC   like   the his students-NOM

    'His students like every teacher."

    b. [$_{NNP}$ Kit$_i$ [$_{NN'}$ szeretnek [$_{TP}$ a   pro$_i$ tanítványai]]]

         whom   like   the his students-NOM

    'Who do his students like?'

    c. [$_{NNP}$ Minden lányt$_i$ [$_{NNP}$ PÉTERTŐL [$_{NN'}$ félt   [$_{TP}$ az pro$_i$ anyja]]]]

         every   girl-ACC   Peter-from   protects   the her mother-NOM

    'Her mother protects every girl from PETER.'

Apparently, in addition to the primary, *v*P-internal binding relation between the bound variable and the pronominal, reflecting the asymmetrical c-command relation of the subject and the object, a secondary binding relation can also be established in the matrix phase, if the highest copy of the quantified noun phrase precedes and c-commands the highest copy of the pronominal. This secondary strategy of binding interpretation is employed after the postverbal domain has been flattened, and its major constituents have been reordered – as shown by the distribution of grammaticality in (64a,b):

(64)a. PÉTERTŐL félt   minden lányt$_i$ az pro$_i$ anyja.

      Peter-from   protects every girl-ACC the her mother

      'It is from Peter that her mother protects every girl.'

   b.??PÉTERTŐL félt az pro$_i$ anyja minden lányt$_i$.

The fact that the surface order of the binder and the bound element affects the possibility of binding indicates that the free reordering of sister constituents following the flattening of the headless phasal domain cannot be relegated to PF; it must take place before the syntactic structure enters the semantic and phonological components. It is merely the evaluation of the output of reordering from the point of view of Behaghel's Law that occurs in PF. The sentence is judged as phonologically optimal if Behaghel's Law is observed.

Whereas the interpretation of Binding Principle A takes place in the lowest phase, and that of Binding Principle C takes place in the highest phase, with Weak Crossover checked in both the lowest and the highest phases, quantifier and adverbial scope is interpreted on the maximal functionally extended verbal projection, a TP in neutral sentences, and an NNP in sentences involving a focus and/or negation. This leads us to the conclusion that the maximal functionally extended verbal projection also constitutes a phase. The phasal head is the highest copy of the verb. It is the phasal domain of this maximal functionally extended verb phrase that is flattened, and whose constituents can be reordered. Both the TP and the NNP are adjunction sites for adverbials and quantifiers. If the maximal functionally extended verb phrase is of the category TP, all the scope-bearing elements surface in the left periphery of the phase, in scope positions. If it is of the category NNP, the post-head operators and adverbials are in the flattend phasal domain.

Recall the empirical facts surveyed in section 6. Hungarian preverbal adverbials, foci, and quantifiers precede and c-command their scope, hence they have scope over the adverbials, foci, and quantifiers they precede. Postverbal scope-bearing elements, on the other hand, have identical scopes. Thus the scope relation between a preverbal and a postverbal focus is fixed in (65a,b), but it is free if both foci are located in the „flattened" postverbal section of the sentence (66a,b):

(65)a. [$_{NNP}$ CSAK KÉT TÁRGYBÓL [$_{NN'}$ bukott meg [$_{NNP}$ CSAK EGY DIÁK]]] 2>1
    only two subject-from failed PRT only one student
   'It was only from two subjects that only one student failed.'

 b. [$_{NNP}$ CSAK EGY DIÁK [$_{NN'}$ bukott meg [$_{NNP}$ CSAK KÉT TÁRGYBÓL]]] 1>2
    only one student failed PRT only two subject-from
   'It was only one student who failed only from two subjects.'

(66)a.[$_{NNP}$MIKOR bukott meg [$_{NNP}$CSAK KÉT TÁRGYBÓL CSAK EGY DIÁK?]] 2>1, 1>2
    when failed PRT only two subject-from only one student
   'When was it that only one student failed only from two subjects?'

 b. [$_{NNP}$MIKOR bukott meg [$_{NNP}$CSAK EGY DIÁK CSAK KÉT TÁRGYBÓL?]] 1>2, 2>1

We attest similar scope relations in sentences involving two distributive quantifiers: the relation is asymmetrical if both quantifiers are preverbal (67a,b), or one of them is preverbal,

and the other one is postverbal and unstressed (67c)[11]; however, the relation becomes symmetrical if the quantifiers stand in the postverbal domain (67d,e) – either both stressed, or both unstressed:

(67) a. [TP *Mindkét tárgyból* [TP *három diákot*   *is*   [TP meg buktatott János]]]   2>3

       both   subject-from three   student-ACC even   PRT failed   John

    'From both subjects, John failed three students.'

    b.[NNP *Mindkét tárgyból* [NNP *három diákot is* [NNP JÁNOS buktatott [TP meg]]]] 2>3

    c. [NNP *Mindkét tárgyból* [NNP JÁNOS buktatott [TP meg *három diákot is*]]]   2>3

    d. [NNP JÁNOS buktatott [TP meg *mindkét tárgyból három diákot is*]]   2>3, 3>2

    e. [NNP JÁNOS buktatott [TP meg *három diákot is mindkét tárgyból*]]   3>2, 2>3

A preverbal quantifier has scope over a preverbal focus (68a), and a preverbal focus has scope over a postverbal quantifier (68b). A postverbal focus and an (unstressed) quantifier, appearing as sister constituents in the domain of an NNP phase, on the other hand, have identical scopes with respect to each other (68c,d) – as shown by Surányi (1999, 2004):

(68)a. [NNP *Minden néző*   [NNP KEVÉS FILMET   látott]]   every>few

       every   spectator   few   film-ACC   saw

    'Every spectator saw few films.'

   b. [NNP KEVÉS NÉZŐ   látott [TP *minden filmet*]]   few>every

       few   spectator saw   every   film-ACC

    'Few spectators saw every film.'

   c.[NNP EZÉRT   látott [NNP KEVÉS NÉZŐ *minden filmet*]]   few>every, every>few

       therefore saw   few   spectator every   film

    'That was why few spectators saw every film.'

   d. [NNP EZÉRT látott [NNP *minden filmet* KEVÉS NÉZŐ]]   every>few, few>every

These facts fall out if scope interpretation is performed on the phase constituted by the functionally extended verb phrase (an NNP or a TP). Then the operators in the left periphery

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[11] The postverbal section of the Hungarian sentence may also contain stressed quantifiers, which have scope over the maximally extended verb phrase. I do not deal with this type of quantifiers in this paper. I analyzed them elsewhere (e.g. in É. Kiss 1994, 2002) as quantifiers adjoined to the maximally extended verb phrase in syntax, and postponed in the phonological component. In the present framework, they involve quantifier chains in the case of which the lower copy of the quantifier is pronounced.

of the phase are in scope positions; each preverbal operator c-commands, and has scope over, the operators on its right. In the flattened domain of the phase, on the other hand, the operators are seen as mutually c-commanding each other. The interpretation of the functionally extended verb phrase takes place after it has been merged into the next higher phase (presumably a CP).

8. Conclusion

The paper has put forth a derivation for Hungarian sentences which accounts for the fixed preverbal order and the free postverbal order of major constituents, and which is also capable of predicting the particular distribution of symptoms of configurationality and symptoms of non-configurationality attested in the language. The account has been formulated in terms of Phase Theory. It has been argued that in Hungarian not only the *v*P, but also the maximal lexically extended verb phrase, a PredP, and the maximal functionally extended verb phrase, a Tense Phrase or a Non-Neutral Phrase, function as phases. When the maximal functionally extended verb phrase is constructed, its phasal domain is flattened, and the order of its major constituents is freed up. This is what explains the coexistence of symptoms of configurationality and those of non-configurationality in the language; the *v*P projection is configurational for local relations interpreted in the *v*P phase, and is flat for relations interpreted in higher phases, which have the *v*P in their domain.

The distribution of interpretive processes among the phases is determined by the Earliness Principle; each interpretive step is performed as soon as possible. Thus Binding Principle A is checked on the *v*P phase; Binding Principle C is checked on the highest phase; Weak Crossover is checked twice, on the *v*P and on the highest phase; whereas scope is interpreted on the phase constituted by the maximal functionally extended verbal projection, a TP in neutral sentences, and a NNP in non-neutral ones.

The key ingredients of the proposed derivation, e.g. the collapse of the lexically extended verb phrase after its head has been extracted into a functional head position, and the possible reordering of the major constituents of the flattened verbal projection in observance of Behaghel's Law, are presumably not specific to Hungarian – but the question what free-word-order phenomena of other languages the analysis can be extended to is left for further research. A phenomenon which may turn out to be worth examining in this respect is Scandinavian Object Shift. Scandinavian Object Shift also seems to involve V-movement and the reordering of some of the postverbal constituents according to their phonological weight;

at least its basic pattern, illustrated in (69b), can be interpreted along these lines (cf. Erteschik-Shir 2005):

(69)a. …at   Peter ikke mødte ham
      that Peter not met   him

  b. Peter **mødte ham ikke**

If it is indeed the Law of Growing Constituents that is at work in Scandinavian, its version operative in Scandinavian is slightly different from that attested in Hungarian in that it takes into consideration not only phonological weight but also syntactic complexity, treating PPs invariably as heavy. Compare the following contrastive set of examples of Erteschik-Shir (2005):

(70)a. Jeg gav ikke Peter bogen
     I   gave not Peter the.book

  b. Jeg gav ham ikke bogen
     I   gave him not the.book

  c. Jeg gav ham den ikke
     I   gave him it   not

(71)a. Jeg gav ikke bogen   til Peter
     I   gave not the.book to Peter

  b. Jeg gav den ikke til Peter
     I   gave it   not to Peter

  c. Jeg gav den ikke til ham
     I   gave it   not to him

Postverbal reordering in Scandinavian seems to be constrained by the requirement that grammatical functions remain identifiable (as suggested by Erteschik-Shir 2005). In Icelandic, where lexical noun phrases bear morphological cases, they can also participate in postverbal reordering; in Scandinavian languages which only case-mark pronouns, on the other hand, only pronominal noun phrases can be moved around. In Danish and Norwegian, postverbal reordering does not affect the subject – owing to the identifiability requirement according to

Erteschik-Shir; in Swedish, on the other hand, this constraint is not in effect, as shown by the following example of Josefsson (1992):

(72) I går   traffade honom hans föräldrar   på stationen.
     yesterday met   him   his   parents-NOM on the.station

Examples like (72) represent a problem for theories deriving Object Shift by means of external or internal merge, e.g. for Fox & Pesetsky (2005).

    A version of the Law of Growing Constituents seems capable of accounting also for the curious interaction of Q-Raising and object position in the Icelandic (73b-c) (cited from Holmberg 2005):

(73)a. Ég hef   ekkert   sagt Sveini t.
    I   have nothing said Svein
    'I have told Svein nothing.'
  b.*Ég sagδi ekkert   Sveini t.
    I   said   nothing Svein
  c. Ég sagδi Sveini ekkert t.

In (73a), a negative QP has been extracted from the *v*P. In case the V moves out of the *v*P, the indirect object must precede the negative QP, as happens in (73c). The ungrammaticality of (73b) is unexpected (see e.g. Holmberg (2005) on why it cannot be derived in the framework of Fox and Pesetsky (2005)) – unless we assume that V-movement has brought about the flattening of the headless postverbal projection, and its reordering in observance of Behaghel's Law. A negative quantifier bears an inherent primary stress, whereas a (non-contrasted) proper name, referring to an individual already present in the domain of discurse, is weakly stressed, so Behaghel's Law would order the proper name first, and the negative quantifier last.

    Naturally, isolated examples may be misleading. And even if Hungarian free postverbal order and Scandinavian Object Shift should turn out to share certain properties, obvious differences remain. For example, in Hungarian, the reordering of the flattaned domain of a V-headed phase takes place in syntax, where its output remains visible for interpretation in higher phases. The Scandinavian reordering process, on the other hand, must take place in the phonological component, as Object Shift does not affect binding and other LF processes.

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