

General principles of linearization in Functional Discourse Grammar

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1. Introduction

Functional Discourse Grammar (FDG) is exceptional in that it is a functional theory with a very specific system of placement rules, inspired by the overall organization of the model in the sense that linearization is dealt with in a top-down and dynamic fashion (Hengeveld & Mackenzie 2008: Ch.4; Keizer 2015: Ch.5). The approach is top-down in the sense that elements that are hierarchically higher at the Interpersonal and Representational Levels are assigned a position before hierarchically lower elements; in addition, hierarchically related elements are placed before non-hierarchically related (configurational) elements. The approach is dynamic in that, starting with a language-specific template with absolute positions, further relative positions are created dynamically relative to existing positions as these become occupied.¹

This approach is both powerful and flexible, and has been able to explain many (general, as well as language-specific) ordering tendencies and patterns. However, as it turns out, it may actually be too flexible, resulting in a certain degree of overgeneralization. Our aim in this paper is to introduce further constraints on the current system of placement rules so as to increase its predictive power and its usefulness in understanding linearization patterns. We will do so by adding rules for the placement of hierarchically related units at the same level (functions, operators, modifiers), as well as for the placement of non-hierarchically related units (predicate and arguments); in addition, we will consider the question of at which stage in the ordering process pragmatic and semantic factors play a role. For reasons of space, we will concentrate on linearization within the Linguistic Expression and the (main) Clause, but the changes we propose will also have wider application.

In Section 2 we will present the existing FDG approach, after which we propose a number of modifications to this approach in Section 3. Section 4 is dedicated to the ranking of the ordering principles proposed in Section 3. We put the principles and their ranking to the test in Section 5, in which we analyse examples from two predicate-medial languages (English and Dutch, the latter a V2 language), a predicate-final language (Turkish), and a predicate-initial language (Tagalog). Our conclusions are presented in Section 6.

2. The FDG approach to linearization

2.1. The current approach²

FDG distinguishes a number of levels of analysis: the Interpersonal, the Representational, the Morphosyntactic, and the Phonological Level. Only the first three of these are of interest to us in this paper. The Interpersonal Level is actional in nature and captures pragmatic distinctions that have a formal reflex in languages. The Representational Level is denotational in nature and

¹ Note that we do not claim that the placement rules presented here represent the way utterances are produced (online); rather, they are meant to capture the functionally inspired general tendencies and constraints that apply within a language.

² This section is partly based on Hengeveld (2013).

captures semantic distinctions that have a formal reflex in languages. The Morphosyntactic Level captures the morphological and syntactic properties of languages. These Interpersonal and Representational Levels are levels of Formulation, an operation that determines what constitute valid underlying pragmatic and semantic representations in a language. The Morphosyntactic Level is produced by Morphosyntactic Encoding, an operation that concerns the rules that convert pragmatic and semantic representations into morphosyntactic ones. Linearization is an important part of the operation of Morphosyntactic Encoding.

The overall structures of the levels that are of interest here are given in (1), (2), and (3). In (1) and (2), the symbols Π/π represent operators, Σ/σ modifiers, and Φ/φ functions, while \blacklozenge indicates a slot for lexemes.

(1) Interpersonal Level (IL)³

| | |
|--|----------------------|
| (πM_1 : [| |
| (πA_1 : [| |
| (πF_1 : ILL (F_1): $\Sigma (F_1)$) | Move |
| (πP_1 : ... (P_1): $\Sigma (P_1)$) _S | Discourse Act |
| (πP_2 : ... (P_2): $\Sigma (P_2)$) _A | Illocution |
| (πC_1 : [| Speaker |
| (SA_1) | Addressee |
| (Cm_1 : [| Communicated Content |
| (πT_1 : [...] (T_1): $\Sigma (T_1)$) _{Φ} | Any subact |
| (πR_1 : [...] (R_1): $\Sigma (R_1)$) _{Φ} | Comment |
|] (Cm_1) _{Φ} | Ascriptive Subact |
|] (C_1): $\Sigma (C_1)$) _{Φ} | Referential Subact |
|] (A_1): $\Sigma (A_1)$) _{Φ} | Comment |
|] (M_1): $\Sigma (M_1)$) _{Φ} | Communicated Content |
| | Discourse Act |
| | Move |

(2) Representational Level (RL)

| | |
|--|--------------------------|
| (πp_1 : | Propositional Content |
| (πep_1 : | Episode |
| (πe_1 : | State-of-Affairs |
| (πf^c_1 : [| Configurational Property |
| (πf_1 : $\blacklozenge (f_1)$: $\sigma (f_1)$) | Lexical Property |
| (πx_1 : ... (x_1): $\sigma (x_1)$) _{Φ} | Individual |
|] (f^c_1): $\sigma (f^c_1)$) | Configurational Property |
| (e_1) _{Φ} : [$\sigma (e_1)$] _{Φ}) | State-of-Affairs |
| (ep_1): [$\sigma (ep_1)$] _{Φ}) | Episode |
| (p_1): [$\sigma (p_1)$] _{Φ}) | Propositional Content |

³ When a lexical element is used (either at the Interpersonal or at the Representational Level), the variable D (for 'Lexical Deed') is used at the Interpersonal level (see Giomi 2021); see also e.g. example (6) below.

| | | |
|-----|----------------------------|-----------------------|
| (3) | Morphosyntactic Level (ML) | |
| | (Le ₁ : | Linguistic Expression |
| | (Cl ₁ : | Clause |
| | (Xp ₁ : | Phrase |
| | (Xw ₁ : | Word |
| | [| Stem |
| | (Xs ₁) | Affix |
| | (Aff ₁) | Word |
| |] (Xw ₁) | Phrase |
| | (Xp ₁) | Clause |
| | (Cl ₁) | Linguistic Expression |
| | (Le ₁) | |

During linearization the units at IL (1) and RL (2) have to be mapped onto ML (3). In our view, this entails two steps: first, morphosyntactic templates have to be selected and combined, after which they have to be filled by material from IL and RL and possibly by dummies. In this paper we only focus on the second step, in which use is made of dynamically constructed templates. The basic template consists of a number of absolute positions. Typological research has so far revealed that at least the initial (P^I), second (P²), middle (P^M) and final (P^F) positions are potential starting points for the construction of templates. These positions are cross-linguistically relevant, but are not all relevant for every language; which absolute positions are relevant for a language can only be determined on a language-specific basis. As soon as an absolute position is occupied, the template may be expanded with further relative positions. This is illustrated in (4), which shows that P^I and P² may be expanded to the right,⁴ P^F to the left, and P^M to the right and the left:

| | | | | | | | | | |
|-----|----------------|------------------|------------------|------------------|----------------|------------------|------------------|------------------|----------------|
| (4) | P ^I | P ^{I+1} | P ^{I+2} | etc. | | | | | |
| | | P ² | P ²⁺¹ | P ²⁺² | etc. | | | | |
| | | etc. | P ^{M-2} | P ^{M-1} | P ^M | P ^{M+1} | P ^{M+2} | etc. | |
| | | | | | | etc. | P ^{F-2} | P ^{F-1} | P ^F |

Templates constructed in this way may be applied to Words, Phrases, and Clauses. When Clauses are part of Linguistic Expressions, the template is expanded by extracausal positions (precausal, interpolated,⁵ and postcausal). The maximal template for a Linguistic Expression, in terms of absolute positions, is given in (5) (but see Section 2.2).

| | | | | | | |
|-----|-------------------|----------------|------------------|------------------|---------------------|----------------------|
| (5) | [P ^{PRE} | | P ^{INT} | | P ^{POST}] | LinguisticExpression |
| | [P ^I | P ² | P ^M | P ^F] | Clause | |

In filling the various positions, hierarchical ordering precedes non-hierarchical (configurational) ordering. The process of hierarchical ordering involves the assignment of positions to elements from IL and RL expressing functions, operators and modifiers, starting with those with the widest scope and then proceeding to those with lower scopes, according to the hierarchical relations represented in (1) and (2). In configurational ordering, which is based on alignment considerations, elements that are in a configurational relationship, such as a predicate-argument relation, are ordered on the basis of their pragmatic, semantic, and/or morphosyntactic

⁴ We will show later in this paper that this formulation is too restrictive.

⁵ For arguments for introducing the interpolated position, see e.g. Keizer (2020).

properties, depending on the language in question. After the placement of hierarchical and configurational elements, dummies are added (in those languages that have them) to fill obligatory morphosyntactic positions for which no material is available from IL and RL.

Example (6) may serve to illustrate these various steps.

- | | | | | | |
|-----|---|---------|-----------|------------|------------|
| | p^I | p^M | p^{M+1} | p^{F-1} | p^F |
| (6) | It | frankly | rained | constantly | yesterday. |
| IL: | (A _i : [(F _i : DECL (F _i): (D _i : frankly (D _i)) (F _i) (P _i) _S (P _j) _A (C _i : [(C _m _i : [(T _i) (T _j) (R _i)] (C _m _i)) _{FOC}] (C _i)) | | | | |
| RL: | (p _i : (past ep _i : (e _i : (f ^c _i : [(f _i : rain (f _i)] (f ^c _i)) (e _i): (f _j : constantly (f _j)) (e _i)) (ep _i): (t _i : -yesterday- (t _i)) (ep _i)) (p _i)) | | | | |
| ML: | (Le _i : [(Cl _i : [(Np _i : it (Np _i)) (Advp _i : -frankly- (Advp _i)) (Vw _i : -rained- (Vw _i)) (Advp _j : -constantly- (Advp _j)) (Advp _k : -yesterday- (Advp _k)) (Cl _i))] (Le _i)) | | | | |

Starting with the process of hierarchical ordering, the illocutionary adverb *frankly*, as the highest modifier in (6), is the first element to be assigned a position, going to the clause-medial position. The next elements to be placed are the past tense operator and the adverb *yesterday*, which both operate at the layer of the Episode. The past tense marker goes to P^{M+1} , where it will later be joined by the verb, and the adverb goes to P^F . Next in line in hierarchical ordering is the adverb *constantly*, which modifies the State of Affairs. Since the adverb *yesterday* has gone to P^F , a new relative position P^{F-1} is now available to host the adverb *constantly*. This completes the process of hierarchical ordering. In configurational ordering, the only element present in the underlying RL representation is the verb *rain*, which joins tense in P^M . In the resulting configuration, the P^I subject position, which is an obligatory slot in English, is still empty, and therefore has to be filled by the dummy *it*.

2.2. A modification

The current version of the FDG Morphosyntactic Level does not have a layer in between the Linguistic Expression and the Clause. We feel that this is problematic, as there are cases in which individual clauses combine into larger units, which may exhibit syntactic behaviour that is different from that of the individual clauses that constitute it. We therefore propose that a new morphosyntactic layer, that of the Sentence, be introduced. To show the need for this new layer, let us consider the second position that is relevant to two of the languages that we study in this paper: Dutch and Tagalog.

Unlike what has generally been assumed so far, we would like to argue that in Dutch main clauses the second position is the second position in the Sentence rather than the Clause. The examples in (7)-(8) demonstrate this.

- | | | | |
|-----|----------------------------|-------|-------|
| (7) | Peter was | | ziek. |
| | Peter COP.PST.3.SG | ill | |
| | 'Peter was ill.' | | |
| (8) | Gisteren was | Peter | ziek. |
| | yesterday COP.PST.3.SG | Peter | ill |
| | 'Yesterday Peter was ill.' | | |

In (7) the subject precedes the verb, which has to be in second position. When a constituent other than the subject occurs in initial position, the subject has to move to the postverbal position, such that the verb can stay in second position, as shown in (8). Subordinate clauses, on the other hand, do not have a second position, as shown in (9):

- (9) Ik dacht dat Peter (gisteren) ziek was.
 1.SG think.PST.1.SG CONJ Peter (yesterday) ill COP.PST.3.SG
 'I thought that Peter was ill (yesterday).'

In subordinate clauses the verb occupies the clause-final position, and the second position is irrelevant for the placement rules. This strongly suggests that in Dutch the absolute second position is a sentential rather than a clausal position.

In Tagalog the situation is different. Tagalog clause structure exhibits a second position that hosts a special set of clitics. These clitics occupy the second position in both main and subordinate clauses, the latter showing that they are not occupying a sentential, but a clausal position. This is shown in (10), in which both the main clause and the subordinate clause contain second position clitics.

Tagalog (Kroeger 1998: 3)

- (10) Sinabihan=**ako** ni=Luz na
 PRF.say.DV=1.SG.NOM GEN=Luz CONJ
 [ibinigay=**mo=na** ang=pera kay=Charlie].
 IV.PRF-give=2.SG.GEN=already NOM=money DAT=Charlie
 'I was told by Luz that you already gave the money to Charlie.'

The clausal nature of the clitics in Tagalog is furthermore reflected in the fact that, as we will demonstrate later, sentences such as (10) may be preceded by other sentential constituents, such that the second clausal position effectively corresponds to the third sentential position. This is not possible in Dutch.

We therefore propose that the representation in (5) be enriched by an additional sentential layer with its own pre-, post- and interpolated positions (PRESNT, POSTSNT and INTSNT), as shown in (11). Within the sentence, we find the clause, as well as a preclausal (PRECL), postclausal (POSTCL) and Interpolated clausal (INTCL) position.

- (11) [P^{PRESNT} [P^{PRECL} [p^{INTSNT} [p^{INTCL} [p¹ p² p^M p^F]_{Clause} p^{POSTCL}]_{Sentence} p^{POSTSNT}]_{LingExpr}

Given that languages make use of a subset of this maximal set of positional possibilities, we could hypothesize that in Tagalog clitics occupy the P² position in the clause, whereas in Dutch, which does not have a clausal second position, the second position constituent, i.e. the finite verb in main clauses, goes to the first clausal position, which effectively corresponds to the second sentential position. In other languages, e.g. English and Turkish, the first clausal position is typically reserved for the subject.

The interpolated positions in (11) do not correspond to fixed positions within the clausal template, but may interrupt the clause at various points. We use the interpolated sentential position for prosodically independent interpolated constituents, while the interpolated clausal

position is now used for prosodically integrated, backgrounded interpolated constituents. The first type of interpolated constituent is illustrated in (12) (see Keizer 2020), the second in (13).

- (12) And he COVered, FRANKly, a LOT of ground when he was in that BRIEfinG room (COCA, spoken)
- (13) JOHN frankly has NO iDEA (where *frankly* is prosodically integrated and deaccented)

The modification proposed allows for a number of further refinements of the analyses within the FDG linearization approach that we will present below. Anticipating the results, we will show that the preclausal and postclausal positions within the sentence may host a variety of pragmatically marked constituents, such as emphasized Settings in Dutch and English, Topics in Dutch and Tagalog, and Background constituents in Turkish.

Note that (11) also contains a representation for the layer of the Linguistic Expression, which itself exhibits presentential, postsentential, and interpolated positions. These positions host subsidiary Discourse Acts, and do not play a role in what follows.

3. Restrictions on linearization

3.1. Introduction

As mentioned in Section 1, the approach outlined above, although very powerful, is in need of revision and refinement. In this section, we will suggest some ways in which the placement rules can be adapted and expanded to avoid them from overgeneralizing. After that, in Section 4, we will discuss how the different principles proposed should be ordered.

3.2. Hierarchical and configurational ordering

A first refinement we want to propose concerns the relationship between hierarchical and configurational ordering. In Hengeveld & Mackenzie (2008) (i) all hierarchical ordering precedes all configurational ordering, the latter being restricted to RL, and (ii) the expression of Illocution is treated as part of hierarchical ordering. These two steps are not consistent with the way Illocution is represented in FDG, namely as a predicate taking the Speech Participants and the Communicated Content as its arguments (see e.g. Hengeveld & Mackenzie 2008: 70). When the Illocution is taken as a predicate, configurational ordering is also relevant within the head of the Discourse Act, with the Communicated Content as well as the two Speech Participants functioning as arguments just like any argument at RL. This means that the process of hierarchical ordering is in a sense interrupted at the Interpersonal Level. Compare this to the situation in which a predicate at RL takes a complement clause as its argument. In that case, too, configurational ordering applies first between the predicate and its arguments, and only after that does hierarchical ordering within the complement clause take place. All this is shown in Figure 1, which contains the ordering of hierarchical and configurational rules that we propose.⁶

⁶ Note that in Figure 2 we follow Smit (2010) in distinguishing a Comment layer within the Communicated Content. Note, however, that we do not adopt his proposal to regard Topic as a layer.

Hierarchical (IL before IL)

I. IL

1. Hierarchical (higher functions, operators, modifiers before lower ones)

$(\Pi M_i: (\Pi A_i: [\dots] (A_i): \Sigma (A_i))_\Phi (M_i): \Sigma (M_i))_\Phi$

2. Configurational (predicate before arguments)

$[(\Pi F_i: \text{ILL} (F_i): \Sigma (F_i)) (P_i)_A (P_j)_S (\Pi C_i: [\dots] (C_i): \Sigma (C_i))_\Phi]$

3. Hierarchical (higher functions, operators, modifiers before lower ones)

$(\Pi F_i: \text{ILL} (F_i): \Sigma (F_i))$

$(P_i)_A$

$(P_j)_S$

$(\Pi C_i: [\dots] (C_i): \Sigma (C_i))_\Phi$

II. RL

4. Hierarchical (higher functions, operators, modifiers before lower ones)

$(\pi p_i: (\pi ep_i: (\pi ei: (\pi f^c_i: [\dots] (f^c_i): \sigma (f^c_i)) (e_i): \sigma (e_i)) (ep_i): \sigma (ep_i)) (p_i): \sigma (p_i))$

5. Configurational (predicate before arguments)

$[(\pi f_i: \blacklozenge (f_i): \sigma (f_i)) (\alpha_i)_{\Phi^n}]$

6. Hierarchical (higher functions, operators, modifiers before lower ones)

$(\pi f_i: \blacklozenge (f_i): \sigma (f_i))$

$(\alpha_i)_{\Phi^n}$

Figure 1. *Hierarchical and Configurational ordering*

As shown in Figure 1, hierarchical ordering first applies at the layers of the Move and the Discourse Act, and then comes to a halt when the configuration that fills the head position of the Discourse Act (consisting of the Illocution, the Participants, and the Communicated Content) is reached. At this point the configurational ordering of these units takes over. Then, within each of the four configurational units, hierarchical ordering takes place again. Once this process has been completed, hierarchical ordering at RL begins, until this comes to a halt again, as the units making up the Configurational Property become the target of configurational ordering. Subsequently, within each of these units hierarchical ordering takes place again.

This recursive process can be captured by the following principles:

1. Interpersonal > Representational
2. Hierarchical > Configurational (recursive)
3. Hierarchically higher > Hierarchically lower

3.3. Predicates before arguments

It has been shown in the FDG literature (e.g. Fang & Hengeveld 2022; Hengeveld 2004; Keizer 2018) that grammatical expressions of Illocution and lexical expressions of Illocutionary modification are placed earlier than elements of the Communicated Content. Now that we have

changed the treatment of Illocutions, we need a different way of explaining this preferential placement. The solution we propose is that, both at IL and at RL, predicates are placed before arguments. This makes sense, as predicates, despite not having scope over their arguments, do govern their arguments in other ways. Consider the following examples:

- (14) He must be ill.
- (15) He is certainly ill.
- (16) I am sure he is ill.

In these examples the Propositional Content 'he is ill' is specified in similar ways: in (14) through an operator, in (15) through a modifier, and in (16) through a higher predicate. It thus seems to make sense to have predicates receive a place before their arguments do, not because they have a higher scope in the technical sense, but because their arguments are dependent on them. So since the predicate can have a similar function to operators and modifiers, it should be placed before its arguments, much like operators and modifiers are placed before their heads. Note that this principle applies within the configurational part of the ordering process. The principle can be given as:

4. Predicate > Argument

3.4. Functions before operators before modifiers

In hierarchical ordering, functions are expressed before operators and modifiers, since they are external to the entire layer, thus scoping over everything within that layer (Hengeveld & Mackenzie 2008: 311). For the expression of operators and modifiers, however, no specific ordering has been proposed. We argue that these should also be ordered with respect to each other, such that functions are expressed first, then operators, and then modifiers.

The idea that functions should be expressed first directly follows from the way these are represented in FDG.

- (17) $(\pi \alpha_1: \text{head}(\alpha_1): \sigma(\alpha_1))_\phi$

The function is attached to the outer brackets, thus scoping over the entire unit, including the operators and the modifiers pertaining to (α_1) . Consider (18):

- (18) a. from the high mountains
 $(T_j: (+id R_i) (T_j))$
- b. $(m x_i: (f_i: \text{mountain} (f_i) (x_i)): (f_j: \text{high} (f_j) (x_i)))_{\text{Abl}}$

In (18), we have a function (Ablative, expressed as *from*), two operators (for identifiability at IL and plurality at RL), and a modifier (*high*). It would not make sense to say that the function pertains, for instance, just to *mountain* and that identifiability, plurality and the modifier *high* are then added to that combination. Instead, the entire noun phrase has the function Ablative.

Operators should be expressed next, before modifiers of the same layer. First of all, because this makes sense semantically. For instance, in a phrase like *three blue balloons*, we do not say that we have a set of three balloons, which are then assigned the property of being blue: in

expressed, the contrastive constituent is placed first, irrespective of whether it is Topic or Focus. Consider the following exchange in Korean:

Korean (Vermeulen 2010):

- (21) A John-i Sue-eykey CD-ul cwu-ess-e
 John-NOM Sue-DAT CD-ACC give-PST-DECL
 'John gave a CD to Sue.'
- B Ani, KU CHAYK-UL John-i Sue-eykey cwu-ess-e.
 No, DEM book-ACC John-NOM Sue-DAT give-PST-DECL
 'No, John gave THAT BOOK to Sue.'

In (21A) the Topic *John* is in initial position. In (21B) it is to the right of the Contrastive Focus *ku chaykul* 'that book-ACC'.⁸ This means that the Contrastive Focus has to be placed first in initial position, after which the Topic is placed in the next relative position. Accordingly, we may formulate the following principle which ranks over the previous one:

7. Contrast > No contrast

Other pragmatic factors that may play a role in linearization processes concern the identifiability and specificity of Subacts within the Communicated Content. For instance, in Dutch the position of identifiable Undergoers is different from non-identifiable ones, as shown in the following examples.

Dutch (Indo-European)

- (22) Jan zal morgen een auto kop-en.
 Jan will.SG.PRES tomorrow INDEF car buy-INF
 'John will buy a car tomorrow.'
- (23) Jan zal de auto morgen kop-en.
 Jan will.SG.PRES DEF car tomorrow buy-INF
 'John will buy the car tomorrow.'

Where factors like these play a role in languages, a principle like the following might be relevant (cf. Dik 1997: 37):

8. Definite (+id/+s) > Indefinite specific (-id/+s) > Non-specific (-id/-s)

Finally, we follow Keizer (2014) in regarding Subject function as being triggered by a Perspective operator on a Referential Subact at IL, thus being another pragmatic factor. In certain languages the presence of this operator may trigger prioritization of placement of an argument in the linearization process. For instance, in Kinyarwanda the Subject of a sentence is in initial position. This happens irrespective of the semantic function of the argument, the influence of which will be discussed below. Thus, in the following examples an Agent, Undergoer and Recipient occupy the first position in the sentence due to the fact that they carry the perspective operator.

⁸ Note that (21B) is just one of the options for placing a contrastive focus constituent, but it is the one that is relevant for our argument here.

Kinyarwanda (Keenan & Dryer 2007: 349)

- (24) a. Umugabo y-a-haa-ye umugóre igitabo
man 3.SG-PST-give-ASP woman book
'The man gave the woman the book'
- b. Umugóre y-a-haa-w-e igitabo n-ûmugabo
woman 3.SG-PST-give-PASS-ASP book AG-man
'The woman was given the book by the man'
- c. Igitabo cy-a-haa-w-e umugóre n-ûmugabo
book 3.SG-PST-give-PASS-ASP woman AG-man
'The book was given to the woman by the man'

The following principle accounts for facts like these:

9. Perspectivized > Not perspectivized

3.6. Semantic factors

Further linearization rules within configurational ordering at RL may be determined by semantic factors. Placement may be sensitive to the semantic functions of arguments, as in the following example:

Turkish (Kornfilt 1997: 90, see also Hengeveld & Mackenzie 2008: 336)

- (25) Hasan-Ø kitab-ı Ali-ye ver-di-Ø.
Hasan-NOM book-ACC Ali-DAT give-PST-3.SG
'Hasan gave the book to Ali.'

The initial Subject of this sentence is placed according to the previous principle, but for the remaining constituents their semantic functions are relevant, in the sense that, barring pragmatic factors, the Undergoer (U) precedes the Recipient (L). In cases like these the following placement principle applies:

10. A > U > L

In other cases, placement may be sensitive to person and/or animacy features of arguments. This is illustrated in the following example:

Plains Cree (Wolvengrey 2005: 423, see also Hengeveld & Mackenzie 2008: 321):

- (26) a. Ni-wîcih-â-nân-ak
1-help-DRCT-1.PL.3.PL
'We help them.'
- b. Ni-wîcih-iko-nân-ak
1-help-INV-1.PL.3.PL
'They help us.'

In Plains Cree a first person argument always has to precede a third person argument in linear order. The semantic functions of these arguments can then be read off from the fact that the verb is marked for direct (first linear argument is Actor) or inverse (second linear argument is Actor).

A placement principle such as the following might capture facts like these (Dik & Hengeveld 1997: 37):

11. 1st/2nd > 3rd human > 3 animate > 3 inanimate force > other inanimate

4. Ranking the linearization principles

The above rules would give different results when ranked in different ways. We first repeat the principles discussed in Section 3.

1. Interpersonal > Representational
2. Hierarchical > Configurational
3. Hierarchically higher > Hierarchically lower
4. Predicate > Argument
5. Functions > Operators > Modifiers
6. Topic > Focus > No pragmatic function
7. Contrast > No contrast
8. Definite (+id/+s) > Indefinite specific (-id/+s) > Non-specific (-id/-s)
9. Perspectivized > Not perspectivized
10. A > U > L
11. 1st/2nd > 3rd human > 3 animate > 3 inanimate force > other inanimate

We propose the following overall ranking:

1. Interpersonal > Representational

- > Interpersonal
 - 2. Hierarchical > Configurational
 - > Hierarchical ordering at IL
 - 3. Hierarchically higher > Hierarchically lower
 - At each layer:
 - 5. Functions > Operators > Modifiers
 - > Configurational ordering at IL
 - 4. Predicate > Arguments
 - > Hierarchical ordering at IL (continued)
 - 3. Hierarchically higher > Hierarchically lower
 - At each layer
 - 5. Functions > Operators > Modifiers
 - > Representational
 - 2. Hierarchical > Configurational
 - > Hierarchical ordering at RL
 - 7. Contrast > No contrast
 - 6. Topic > Focus > No pragmatic function
 - 3. Hierarchically higher > Hierarchically lower
 - At each layer
 - 5. Functions > Operators > Modifiers
 - > Configurational ordering at RL
 - 4. Predicate > Arguments
 - > Predicate
 - > Arguments
 - 6. Contrast > No contrast
 - 7. Topic > Focus > No pragmatic function
 - OR: 8. Definite (+id/+s) > Indefinite specific (-id/+s) > Non-specific (-id/-s)
 - OR: 9. Perspectivized > Not perspectivized
 - 10. A > U > L
 - OR: 11. 1st/2nd > 3rd human > 3 animate > 3 inanimate force > other inanimate

We start with hierarchical ordering at IL, first with the Move, then with the Act, in each case placing functions before operators before modifiers. Since the head of the Act is configurational in nature, configurational ordering takes over and the Predicate > Argument rule becomes active, such that operators and modifiers of the Illocution (or its head when segmentally expressed) are placed before any information from the Participants and the components of the Communicated Content. At the layer of the Communicated Content hierarchical ordering is resumed, and at each layer functions are again placed before operators before modifiers. All the elements at IL that have a counterpart at RL await placement until the process of representational placement starts. At RL the first step is to assign a place to those hierarchical elements that carry a pragmatic function, after which hierarchical placement is resumed of the remaining constituents that are in a hierarchical relationship, a process that operates down to the layer of the Configurational Property. As usual, at each layer functions are placed before operators before modifiers. The remaining constituents are in a configurational relationship. In ordering these, first the Predicate

> Argument rule is applied, after which pragmatic and semantic factors, depending on the language, guide the placement of the remaining arguments.

If there is a tie in the application of one principle, the next principle kicks in. For instance, if the Comment is focal, then the elements that constitute the Comment, all being alike in terms of focality, are ordered in terms of the next relevant principle, e.g. the semantic function hierarchy.

5. Applying the principles

5.1. Introduction

In this section we apply the principles proposed in Section 3 and their ranking in Section 4 to examples from a predicate-medial languages (English), a V2-language (Dutch), a predicate-final language (Turkish), and a predicate-initial language (Tagalog).

5.2. English

Let us begin our treatment of English data the analysis of a categorical sentence containing two interpersonal modifiers:

- (27) p^{PRECL} p^I p^M p^{M+1} p^{M+2} p^{M+3} p^{M+4}
frankly we unfortunately will be avoiding this restaurant. (Internet, adapted)
IL: (A_i : [$(F_i$: DECL (F_i): (emph D_i : frankly (D_i)) (F_i)) (P_i) $_A$ (P_j) $_S$ (C_i : [(persp R_i) (C_m : [(T_i) (R_j)) (C_m)] $_{FOC}$] (C_i): (D_j : unfortunately (D_j)) (C_i) $_{\phi}$] (A_i))
RL: (p_i : (fut ep_i : (e_i : (prog f^c_i : [(f_i : avoid (f_i)) (m x_i) $_A$ (1 prox x_j : -restaurant- (x_j)) $_U$] (f^c_i)) (e_i): (ep_i)) (p_i))
ML: (Le_i : (Sent $_i$: [(AdvP $_i$: -frankly- (AdvP $_i$)) (Cl_i : [(Np $_i$: we (Np $_i$)) [(AdvP $_j$: -unfortunately- (AdvP $_j$)) (Vw $_i$: will (Vw $_i$)) (Vw $_j$: be (Vw $_j$)) (Vw $_k$: -avoiding- (Vw $_k$)) (Np $_j$: -this restaurant- (Np $_j$))] (Cl_i))] (Sent $_i$)) (Le_i))

As can be seen from the IL representation, the two modifiers, *frankly* and *unfortunately*, scope over different interpersonal layers: the Illocution and the Communicated Content, respectively. Since there are no functions, operators or modifiers specifying the Move or Discourse Act, the first placement rule to apply concerns the units within the configurational head of the Discourse Act. As pointed out before, the Illocution is now regarded as an interpersonal predicate, taking the Speech Participants and the Communicated Content as its arguments. Given that elements specifying the predicate are placed before those specifying any of the arguments, *frankly* is placed first; due to the presence of the emphasis operator, this element is placed in the preclausal position P^{PRECL} . Subsequently, *unfortunately* is placed in P^M .⁹

We then move on to the Representational Level, returning to the hierarchical ordering of elements from the Propositional Content to the Configurational Property. Since there are no functions to be dealt with, the first element to be placed is the absolute tense operator 'future' at the layer of the Episode, expressed as *will* in the relative position P^{M+1} . This is followed by the

⁹ Note that the predicate-argument analysis proposed here for the head of the Discourse Act, together with the newly stipulated rule that predicates are assigned a position before their arguments, explains why *frankly* is placed before *unfortunately*. This could not be accounted for before, because they are not in a hierarchical relation.

progressive operator at the layer of the Configurational Property, expressed by the auxiliary *be*, which takes the next relative position, P^{M+2} .

We now come to the head of the Configurational Property. Since Focus is assigned to the Comment as a whole (wide Focus), we start by assigning positions to the elements that make up the Comment: first the predicate *avoid* (P^{M+3}), then the Undergoer *this restaurant* (P^{M+4}). The final element to be placed is the remaining argument, the Actor *we*, which, due to the fact that the corresponding Subact is specified by the operator ‘perspective’, goes to the default position for English subjects, P^1 . Note that although this Referential Subact evokes the referent that the Comment “is about”, it is not assigned Topic function, since in English this function is not (systematically) coded (Mackenzie & Keizer 1991) and as such not present in underlying representation.

Our next example comes from the spoken component of the ICE-GB Corpus, and is provided with a bit of context:

(28) Context: So the prospect of the United Kingdom which is (sic) only accounts for only about ten per cent of the combined gross domestic product of the European Community becoming economically marginalised is all too real

P^1 P^M P^{INTCL} P^{M+1} P^{F-1} P^F
 Europe could frankly get along without us perfectly happily (ICE-GB: S2A-023_039)
 IL: (A_i: [(F_i: DECL (F_i): (D_i: frankly (D_i))_{BCKGR} (F_i)) (P_i)_A (P_i)_S (C_i: [(emph persp R_i) (C_m_i: [(T_i) (T_j) (R_j)] (C_m_i)_{FOC}] (C_i)_Φ] (A_i))
 RL: (p_i: (past ep_i: (e_i: (abil f^c_i: [(f_i: get along (f_i) (x_i)_A] (f^c_i): (f_j: -without us- (f_j): (f_k: -perfectly happily- (f_k) (f^c_i) (e_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: (Cl_i: [(Np_i: -Europe- (Np_i)) (Vw_i: can-past (Vw_i)) (AdvP_i: -frankly- (AdvP_i)) (Vw_i: get along (Vw_i)) (Adpp_i: -without us- (Adpp_i)) (Advp_i: -perfectly happily- (Advp_i))] (Cl_i)) (Sent_i)) (Le_i))

As in the previous example, the illocutionary adverb *frankly* is the first element to be placed. However, since in this case the adverb is assigned the pragmatic function Background, it now appears in P^{INTCL} (leading to a prosodically deaccented realization, following the pitch accented element *Europe* in the same Phonological Phrase).¹⁰ Since there is no further interpersonal information to be dealt with, we continue with hierarchical ordering at RL, starting again with tense (‘past’), expressed as a placeholder in P^M . This is followed by the ability operator at the layer of the Configurational Property, triggering the modal auxiliary *can*, which joins tense in P^M . We then move on to the adverb phrase *perfectly happily*, which, as a participant-oriented adverb, scopes over the Configurational Property (note that it is not the ‘getting along’ that is performed in a perfectly happy manner, but rather Europe that would be perfectly happy as a participant within the SoA in question; cf. Ernst’s (2002) mental-attitude subject-oriented adverbs). This modifier goes to P^F . Also at the layer of the Configurational Property, but within the scope of the participant-oriented modifier, we find the additional participant *without us*, which is placed in P^{F-1} .

We then proceed with the configurational ordering of the units within the head of the Configuration Property. The first element to be placed here is predicate *get along*, which goes to P^{M+1} (note that the interpolated *frankly* does not take a clausal position). This leaves us with the Actor *Europe*, which, due to the operator ‘perspective’ on the corresponding Subact, goes to P^1 .

¹⁰ For a detailed prosodic analysis of this example, see Kojadonović (2022: 605-606).

Note that the corresponding Subact at IL contains the emphasis operator, resulting in prosodic prominence at the Phonological Level.

The next example differs from the previous examples in that narrow Focus is assigned to one Subact within the Comment:

- (29) P^I P^M P^{M+1} P^{M+2} P^{F-1} P^F
- We frankly saw some evidence just recently with the U.S.S. Vincennes (COCA, spok)
- IL: (A_i: [(F_i: DECL (F_i): (D_i: frankly (D_i)) (F_i)) (P_i)_A (P_j)_S (C_i: [(persp R_i) (C_m_i: [(T_i) (R_j) (R_k)_{FOC}] (C_m_i))] (C_i)]_φ) (A_i))
- RL: (p_i: (past ep_i: (e_i: (f^c_i: [(f_i: see (f_i)) (x_i)_A (some x_j: -evidence- (x_j)]_U] (f^c_i): -with the U.S.S. Vincennes- (f^c_i)) (e_i)) (ep_i): (t_i: -just recently- (t_i)) (ep_i)) (p_i))
- ML: (Le_i: (Sent_i: (Cl_i: [(Np_i: -we- (Np_i)) (Advp_i: -frankly- (Advp_i)) (Vw_i: see-past (Vw_i)) (Np_j: -some evidence- (Np_j)) (Advp_j: -just recently- (Advp_j)) (Adpp_i: -with the U.S.S. Vincennes- (Adpp_i))] (Cl_i)) (Sent_i)) (Le_i))

Once again, we begin with the illocutionary adverb *frankly*, which, in this case, can be assumed to be both integrated and accented, leading to placement in the clausal medial position. We then proceed with hierarchical ordering at RL, starting with the modifier *with the U.S.S. Vincennes*, which goes to P^F . As a modifier at the layer of the Configurational Property, this is not, hierarchically speaking, the highest element at RL, but since the corresponding Subact at IL is assigned a pragmatic function (Focus), it takes precedence over any hierarchically higher elements. We then continue with the placement of the other two hierarchically related elements: past tense (in P^{M+1}) and *just recently* (in P^{F-1}). This example illustrates the need to place modifiers with a pragmatic function before other elements – without this rule, the element *just recently* would have had to be placed first, in which case it would have had to go to P^F , leaving no room for the hierarchically lower modifier *with the U.S.S. Vincennes*.

The next step is the configurational ordering of elements within the Configurational Property, where we start with the predicate *see*, which joins tense in P^{M+1} . Since we are dealing with a case of narrow Focus, rather than Focus on the Comment as a whole, we simply follow the general ordering rules for the placement of arguments, which means that we first place the Actor *we* (representing the perspective) in P^I , followed by the Undergoer *some evidence* in P^{M+2} .

Our next example again illustrates the relevance of the pragmatic function Background, here assigned to the element *to the post story* (R_k):

- (30) P^I P^M P^{M+1} P^F P^{POSTCL}
- Thiessen unsurprisingly responded yesterday to the Post story, ... (COCA, web-newsp)
- IL: (A_i: [(F_i: ILL (F_i)) (P_i)_A (P_j)_S (C_i: [(persp R_i: -Thiessen- (R_i)) (C_m_i: [(T_i) (R_j) (R_k)_{BCKGR}] (C_m_i)]_{FOC}] (C_i): (D_i: unsurprisingly (D_i)) (C_i)]_φ) (A_i))
- RL: (p_i: (past ep_i: (e_i: (f^c_i: [(f_i: respond (f_i)) (x_i)_A (1 x_j: -Post story- (x_j)]_{All}] (f^c_i)) (e_i)) (ep_i): (t_i: yesterday (t_i)) (ep_i)) (p_i))
- ML: (Le_i: (Sent_i: [(Cl_i: [(Np_i: -Thiessen- (Np_i)) (Advp_i: -unsurprisingly- (Advp_i)) (Vw_i: respond-past (Vw_i)) (Advp_j: -yesterday- (Advp_j))] (Cl_i)) (Adpp_i: -to the Post story- (Adpp_i))] (Sent_i)) (Le_i))

As the only hierarchically related element at IL, the attitudinal adverb *unsurprisingly* is placed first, in P^M . At RL, the tense operator first goes to P^{M+1} , after which the modifier of the Episode *yesterday* is placed in P^{M+2} . Proceeding to the placement of configurational elements, the predicate *respond*

first joins tense in P^{M+1} . Given the fact that Focus function is assigned to the Comment as a whole, we then proceed with the only argument within the Comment, *to the Post story*. Since the corresponding Subact at IL is assigned the pragmatic function Background, this element goes to P^{POSTCL} , where it will be realized as prosodically deaccented (following the (focal) nuclear pitch accent on *yesterday*). Finally, the only remaining element, the perspectivized Actor *Thiessen*, is placed in P^I .

5.3. Dutch

As mentioned in Section 2.2, in Dutch main clauses the finite verb occurs in second position (our second sentential – i.e. first clausal – position), and can only be preceded by a single constituent, typically the subject (in our initial sentential, i.e. preclausal, position), as shown in example (31):

- (31) Het ministerie van Binnenlandse Zaken en Koninkrijksrelaties heeft
 The ministry of internal affairs and kingdom.relations have.PRS.3.SG
 die boodschap gisteren gegeven aan de eilandbewoners die na orkaan
 that message yesterday give-PTCP to the island-inhabitants who after hurricane
 Irma hun heil in het Europese deel van Nederland zochten.
 Irma their salvation in the European part of the.Netherlands seek.PST.PL
 ‘The ministry of internal affairs and kingdom relations gave this message yesterday to the inhabitants of the island who after Hurricane Irma have sought refuge in the European part of Netherlands.’ (*De Telegraaf*, 27-09-2017)

| p^{PRECL} | p^I | p^{M-1} | p^M | p^{M+1} | p^F |
|--|-------|---------------|----------|-----------|---------------------------|
| Het ministerie ... | heeft | die boodschap | gisteren | gegeven | aan de eilandbewoners ... |
| IL: (A _i : (F _i : DECL (F _i)) (P _i) _A (P _j) _S (C _i : [(persp R _i) (C _m _i : [(T _i) (R _j) (R _k)(R _l)] (C _m _i) _{FOC}] (C _i) _Φ] (A _i)) | | | | | |
| RL: (p _i : (pres ep _i : (ant e _i : (f ^c _i : [(f _i : geven (f _i)) (1 x _i : -ministerie ...- (x _i) _A] (1 dist x _j : -boodschap- (x _j) _U] (m x _k : -de eilandbewoners ...- (x _k) _{REC}] (f ^c _i)) (e _i)) (ep _i : (t _i : -gisteren- (t _i)) (ep _i)) (p _i)) | | | | | |
| ML: (Le _i : (Sent _i : [(Np _i : -Het ministerie ...- (Np _i)) (Cl _i : [(Vw _i : hebben-pres (Vw _i)) (Np _j : -die boodschap- (Np _j)) (Advp _i : -gisteren- (Advp _i)) (Vw _j : gegeven (Vw _j)) (Adpp _i : -aan ... zochten- (Adpp _i))] (Cl _i))] (Sent _i)) (Le _i)) | | | | | |

Since there are no IL elements to be assigned a clausal position, we start with hierarchical ordering at RL. Here, we first get to the present tense operator at the layer of the Episode, which takes up the position for the finite verb in clause-initial position, P^I , and then, at the same layer, to the temporal modifier *gisteren* ‘yesterday’, which goes to P^M . Moving on to the layer of the SoA, we come to the anteriority operator, expressed by the auxiliary *hebben* ‘have’, which joins tense in P^I . After this, we turn to the units within the head of the Configurational Property. First, the predicate goes to P^{M+1} , where it appears in its participial form (*gegeven* ‘given’). Since Focus is assigned to the Comment, we turn to the arguments that are part of the Comment: the Undergoer (*die boodschap*, ‘that message’), going to P^{M-1} , and the Recipient *aan de eilandbewonders ...* ‘to the inhabitants of the island ...’, which, due to its complexity, is placed in P^F . Finally, the remaining argument, the Actor *Het Ministerie ...* ‘The ministry ...’ (representing the perspective) goes to the default positions for subjects in Dutch, P^{PRECL} .

In the underlined part of example (32), however, the preclausal is not filled by the subject, but by the object (*dat* ‘that’). This triggers subject-verb inversion, allowing the finite verb to remain in P^l:

- (32) zij zou hier nog op terug-komen. Dat heeft zij
 she would here still PART back-come that have.PRS.3.SG she
helaas niet gedaan. (CHN)
 unfortunately not do.PTCP
 ‘...she would come back to this. Unfortunately, she hasn’t done so.’

p^{PRECL} p^l p²⁺¹ p^M p^{M+1} p^{M+2}
 Dat heeft zij helaas niet gedaan
 IL: (A_i: (F_i: DECL (F_i)) (P_l)_A (P_J)_S (C_i: [(R_i)_{TOP} (C_{m_i}: [(T_i) (persp R_j)] (C_{m_i})_{FOC}] (C_i): (D_i: helaas (D_i)) (C_i)_Φ] (A_i))
 RL: (p_i: (pres ep_i: (ant neg e_i: (f^c_i: [(f_i: doen (f_i)) (1 x_i)_A (1 dist x_j)_U] (f^c_i)) (e_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: [(Np_i: dat (Np_i)) (Cl_i: [(Vw_i: hebben-pres (Vw_i)) (Np_j: zij (Np_j)) (Advp_i: -helaas- (Advp_i)) (Gw_i: niet (Gw_i)) (Vw_j: gedaan (Vw_j))] (Cl_i))] (Sent_i)) (Le_i))

The only IL element that takes a clausal position here is the attitudinal adverb *helaas*, which modifies the Communicated Content; this element is placed in P^M. At RL, we place the tense operator in P^l, where it is subsequently joined by the anterior operator, expressed by the auxiliary *hebben*. Next, the negation operator, here scoping over the SoA (Hengeveld & Mackenzie 2018: 26-27), goes to the relative P^{M+1} position. Then the predicate *doen* ‘do’ is placed in P^F. Next, we turn to the arguments, starting with the Undergoer *dat* ‘that’, since this argument corresponds to a Subact with the pragmatic function Topic. Note that it is the presence of this pragmatic function that causes the Undergoer argument to be placed in P^{PRECL}. This means that, unlike English, Dutch does have a specific way of coding Topic function (the placement of a non-contrastive, non-Actor argument in P^{PRECL}). Finally, the remaining argument, the subject *zij* ‘she’, goes to P^{l+1}.

In example (33) we find a passive sentence with a modifier in first position, triggering subject-verb inversion:

- (33) Nu al worden trainingen gegeven aan onder meer onderwijzers
 now already PASS.AUX.PRS.PL training.PL give-PTCP to among others teachers
 en gevangenzwaarders over 'hoe om te gaan met seksualiteit'. (CHN)
 and prison-guards about how around to go with sexuality
 ‘Even now training sessions are being provided to amongst others teachers and prison guards on ‘how to deal with sexuality’.’

p^{PRECL} p^l p^{M-1} p^M p^{M+1} p^F
 Nu al worden trainingen gegeven aan onder meer... over 'hoe ... '
 IL: (A_i: (F_i: DECL (F_i)) (P_l)_A (P_J)_S (C_i: [(persp: R_i) (C_{m_i}: [(T_i) (R_j) (emph R_k)] (C_{m_i})_{FOC}] (C_i)_Φ] (A_i))
 RL: (p_i: (pres ep_i: (ant e_i: (f^c_i: [(f_i: geven (f_i)) (x_i)_A (m x_j: -training (f_j: -over ... - (f_j)-)_U (x_k)_{Rec}] (f^c_i)) (e_i)) (ep_i): (t_i: -nu al- (t_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: [(Advp_i: -nu al- (Advp_i)) (Cl_i: [(Vw_i: worden-pres (Vw_i)) (Np_i: -trainingen- (Np_i)) (Vw_j: gegeven (Vw_j)) (Adpp_i: -aan... gevangenisbezoekers- (Adpp_i)) (Adpp_j: -over ... seksualiteit- (Adpp_j))] (Cl_i))] (Sent_i))] (Le_i))

In this example, the placement of elements only starts with hierarchical ordering at RL: first present tense is placed in P^I, then the emphasized temporal modifier *nu al* is placed in P^{PRECL}. Subsequently, the predicate, *gegeven* ‘given’, goes to P^M, after which the argument within the focal Comment, the Recipient *aan onder meer ...* ‘to amongst other ...’), takes up P^{M+1}. Turning to the remaining arguments, we see that the Actor, represented as a headless variable (x_i), does not correspond to any Subact at the Interpersonal Level; as such it is not expressed. The Undergoer consists of a head (*training*) and its argument (*over ‘hoe ...’* ‘about ‘how...’’). Due to the complexity of the Undergoer and the relative saliency of the argument within it, the argument is extraposed; thus, while the head (the predicate *training*) is placed in P^{M-1}, the embedded argument is placed in P^F. Since the perspective operator is assigned to the Subact corresponding to the Undergoer, the result is a passive. This means that as a final step the support element *worden* has to be added. Since in (33) this element functions as the finite verb, it is added to tense in P^I.

What is of particular interest in our next example (the underlined part in (34)) is the fact that two elements precede the finite verb *zullen*:

- (34) Gelukkig kunnen wij als kleine cinema snel schakelen,
 fortunately can.PRS.PL we as small cinema quick switch
 waardoor ik meteen opnieuw open kan.
 because-of-which I immediately anew open can.PRES.SG.
Grotere bioscopen daarentegen zullen meer voorbereidingen
 bigger cinemas however will more preparations
moeten doen.” (CHN)
 must.INF do.INF

‘Fortunately, as a small cinema we can change things quickly, which means that I can immediately open again. Bigger cinemas on the other hand will need make more preparations.’

| | | | | |
|--|--------------------|----------------|----------------------|----------------|
| p ^{PRECL-1} | p ^{PRECL} | p ^I | p ^M | p ^F |
| Grotere bioscopen | daarentegen | zullen | meer voorbereidingen | moeten doen. |
| IL: (contr A _i : (F _i : DECL (F _i)) (P _i) _A (P _j) _S (C _i : [(emph persp R _i) (Cm _i : [(T _i) (R _j)] (Cm _i))] _{Foc} (C _i)) _φ (A _i)) | | | | |
| RL: (p _i : (fut ep _i : (e _i : (obl f ^c _i : [(f _i : doen (f _i)) (x _i : -grotere bioscopen- (x _i) _A (x _j : -meer voorbereidingen- (x _j) _U] (f ^c _i)) (e _i)) (ep _i)) (p _i)) | | | | |
| ML: (Le _i : (Sent _i : [(Np _i : -grotere bioscopen- (Np _i)) (Advp _i : -daarentegen- (Advp _i)) (Cl _i : [(Vw _i : zullen (Vw _i)) (Np _j : -meer voorbereidingen- (Np _j)) (Vp _i : [(Vw _i : moeten (Vw _i)) (Vw _i : doen (Vw _i)) (Vp _i))] (Cl _i))] (Sent _i)) (Le _i)) | | | | |

As mentioned before, in Dutch the finite verb is commonly assumed to occur in second position, and as such can only be preceded by one constituent. This would mean that the position of the contrast marker *daarentegen* in (34) can only be accounted for by assuming that it forms one constituent with the subject *grotere bioscopen* ‘bigger cinemas’; this, in turn, would mean that the contrast marker has to be regarded as having narrow scope over the preceding element. We do not find such an interpretation very convincing; instead, we regard *daarentegen* as having wide scope, indicating a contrast between the contents of the current Discourse Act and information present in the previous discourse. We therefore analyse *daarentegen* as an operator on the Discourse Act, which, in this case, is assigned a preclausal position. This leaves the initial clausal position available for the finite verb, which now occurs in the third position of the sentence (cf. Van der Wouden 2015, 2020). Note, however, that this additional preclausal position can host only

a small set of elements (wide scope contrast markers like *daarentegen*, *echter*, *evenwel*), which can only be preceded by an emphatic element (in this case the subject *grotere bioscopen*) in the sentence-initial position (as evidenced by the fact that pronouns in this position can only occur in their strong form (*zij/*ze daarentegen ...* ‘they on the other hand ...’); see Van der Wouden 2020: 248).

Turning to the hierarchical ordering of RL elements, we come to the participant-oriented modality operator ‘obligation’, expressed as *moeten* ‘must’, which is placed in the verb phrase that occupies the P^F position. The predicate *doen* also ends up in this verb phrase; in other words, these two elements are regarded as constituting a phrase that takes up a single position within the clause. This means that, generally speaking, the final position in Dutch clauses can host more than one element, provided that the verbal elements filling this position are obligatorily placed adjacent to each other (as already proposed for Dutch subclauses in Hengeveld & Mackenzie (2008: 355)).¹¹

This leaves us with the two arguments. Since Focus is assigned to the Comment, we start with the argument that is part of the Comment, i.e. the Undergoer argument *meer voorbereidingen* ‘more preparations’, which goes to P^M. Finally, as already mentioned, the Actor argument (both perspectivized and emphasized) goes to the sentence-initial position (in this case P^{PRECL-1}).

5.4. Turkish

Turkish is a language in which in the basic constituent order the predicate occupies the final position in the clause, the subject comes first, and other arguments occur in between subject and predicate, as shown in (35).

- (35) Hasan kitab-i Ali-ye ver-di-∅.
 Hasan book-ACC Ali-DAT give-PST-3.SG
 ‘Hasan gave the book to Ali.’ (Kornfilt 1997: 90)

Hierarchical material may be placed in clause-initial (36), clause-medial (37), and clause-final (38) position.

- (36) *Birkaç gün önce* birisi istakoz-u Ali-ye ver-di-∅.
 some day before someone lobster-ACC Ali-DAT give-PST-3.SG
 ‘Several days ago someone gave the lobster to Ali.’ (Kılıçaslan 2004: 730)
- (37) *Istakoz-u birkaç gün önce* Ali ye-di-∅.
 lobster-ACC several day before Ali eat-PST-3.SG
 ‘Ali ate the lobster several days ago.’ (Kılıçaslan 2004: 730)
- (38) *On-u* Ali ye-di *birkaç gün önce*.
 it-ACC Ali eat-PST several day before
 ‘Ali ate it several days ago.’ (Akan & Hartmann 2019: 134)

¹¹ Note that, as in the case of verbal elements in the final position of Dutch subclauses, the two elements can also appear in the reversed order (*doen moeten*), although this is relatively rare.

Higher order modifiers may also occupy the initial and medial positions, but are less felicitous (Beyza Sümer, personal communication) in the final position.

- (39) *Açıkçası muhtemelen* ben gel-me-yeceğ-im.
frankly possibly 1.SG come-NEG-FUT-1.SG
‘Frankly, I will probably not come.’ (Beyza Sümer, speaker; adapted from Wilson & Saygin 2001: 4)
- (40) Ben *açıkçası muhtemelen* gel-me-yeceğ-im.
1.SG frankly possibly come-NEG-FUT-1.SG
‘Frankly, I will probably not come.’ (Beyza Sümer, speaker; adapted from Wilson & Saygin 2001: 4)
- (41) *Çok_şükür* bu fareler bozuk peynir-i ye-di.
fortunately PROX mice spoiled cheese-ACC eat-REAL
‘Fortunately these mice ate the spoiled cheese.’ (Gürer 2014: 235)
 p^I p^M p^{M+1} p^F
- (42) Bu fareler *çok_şükür* bozuk peynir-i ye-di.
PROX mice fortunately spoiled cheese-ACC eat-REAL
‘Fortunately these mice ate the spoiled cheese.’ (Gürer 2014: 235)

Topic constituents in Turkish take, when not preceded by hierarchically placed constituents, the initial position in the clause, as shown in (43):

- (43) p^I p^{I+1} p^{I+2} p^F
Istakoz-u Hasan Ali-ye ver-di-ø.
lobster-ACC Hasan Ali-DAT give-PST-3.SG
‘(Speaking of) the lobster, Hasan gave (it) to Ali.’ (Kornfilt 1997: 200)

Several authors (e.g. Kornfilt 1997) have claimed that Focus constituents in Turkish occur in the preverbal position.

- (44) Kitab-i Ali-ye Hasan ver-di-ø.
book-ACC Ali-DAT Hasan give-PST-3.SG
‘HASAN gave the book to Ali.’ (Kornfilt 1997: 190)

However, Kılıçaslan (2004: 720) shows that focal constituents may, and sometimes have to be, separated from the verb, as in (45):

- (45) (Context: who saw a dog in the garden?)
 p^I p^M p^{F-1} p^F
Bahçe-de Oya bir köpek gör-dü-ø.
garden-LOC Oya one dog see-PST-3.SG
‘OYA saw a dog in the garden.’

In Turkish non-specific Undergoers have to occur in pre-verbal position, such that the focus constituent cannot occur in that position. Since the non-specific Undergoer cannot be separated from the verb, it must be in p^{F-1} . And since focal arguments must be assigned a position before arguments without a pragmatic function, the focal constituent in (45) must be in p^M .

Contrastive foci may occur in situ and are then marked prosodically, not morphosyntactically, as in (46b). However, they may also occur in the clause initial field, as in (46c).

(46) Context: What did the waiter bring for you?

- a. p^I p^{I+1} p^M p^F
 Garson bana kızartma-yı getir-di- \emptyset
 Waiter 1.SG.DAT fries-ACC bring-PST-3.SG
 'The waiter brought the fries for me.'
- b. p^I p^{I+1} p^M p^F
 Hayır, garson sana meyve-ler-i getir-di- \emptyset
 no waiter 2.SG.DAT fruit-PL-ACC bring-PST-3.SG
 'No, THE FRUITS the waiter brought for you (not the fries).'
- c. Hayır, meyve-ler-i garson sana getir-di- \emptyset
 no fruit-PL-ACC waiter 2.SG.DAT bring-PST-3.SG
 'No, THE FRUITS, the waiter brought for you (not the fries).' (Grigoraş 2020: 50).

When both a contrastive focus and a contrastive topic are present in the initial field, the topic precedes the focus.

(47) Context: Biden and Warren visited our campus. Who brought which presidential candidate to the campus?

- p^I p^{I+1} p^{I+2} p^M p^F
 Biden-i^{TOPCONTR} Seren^{FOCCONTR} kampüs-e bu sabah getir-di- \emptyset .
 Biden-ACC Seren campus-DAT this morning bring-PST-3.SG
 'Seren brought Biden to campus this morning.' (Grigoraş 2020: 79)

The only situation in which a non-hierarchical constituent can end up after the verb is when it is backgrounded, as in (48):

- (48) Context: 'Who married Kaya?'
 p^M p^F p^{post}
 Oya^{FOC} evlen-di Kaya-yla^{BACKGR}
 Oya marry-PST-3.SG Kaya-COM
 'Oya married Kaya.' (Kılıçaslan 2004: 727)

In this case, we consider these backgrounded constituents to be in the postclausal position P^{POSTCL} , as they are deaccented.

With these remarks on linearization in mind, we will consider the ordering process in a number of examples in more detail. We will start with example (37), repeated here as (49).

(49) Context: 'What about the lobster? Who ate it?'

- p^I p^M p^{M+1} p^F
 Istakoz-u birkaç gün önce Ali ye-di- \emptyset .
 lobster-ACC some day before Ali eat-PST-3.SG
 'Ali ate the lobster several days ago.' (Kılıçaslan 2004: 730)

- IL: (A_i: (F_i: DECL (F_i)) (P_i)_S (P_j)_A (C_i: [(R_i)_{TOP} (Cm_i: [(T_i) (persp R_j: Ali (R_j))_{FOC} (R_k)] (Cm_i))] (C_i)) (A_i))
- RL: (p_i: (past ep_i: (e_i: (f^c_i: [(f_i: ye- (f_i)) (x_i)_A (x_j: - istakoz- (x_j))_U] (f^c_i)) (e_i)) (ep_i: (t_i: -birkaç gün önce- (t_i)) (ep_i)) (p_i))
- ML: (Le_i: (Sent_i: (Cl_i: [(Np_i: istakoz (Np_i)) (Adpp_i: -birkaç gün önce- (Adpp_i)) (Np_j: -Ali- (Np_j)) (Vw_i: -yedi- (Vw_i))] (Cl_i)) (Sent_i)) (Le_i))

Since there are no hierarchical elements from IL present in this sentence, we start with hierarchical ordering at RL. The relevant elements are the past tense marker on the verb and the temporal modifier *birkaç gün önce* ‘several days ago’, both operating at the layer of the Episode. Since operators are placed before modifiers, the past tense goes to P^F first, after which the temporal modifier goes to P^M. In configurational ordering the predicate is then placed first and joins tense in P^F. Of the two arguments one is Topic and the other is Focus. As Topic precedes Focus in placement, *istakozu* is placed in P^I first, after which the Focus constituent *Ali* is placed in P^{M+1}.

The following example contains two backgrounded constituents.

- (50) Context: ‘When did Oya marry Kaya?’
- | | | | | | |
|------------------|----------------|----------------|----------|---------------------|-----------------------|
| p ^M | | p ^F | | p ^{POSTCL} | p ^{POSTCL+1} |
| iki yıl önce | evlen-di | Oya | Kaya-yla | | |
| two years before | marry-PST-3.SG | Oya | Kaya-COM | | |
- ‘Two years ago Oya married Kaya. (litt: “with Kayla”)’ (Kılıçaslan 2004: 728)
- IL: (A_i: (F_i: Int (F_i)) (P_i)_S (P_j)_A (C_i: [(Cm_i: [(T_i) (persp R_j: Oya (R_j))_{BCKGR} (R_k: Kaya (R_k))_{BCKGR} (+id -sp R_L)_{FOC}] (Cm_i))] (C_i))] (A_i))
- RL: (p_i: (past ep_i: (e_i: (f^c_i: [(f_i: evlen (f_i)) (x_i)_A (x_j)_{Com}] (f^c_i)) (e_i)) (ep_i: (t_i: -iki yıl önce- (t_i)) (ep_i)) (p_i))
- ML: (Le_i: (Sent_i: [(Cl_i: [(Adpp_i: -iki yıl önce- (Adpp_i)) (Vw_i: -evlendi- (Vw_i))] (Cl_i)) (Np_i: -Oya- (Np_i)) (Np_j: -Kayayla- (Np_j))] (Sent_i)) (Le_i))

In this example hierarchical ordering starts at the Representational Level with the past tense operator and the temporal modifier, both at the Episode layer. Since the temporal modifier has a pragmatic function, it is placed before the past tense operator. The temporal modifier being in focus, it goes to P^M, after which the past tense operator goes to P^F. The next principle to be applied is that predicates are placed before arguments, hence the verb goes to P^F, where it joins the tense operator. Finally, the arguments have to be placed. Both have Background function, hence the next principle has to be applied, which states that Actors are placed first. Therefore *Oya* is placed in P^{POSTCL}, after which the comitative argument can go to P^{POSTCL+1}.

The latter example shows that in P^{POSTCL} expansion is to the right. This can also be seen in the following example:

- (51) Gel-me-yeceğ-im açıkçası muhtemelen.
 come-NEG-FUT-1.SG frankly possibly
 ‘Frankly, I will probably not come.’ (Akan & Hartman 2019: 141)

In this example the adverbs are presented as afterthoughts. Since *açıkçası* ‘frankly’ has to be placed before *muhtemelen* ‘possibly’, the former must be in P^{POSTCL} and the latter in P^{POSTCL+1}.

Example (40), repeated here as (52), contains the same modifiers.

- (54) p^l p² p^M p^{M+1} p^F
 B<in>ili =ko=na ang bulaklak para kay Weng kahapon.
 PRF:bought =1SG.ERG=ALREADY ABS flower for DAT Weng yesterday
 'I have already bought the flower for Weng yesterday.' (Nagaya 2007: 346)

The effect of the second position is clearly seen in the following example, in which an adverb occupies the initial position, and the verb as a result has to move to a position after the second position clitics.

- (55) p^l p² p^M p^{M+1}
 Ngayon =ko=lang na-basa ang=email=mo.
 now =1.SG.ERG=just PRF:read ABS=email=your
 'I read your e-mail just now.' (Nagaya 2007: 350)

The first clausal position is important for the analysis of Focus. When the predicate or the comment is in focus, the order is as illustrated in (54), with the predicate in initial position. When the focus is on an adjunct, this adjunct may be placed in initial position, as in (55), and also in (56). When there is identificational Focus on an argument, a cleft construction is used, in which case the focused non-verbal predicate (*ang bátà* in (59)) also ends up in initial position (59).

- (56) p^l p^M p^{M+1}
 A: Kailan=ba na-sira ang=kotse=mo?
 when=Q PRF-break.down TOP=car=your
 'When did your car break down?'
 p^l p^M p^{M+1}
 B: Kahapon na-sira (iyon).
 yesterday PRF-break.down (it.ABS)
 '(It) broke down yesterday.' (Nagaya 2007: 353)

- (57) p^l p^M
 Ang bátà ang kumáin
 NOM child NOM AV.COM-eat
 'The one who ate was the child.' (Kaufman 2005: 5)

Apart from the first and second position, the preclausal position, i.e. the initial sentential position P^{PRECL}, is also relevant for the analysis of Tagalog. The following examples show that it is used for Topics. Below we will show that it is also relevant in hierarchical ordering.

- (58) p^{PRECL} p^l p² p^M
 Ito=ng tasa ay binili =ko sa=pamilihan
 this=LNK cup PART PRF.buy.OV=1.SG.GEN DAT=market
 'I bought this cup at the market.' (Kroeger 1998: 3)
- (59) p^{PRECL} p^l p² p^M
 Ito=ng tasa, binili =ko sa=pamilihan
 this=LNK cup PRF.buy.OV=1.SG.GEN DAT=market
 'I bought this cup at the market.' (Kroeger 1998: 3)

As these examples show, the second position clitics are now in third sentential position. In (58) the placement in sentence-initial position is marked by the particle *ay*, in (59) by means of an intonation break. Together the facts illustrated in (58) and (59) show that a sentence-initial position is relevant for the analysis of these sentences.

A combination of Topic and Focus is illustrated in (60).

- (60) p^{PRECL} p^I p² p^M p^F
 Si=May, kailan =ba=siya ba-balik dito?
 ABS=May when=Q=3.SG.ABS AV:will.return here
 'As for May, when will she come here?' (Nagaya 2007: 361)

The placement of the second position clitics shows that *kailan* is in initial position within the clause, where it is placed because it is the focused question word, and it is preceded by the topical constituent, which must thus be in sentence-initial position.

As for hierarchical ordering, lower adverbs may occur in several positions, but not in P^{PRECL}. We assume that in initial position they are in focus.

- (61) p^I p² p^M
 K<um>a~kanta =ka nang malinaw
 <AF>PROG~sing=2.SG.SUBJ LNK clear
 'You're singing clearly.' (≠ 'Clearly you're singing.')
- (62) p^I p² p^M
 Malinaw =kang k<um>a~kanta
 clear=2.SG.SUBJ.LNK <AV>PROG~sing
 'You're singing clearly.' (≠ 'Clearly you're singing.')

Higher adverbs, on the other hand, do occur in P^{PRECL}.

- (63) p^{PRECL} p^I p²
 Malinaw ay k<um>a~kanta =ka
 clear TOP <AV>PROG~sing =2.SG.SUBJ
 'Clearly, you're singing.' (≠ 'You're singing clearly.')
- (64) p^{PRECL} p^I p²
 Malamang ay nan-daya =sila.
 probably TOP AV.PRF-cheat =3.PL.SUBJ
 'They probably cheated.'

Adverbs that occupy a middle position in the hierarchy allow both possibilities.

- (65) p^I p^M p^F
 <Um>u~ulan nang madalas dito.
 <AV>PROG~rain LK often here
 'It rains often here.'
- (66) p^{PRECL} p^I p^F
 Madalas ay <um>u~ulan dito.
 often TOP <AV>PROG~rain here
 'It rains often here.'

The clausal second position may be occupied by several clitics. In that case their ordering reflects the scope relations between them, where elements with the highest scope occupy the rightmost position.

- (67) p^I p^{2-2} p^{2-1} p^2 p^M p^F
 Nag-bitaw =na =raw =ba ang komisyoner kahapon?
 AV.PRF-quit =ALREADY=RPRT =Q SUBJ commissioner yesterday
 'Did the commissioner reportedly quit yesterday?' (Kaufman 2006: 178)

This shows that the assumption in Hengeveld & Mackenzie (2008) that the absolute P^2 position may only expand to the right does not hold. The following variant of (67) shows that the positions of the clitics do not depend on the position of the predicate either:

- (68) p^I p^{2-2} p^{2-1} p^2 p^M p^{M+1}
 Kahapon =na =raw =ba nag-bitaw ang komisyoner?
 Yesterday=ALREADY=REPT=Q AV.PRF-quit SUBJ commissioner
 'Was it yesterday that the commissioner reportedly quit?' (Kaufman 2006: 178)

As shown in (68), the order of the clitics does not change when an adverbial phrase rather than the predicate is placed in initial position.

With these facts in mind, we now turn to the way the linearization process in Tagalog takes place. We will start with example (60), repeated here as (69).

- (69) p^{PRECL} p^I p^2 p^{2+1} p^M p^F
 Si=May, kailan =ba =siya ba-balik dito?
 ABS=May when =Q =3.SG.ABS AV:will.return here
 'As for May, when will she come here?' (Nagaya 2007: 361)
 IL: (A_i: (F_i: INT (F_i)) (P_i)_S (P_j)_A (C_i: [(persp R_i: May (R_i))_{TOP} (C_m_i: [(T_i) (+id-sp R_j)_{FOC} (R_k)] (C_m_i)) (C_i))] (A_i))
 RL: (p_i: (fut ep_i: (e_i: (f_i: [(f_i: balik (f_i)) (x_i)_A] (f_i: (l_i)_{Dir} (f_i)) (e_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: [(Np_i: -May- (Np_i)) (Cl_i: [(Advp_i: -kailan- (Advp_i)) (Gw_i: ba (Gw_i)) (Gw_j: siya (Gw_j)) (Vw_i: -balik- (Vw_i)) (Advp_j: -dito- (Advp_j))] (Cl_i))] (Sent_i)) (Le_i))

From IL, the interrogative clitic has to be assigned a position first and goes to P^2 . Hierarchical ordering at RL then involves the future tense marker on the verb, the questioned temporal modifier *kailan* 'when' and the directional modifier *dito* 'here'. Since within hierarchical ordering at RL elements with a pragmatic function have priority, the question word is placed in P^I , after which the future tense marker has priority over the directional modifier, as it is an operator. It is placed in P^M , after which the directional modifier goes to P^F . The predicate is then placed in P^M , where it joins tense, after which the only argument goes to the Topic position P^{PRECL} . Finally, the Topic is resumed within the clause. Through a copying procedure the person marker =*siya* is introduced into the P^{2+1} slot.

In our next example a number of operators are present

- (70) p^{PRECL} p^I p² p^M p^{M+1}
 Maaaring hindi =sila maaaring mag-aral.
 can:LNK NEG=3PL.SUBJ can:LNK AV.INF-study
 'It is possible that they are unable to study.' (Kaufman 2006: 176)
 IL: (A_i: (F_i: DECL (F_i)) (P_i)_S (P_j)_A (C_i: [(C_m_i: [(persp R_i) (T_i)] (C_m_i)] (C_i))] (A_i))
 RL: (p_i: (poss e_p_i: (neg e_i: (abil f^c_i: [(f_i: -*aral*- (f_i)) (x_i)_A] (f^c_i) (e_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: [(Vw_i: -*maaari*- (Vw_i)) (Cl_i: [(Gw_i: -*hindi*- (Gw_i)) (Gw_j: *sila* (Gw_j)) (Vw_j: -*maaari*- (Vw_j)) (Vw_i: -*magaral*- (Vw_i))] (Cl_i))] (Sent_i)) (Le_i))

In (70) there are three expressions of operators. The auxiliary *maaari* occurs in two positions, once in an epistemic reading and once in a facultative reading. In the former reading it operates at the layer of the Episode, in the latter on the layer of the Configurational Property. Furthermore, there is a grammatical word expressing negation, which operates at the layer of the State of Affairs. Since there are no hierarchical elements at IL, we have to start with the placement of these elements in hierarchical order. The epistemic auxiliary goes to P^{PRECL} first, a position that it has to be in, given that the second position clitic *sila* follows the next constituent. The negative particle then goes to P^I, and the facultative auxiliary to P^M. Then the predicate has to be assigned a position before the only argument, and goes to P^{M+1}. Finally, the pronominally expressed argument goes to P².

The next example we analyze is (67), repeated here as (71).

- (71) p^I p²⁻² p²⁻¹ p² p^M p^F
 Nag-bitaw =na =raw =ba ang komisyoner kahapon?
 AV.PRF-quit =ALREADY=RPRT=Q SUBJ commissioner yesterday
 'Did the commissioner reportedly quit yesterday?' (Kaufman 2006: 178)
 IL: (A_i: (F_i: INT (F_i)) (P_i)_S (P_j)_A (rprt C_i: [(C_m_i: [(persp R_i) (T_i) (R_i)] (C_m_i)_{Foc}] (C_i))] (A_i))
 RL: (p_i: (ep_i: (perf e_i: (abil f^c_i: [(f_i: -*bitaw*- (f_i)) (x_i: -*komisyoner*- (x_i)_A] (f^c_i) (e_i)) (ep_i): (t_i: -*kahapon*- (t_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: (Cl_i: [(Vw_i: -*nagbitaw*- (Vw_i)) (Gw_i: -*na*- (Gw_i)) (Gw_j: -*raw*- (Gw_j)) (Gw_k: ba (Gw_k)) (Np_i: -*komisyoner*- (Np_i)) (Advp_i: kahapon (Advp_i))] (Cl_i)) (Sent_i)) (Le_i))

At the Interpersonal Level, the interrogative illocution has to be assigned a place first in configurational ordering. It goes to P². Then hierarchical ordering takes over at the layer of the Communicated Content, and the reportative marker is placed in P²⁻¹. At the Representational Level a perfect operator and a temporal modifier have to be expressed. Since the latter is part of the focused Comment, it has to be expressed before the perfect operator. It is placed in P^F, after which the perfect operator goes to P²⁻². Then the predicate has to be expressed before its single argument, and is placed in P^I. Finally, the single argument is placed in P^M.

Our final example shows that there may be multiple elements in preclausal position in Tagalog, as in the following example, in which the two sentence-initial constituents are marked by the postposed particle *ay*.

- (72) p^{PRECL} p^{PRECL+1} p^M
 Ngayon ay siya ay natátákot.
 now PART 3.SG PART STA.INC.fear
 ‘Now he is scared.’ (Kaufman 2005)
 IL: (A_i: (F_i: DECL (F_i)) (P_i)_S (P_j)_A (C_i: [(R_i)_{TOP} (persp R_j)_{TOP} (C_m_i: [(T_i)] (C_m_i)_{FOC}] (C_i)) (A_i))
 RL: (p_i: (ep_i: (e_i: (f^c_i: [(f_i: -*takot*- (f_i)) (x_i)_U] (f^c_i) (e_i)) (ep_i): (t_i: *ngayon* (t_i)) (ep_i)) (p_i))
 ML: (Le_i: (Sent_i: [(Adv_p_i: -ngayon- (Adv_p_i)) (Np_i: -siya- (Np_i)) (Cl_i: [(Vw_i: -*takot*- (Vw_i))] (Cl_i))
 (Sent_i)) (Le_i))

There are no elements from IL that have to be assigned a position, so we start with hierarchical ordering at RL, where the adverb *ngayon* ‘now’, which is furthermore a Topic, is the only element to be assigned a position. It is placed in the preclausal position p^{PRECL}. Next, the predicate has to be assigned a place, and it goes to the medial position. The topical Undergoer is next in line, and moves to p^{PRECL+1}. This example shows that the preclausal position in Tagalog expands to the right.

6. Conclusion

In this paper we have proposed a number of additions to the FDG linearization rules for clauses, introducing several ranked priority rules that take into account the hierarchical structure of FDG, the precedence of predicates over arguments, the precedence of functions over operators over modifiers, the importance of a pragmatic functions hierarchy and other pragmatic factors, and the importance of the semantic hierarchy and other semantic factors. In addition, we have argued for the introduction of a new morphosyntactic layer (the Sentence), which allows for the creation of a new set of extra-clausal positions for pragmatically marked elements. Applied to a variety of languages, these innovations have been shown to account for some frequently attested linear patterns in these languages, while excluding unacceptable sequences.

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Abbreviations used

1 first person, 2 second person, 3 third person, ABS absolutive, ACC accusative, AG agent, ASP aspect, AUX auxiliary, AV actor voice, COM comitative, CONJ conjunction, COP copula, DAT dative, DECL declarative, DEF definite, DEM demonstrative, DRCT direct voice, DV dative/locative voice, ERG ergative, FUT future, GEN genitive, INC inclusive, INDEF indefinite, INF infinitive, INV inverse voice, IV instrumental voice, LNK linker, LOC locative, NEG negation, NOM nominative, NR nominalizer, OV object voice, PART particle, PASS passive, PF perfective, PL plural, POSS possessive, PRES present, PRF perfect, PROGR progressive, PROX proximate, PST past, PTCP participle, Q question, REAL realis, RPRT reportative, SG singular, STA stative, SUBJ subject, TOP topic.

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