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Determiner Phrase: How Nominals are Built and How Constituent Orders are Derived*

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1 Introduction

What is referred to as a Determiner Phrase (DP) can be comprised of any or all of the following elements: a noun (N), a demonstrative (DEM), a numeral (NUM), a plural marker (PL), an adjective (ADJ), a relative clause (RC), an article (ART), and a classifier (CL). In both article-less and article-possessing languages, co-occurrences of these elements may exhibit vastly divergent DP-internal surface orders, as exemplified in (1) and (2).

(1) DP-internal constituent orders in some article-less languages:
a. Chinese, Korean, Japanese: DEM – NUM – CL – RC – ADJ – N

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b. Thai, Khmer: N – ADJ – RC – NUM – CL – DEM
c. Burmese: DEM – RC – N – ADJ – NUM – CL
d. Hmong, Malay, Vietnamese: NUM – CL – N – ADJ – RC – DEM
(Simpson 2005)

(2) DP-internal constituent orders in some article-possessing languages:
a. English, Mixe, Abkhaz, Nahuatl: ART – N – PL
b. Misantla Totonac, Galela, Tongan: ART – PL – N
c. Kokoto, Amharic, Icelandic: N – PL – ART
d. Gungbe: N – ART – PL
(Svenonius 2008)

Such typological findings immediately raise the question of why languages may exhibit such wide variations and whether there may be any limtations to them. In addition, they make us wonder whether it will be possible (at all) to formally derive the relevant facts by assuming a single universal DP structure.

In this paper, I aim to approach these questions from the perspective of Korean, an article-less, prenominal N modifier, and CL language which has relatively 'fluid' DP-internal constituent orders and whose DP-internal structure has not been much studied. More specifically, I will be concerned with what the make-up of a universal DP is (if there is one) and how variant DP-internal orders may be derived from it.

I will argue that (i) the universal DP structure is comprised of three DP-layers, which have to do with predicative, quantificational, and referential meanings, respectively, and (ii) all languages share the same basic DP structure, yet different surface orders may come about because of the different types of phrasal movements languages undergo and the meta-syntactic filtering process that all grammars are subject to (cf. Cinque 2010, Laenzlinger 2005, and Svenonius 2008, among others).

2 Points of Departure: Greenberg 1963 and Svenonius 2008

In his seminal work, Greenberg (1963) has shown that whenever a DEM, a NUM, and an ADJ co-occur modifying an N, they occur in the order of (3), where '>' indicates structural hierarchy rather than mere linear precedence.

(3) Greenberg's (1963) Universal 20:
DEM > NUM > ADJ > N

Much subsequent work has elaborated on Greenberg's Universal 20, but the extended hierarchy given in (4), which Svenonius (2008) offers, is particularly well grounded and informative for our purposes.

(4) Svenonius' (2008) elaboration of Universal 20:
DEM > ART > NUM > UNIT > PL/SORT > ADJ > *n* > N

Svenonius suggests that some of the functional categories in (4) are syntactic heads (e.g. ART, UNIT) but some are phrases (e.g. DEM, NUM), and variant DP-internal surface orders obtain because of so-called *roll-up movements* (Aboh 2004), which phrases undergo for cluster-formation purposes. By way of illustration, under his analysis, English countable nominals like *those three lovely vases* exhibit a 'DEM > NUM > N + PL' surface order—diverging from what is given in (4)—because, being a bound suffix, the PL marker *-s* has to be realized on a nominal root, and this triggers the raising of a SortP (i.e. the functional projection (FP) that licenses a sortal ADJ) to the specifier (Spec) position of PlP+ (i.e., an extension of a Plural Phrase (PlP)), as sketched in (5).

(5) How English DPs are constructed under Svenonius' analysis:
[$_{DP}$ *those* [$_{UnitP}$ *three* [$_{PlP+}$ ▲ [$_{PlP}$ ***-s*** [**SortP**] [$_{AP}$ *lovely*] [$_{nP}$ [$_{√P}$ *vase*]]]]]]]

Under Svenonius' analysis then, crosslinguistic variation in surface ordering results from language-specific, morpho-phonology driven phrasal movements rather than fundamentally different DP-internal structures that languages have. Given this, adopting his line of analysis may enable us to derive variant DP-internal constitutent orders while postuating a single universal DP structure.

What is also appealing about Svenonius' analysis is that it lets us capture the crosslinguistically-robust adjective ordering restriction (AOR) that when multiple ADJs co-occur modifying the same N, they occur in the order of 'gradable ADJ > thematic ADJ > idiomatic ADJ > N' (e.g. *really delicous, Indian, wild rice* vs. **Indian, really delicious, wild rice* or **wild, really delicous, Indian rice*): this follows because in the DP structure given in (5), an idiomatic ADJ merges inside √P, a thematic one merges at [Spec, *n*P], and a gradable one merges at [Spec, SortP], as exemplified in (6).

(6) How AOR is captured under Svenonius' analysis:
[$_{DP}$ [$_{SortP}$ [$_{AP}$ *really lovely*] [$_{nP}$ [$_{AP}$ *Indian*] [$_{√P}$ [$_{AP}$ *wild*] *rice*]]]]

Recent generative syntactic research has shown that there are several compelling reasons to assume that crosslinguistic constitutent order variation arises from what authors like Svenonius (2008) and Aboh (2004) call *roll-up movements*, which apply to a universal DP structure that is comprised of only

a handful of FPs (see, e.g. Laenzlinger 2005, Cinque 2010, Kim 2019, and the references there). Therefore, I also adopt such a line of analysis in analyzing data drawn from Korean below. But the analysis I propose will differ from the existing cartographic analyses in several important respects.

3 My Proposal: A Tri-partite DP Structure

First of all, I propose that nominals can be syntactically realized as three types of DPs, which I respectively call DPd/r, DPq, and DPp, where 'd/r' is short for 'deictic/referential', 'q' is short for 'quantificational', and 'p' is short for 'predicative' (see Kim 2019, Ch. 4, for more details). Given this, under the analysis put forward here, referential nominals (e.g. *The man Mary saw the other day came to my party*) will be treated as instantiating DPd/r, quantificational nominals (e.g. *Every employee who works in that company came to my party*) will be treated as instantiating DPq, and predicative nominals (e.g. *Mary is a very good student who likes physics*) will be treated as instantiating DPp.

Secondly, I propose that all N dependents including functional ones merge below DPp. I further submit that a Focus Phrase (FocP) is located inside a DPp, and articles, DEMs, and possessive elements merge inside what I call a Locative Phrase (LocP). Under the analysis advanced here then, all the FPs that Svenonius (2008) postulates inside a DP will merge inside what I call a DPp, as schematically represented in (7).

(7) Internal structure of what I call a DPp:
[$_{\text{DPp}}$ [$_{\text{FocP}}$ [$_{\text{LocP}}$ [$_{\text{UnitP/PlP}}$ [$_{\text{SortP}}$ [$_{n\text{P}}$ [$_{\sqrt{\text{P}}}$ N]]]]]]]

Thirdly, I suggest that all N dependents that merge inside a DPp may later move to a position inside a DPq or a DPd/r for morpho-syntactic or phonology-syntactic reasons. Consequently, under the present analysis, both a DPd/r and a DPq embed a DPp and therefore, referential nominals have the internal structure given in (8) and quantificational nominals have the structure given in (9).

(8) Internal structure of a referential nominal or what I call a DPd/r:
[**$_{\text{DPd/r}}$** [+referential] [**$_{\text{DPp}}$** [$_{\text{FocP}}$ [$_{\text{LocP}}$ [$_{\text{UnitP/PlP}}$ [$_{\text{SortP}}$ [$_{n\text{P}}$ [$_{\sqrt{\text{P}}}$ N]]]]]]]

(9) Internal structure of a quantificational nominal or what I call a DPq:
[**$_{\text{DPq}}$** [+quantificational] [**$_{\text{DPp}}$** [$_{\text{FocP}}$ [$_{\text{LocP}}$ [$_{\text{UnitP/PlP}}$ [$_{\text{SortP}}$ [$_{n\text{P}}$ [$_{\sqrt{\text{P}}}$ N]]]]]]]

Next, I propose that nominal space can be divided into three subfields, which I call the Low, the Middle, and the High Fields. Moreover, I suggest that RCs are base-generated at the periphery of each DP layer, but those that

merge at [Spec, DPd/r] are non-restrictive (NRS) whereas those that merge at the DPq or DPp level are restrictive (RS) RCs, as sketched in (10).

(10) Tri-partite DP structure and merge sites of RCs inside DP:

[$_{DPd/r}$	RC $_{NRS}$	[$_{DPq}$	RC$_{RS}$	[$_{DPp}$	RC$_{RS}$	[$_{√P}$	N]]]]
High Field		**Middle** Field		**Low** Field			

The actual syntactic manifestations of nominals will, however, have just two DP layers, as depicted in (8)-(9), or they will be comprised only of a DPp, as pictured in (7) (compare with the analysis given in Ch. 4 of Kim 2019). This is because FPs lacking uninterpretable features need not be pronounced at any level of syntactic representation, as given in (11), which I assume in the spirit of Dimitrova-Vulchanova and Giusti (1998).

(11) Principle of Economy of Lexical Insertion (PELI):
A functional projection (FP) that has any syntactic features must be licensed at all levels of representation by:
(a) making the specifier visible (i.e., pronounced) or
(b) making the head visible.
But an FP whose head hosts no syntactic features need not be visible at any level of representation.
(revised from Dimitrova-Vulchanova and Giusti 1998)

Before proceeding futher, I should point out that assuming PELI in (11) has been shown to account for why certain phrasal elements or heads move to a higher position inside a DP from the position where they were base-generated, regardless of the head-directionality of the language at hand (see Kim 2019, Chapters 4, 5, 6, and 7, for details).

I should also note that each language has a different way to comply with PELI and this has been proven to hold the key to answering the question of why in some languages, but not in others, both a DEM and an article may co-occur iside the same DPd/r, and why in some other languages, even material other than a DEM or an article may occur at [Spec, DPd/r] (see Kim 2019 and the references there).

Furthermore, I should mention that according to the tri-partite structure advocated here, in both below and above the DPp level, the functional skeleton of a nominal exhibits the 'Location > Quantity > Quality' order, reflecting the universal tendency Rijkhoff (2002) has uncovered: under the present analysis, whenever more than two N modifiers co-occur inside the same DP, if their meanings have to do with 'quality' (e.g. a descriptive ADJ), 'quantity' (e.g. a NUM), and 'location' (e.g. a DEM), then the quality-denoting expression will always merge at the lowest (i.e. the closest to the

head N), the quantity-denoting one will merge next, and the location-denoting one will merge the last. Therefore, 'Location > Quantity > Quality' order will invariably obtain below DPp. Additionally, even if any of these N modifiers move to a higher field inside the DP, the same ordering will be retained because under the present analysis, a NUM will never raise to a position inside the DPd/r *unless* some other category cannot pronounce the DPd/r and thereby comply with PELI.

4 Some Rationale for the Tri-partite DP Structure

The tri-partite DP structure promoted here draws on the split-DP analyses offered by authors like Laenzlinger (2005) although unlike the existing analyses, I posit three DP layers as opposed to just two.

(12) Split-DP structure proposed by Laenzlinger (2005):
$[DP_{\text{deixis (= external)}}\ [D_{\text{deixis}}\ [DP_{\text{determination (= internal)}}\ [D_{\text{determination}}\ [[NP]]]]]]$

In the cartographic literature that stems from Rizzi's or Cinque's works (see Cinque and Rizzi 2008 and the references there), a DP is assumed to contain FPs that would not be posited in non-cartographically oriented frameworks. Since elegance can be an important criterion with which to evaluate competing linguistic theories (Chomsky 1995, Carnie 2013), one may say that, all else being equal, an analysis that posits fewer FPs inside a DP is more desirable than one that posits more FPs.

In spite of such potential objections, I promote a split DP structure for several reasons. The first set of reasons comes from the way RCs are interpreted when they occur modifying referential vs. quantificational nominals. To see this, consider (13)-(16). This data set shows that both in English and Korean, RCs occurring inside a referential DP may receive either RS or NRS construals, but those occurring inside a quantificational DP may only receive RS construals. In these data sets, the RCs in (13b) and (15b) are considered NRS because they do not reduce the size of the set denoted by their head N; when uttering such sentences, the speaker is talking about a contextually salient, unique student. Given this, the role that the RCs play in these sentences is to help identify the student at issue by repeating the property that characterizes him/her, which the speaker must have already mentioned in the preceding sentences.

(13) Referential DPs containing an RC in English:
a. At the party, I met **a student [who likes linguistics]**. (RS)
b. **The** student **[who likes linguistics]** was there. (NRS)

(14) Quantificational DPs containing an RC in English:
a. I met **someone [who likes linguistics]**. (RS)
b. **Every** student **[who likes linguistics]** was there. (RS)

(15) Referential DPs containing an RC in Korean:
a. Na-nun phathi-eyse **[e_i enehak-ul chohaha]-nun**
I-TOP party-at [___ linguistics-ACC like]-REL
etten haksayng$_i$-ul manna-ss-ta.
some student-ACC meet-PST-DECL
'At the party, I met a student who likes linguistics.' (RS)
b. **[e_i enehak-ul chohaha]-nun ku**
[__ linguistics-ACC like]-REL that
haksayng$_i$-i kukos-ey iss-ess-ta
student-NOM there-LOC exist-PST-DECL
'The student who likes linguistics was there.' (NRS)

(16) Quantificational DPs containing an RC in Korean:
a. Na-nun **[e_i enehak-ul chohaha]-nun**
I-TOP [___ linguistics-ACC like]-REL
nwukwunka$_i$-ul manna-ss-ta.
someone-ACC meet-PST-DECL
'I met someone who likes linguistics.' (RS)
b. **[e_i enehak-ul chohaha]-nun motun**
[__ linguistics-ACC like]-REL every
haksayng-tul$_i$-i kukos-ey iss-ess-ta
student-PL-NOM there-LOC exist-PST-DECL
'Every student who likes linguistics was there.' (RS)

In addition to such RS vs. NRS interpretive differences, the RCs in (13)/(15) and those in (14)/(16) differ in that, while the former describe non-generic properties or perform what Bolinger (1967) calls a 'referent-modifying' function, the latter describe generic properties or perform what Bolinger calls a 'reference-modifying' function. Given this, if the LF structure that gets plugged into the interpretative system is derived from the syntactic structure at Spell-out, then we are led to hypothesize that referential DPs and quantificational ones are comprised of slightly different sets of FPs.

Let me turn now to pointing out that when it comes to the interpretive behavior of RCs, predicate nominals pattern with quantificational ones in that the RCs occurring in them also invariably receive RS construals, as one can see from comparing (17) and (18) with (14) and (16), and as I have already alluded to by way of (10).

(17) Predicative DPs containing an RC in English:
a. John is [$_{NP}$ a student [**who excels in school**]]. (RS)
b. Mary is [$_{NP}$ a person [**who teaches music**]]. (RS)

(18) Predicative DPs containing an RC in Korean:
a. Cinho-nun [$_{NP}$ **[e_i hakep sengcek-i**
C.-TOP [[__ scholastic grade-NOM
wuswuha-∅]-n haksayng$_i$]-i-∅-ta.
be.remarkable-N.PST]-REL student]-COP-N.PST-DECL
'Cinho is a student who excels in school.' (RS)
b. Mina-nun [$_{NP}$ **[e_i umak-ul karuchi-n-]-un**
M.-TOP [[__ music-ACC teach-IMPRF-]-REL
saram$_i$]-i-∅-ta.
person]-COP-N.PST-DECL
'Mina is a person who teaches music.' (RS)

But there are reasons to posit a different structure for predicative nominals than for quantificational ones. One such reason is that, even though both types of nominals may contain a PL marking, a predicative nominal cannot contain a NUM whereas a quantificatonal one can, as the contrast between the (a) and the (b) examples in (19)-(20) shows.

(19) a. Every teacher met **two/a few** students. (quantificational)
b. John and Mary are (***two/*a few**) students. (predicative)

(20) a. Motun sensayng-nim(-tul)-i **twu-/myech-myeng-uy**
Every teacher-HON(-PL)-NOM two/a.few-CL-GEN
haksayng(-tul)-ul manna-ss-ta.
student(-PL)-ACC meet-PST-DECL
'Every teacher met two/a few students.' (quantificational)
b. [Con-kwa Meyri]-nun **(*twu-myeng-uy/*myech-myeng-uy)**
[John-and Mary]-top (two-CL-GEN/a.few-CL-GEN)
haksayng(-tul)-i-∅-ta.
student(-PL)-COP-N.PST-DECL
'John and Mary are (*two/*a few) students.' (predicative)

Summarizing thus far then, nominals receiving referential interpretations and those receiving quantificational or predicative interpretations should be rendered different internal structures because only the former may have a syntactic position in which NRS modifiers may occur, but this does not mean that quantificational nominals and predicative ones should be rendered the same internal structure either, since the former may allow for NUMs, while

the latter do not. Therefore, it will be best to posit different syntactic structures for the three types of nominals, namely, DPd/r, DPq, and DPp.

5 How This Analysis Captures Korean Data

When we apply the proposed analysis to Korean, we see that it is largely successful in capturing the relevant data, but there are certain adjective ordering (AO) facts that it cannot account for.

To show this, let me first note that Korean has six adjectival classes, as summarized in (22), taken from Kim 2014.

(22) Major adnominal adjectival classes in Korean:
- (i) adjectival prefixes: e.g., ***tay-****cethayk* 'large house'
- (ii) adjectival Ns: e.g., ***hankwuk*** *kwukmin* 'Korean citizen'
- (iii) attributive determinatives (ATT-DETs): e.g., ***say*** *cip* 'new house'
- (iv) adjectival expressions ending in *-cek* (CEK-APs): e.g., ***kasi-cek*** *pyel* 'visible star'
- (v) adjectival expressions ending in *-un* (UN-APs): e.g., *yumyengha-n saram* 'famous person'
- (vi) RCs: e.g., ***yumyengha-ess-te-un*** *saram* 'person who used to be famous'

Notably, these six adjectival classes in Korean have varying degrees of morpho-syntactic complexity. In brief, adjectival prefixes, which occur inside compound Ns, are the least complex, and RCs are the most complex, as given in (23). And this shows that the way the adjectival expressions are listed in (22) reflects the ascending order of their morpho-syntactic complexities.

The other thing to note here is that, just like what one sees in languages like English, a thematic adjectival expression occurs closest to the head N after the ADJ that forms an idiomatic expression with it.

Finally, the more noun-like an adjectival expression is, the closer to the head N it occurs, and the more verb-like it is, the farther away from the head N it occurs.

(23) Scales formed by Korean adjectival classes:

RC > UN-AP > CEK-AP > ATT-DET > ADJ N > ADJ Prefix > N
Clausal verbal nominal nominal nominal nominal

(Here, > indicates a greater degree of morpho-syntactic complexity.)

With this background information put in place, when we turn to looking at the relevant Korean data, we see that the present analysis yields promising

results, especially for cases involving a DEM, an RC, an UN-AP, and a CEK-AP. To see this, consider (24). This paradigm shows that in Korean, when an RC co-occurs with an UN-AP and a CEK-AP, modifying a plural N, they occur only in the order of 'RC > UN-AP > CEK-AP > N + PL'. Under the present analysis, this surface ordering obtains because, in the tree structure given in (8), gradable adjectives merge at [Spec, SortP] and non-gradable ones merge at [Spec, *n*P], and while CEK-APs are non-gradable, UN-APs are gradable (Kim 2014), yet they need to undergo a roll-up movement in order to have the PL marker suffixed on the head N. As for the RC, it occurs preceding the other N modifiers because the hosting DP is referential, so any clausal N modifier has to merge at a [Spec, DPd/r]. Notably, the RC's occurrence in this position fulfills PELI for the DPd/r in which it occurs.

(24) A plural DP containing an RC, an UN-AP, and a CEK-AP:
  a. 'RC > UN-AP > CEK-AP > N + PL':
    [[$_{RC}$ ***e**$_i$* **kyengcey-rul** **sal-li-]-l**,
    [[__ economy-ACC live-CAUS-]-REL.FUT,
    [$_{UN\text{-}AP}$ **sayrop-un**] [$_{CEK\text{-}AP}$ **hapli-cek**] [cengchayk-**tul**$_i$]]
    [new-UN] [rational-CEK] [policy-PL]]
    'a/the new rational policies which will boost the economy'
  b. 'RC > CEK-AP > UN-AP > N + PL':
    ??[[$_{RC}$ ***e**$_i$* **kyengcey-rul** **sal-li-]-l**, [$_{CEK\text{-}AP}$ **hapli-cek**]
    [$_{UN\text{-}AP}$ **sayrop-un**] [cengchayk-**tul**$_i$]]

(25) Structure of (24a):
[$_{DPd/r}$ [RC] [$_{PlP+}$ ▲ [$_{PlP}$ *-tul* ([$_{SortP}$) [UN-AP] [$_{nP}$ [CEK-AP [$_{\sqrt{P}}$ N]]]]]]

When applied to more complex cases, the present analyis also yields positive results. For example, it lets us capture the fact that when a definite DP contains an RC, a DEM, a NUM, a CL, and a PL as well as an UN-AP, it may have two surface constituent orders, namely, one with the 'NUM + CL' cluster occurring DP-*medially*, and one with the 'NUM + CL' cluster occurring DP-*finally*, as exemplified in (26a, b).

(26) Variant order for a plural, definite DP with a NUM and a CL:
  a. 'RC > DEM > **NumP** > UN-AP > N + PL' order:
    [$_{DP}$ [$_{RC}$ *e*$_i$ Mina-rul towacwu-∅]-n, [$_{DP}$ ku
    [[__ M.-ACC help-PRF]-REL [that
    [$_{NumP}$ sey-myeng-uy], [$_{AP}$ khikhu-un] haksayng-tul]$_i$]
    [three-CL-GEN] [tall-ADN] student-PL]]
    'those three tall students who helped Mina'

b. 'RC > DEM > UN-AP > N + PL > **NumP**' order:
[$_{DP}$ [$_{RC}$ e_i Mina-rul towacwu-∅]-n, [$_{DP}$ ku,
[$_{AP}$ khikhun] haksayng-tul$_i$ **[$_{NumP}$ sey-myeng]**]

Under the present analysis, such seemingly flexible surface orders are possible for Korean nominals because in data like (26), the NUM is focused, so it raises to [Spec, FocP], and after this, either the DemP, which merges at [Spec, LocP], raises to [Spec, DPd/r], or the entire LocP raises to that position, to fulfill PELI, as depicted in (27) and (28), respectively.

(27) Derivation of (26a):
[$_{DPd/r}$ [RC] [$_{DPd/r}$ ▲ [$_{FocP}$ ▲ [$_{LocP}$ [DemP] [$_{UnitP}$ [NumP] [$_{PlP+}$ …]]]]]]

(28) Derivation of (26b):
[$_{DPd/r}$ [RC] [$_{DPd/r}$ ▲ [$_{FocP}$ ▲ [$_{LocP}$ [DemP] [$_{UnitP}$ [NumP] [$_{PlP+}$ …]]]]]]

As things currently stand, however, the proposed analysis cannot explain why some occurrences of 'UN-AP > ATT-DET' are not judged good, or why the grammaticality judgment is not so neat-and-tidy when it comes to cases where the UN-AP that co-occurs with an ATT-DET is mono-syllabic as opposed to bi-syllabic. To see this, compare (29) and (30). What is also notable here is that when the co-occurring UN-AP is mono-syllabic, the grammaticality may improve if it bears focal stress (FOC) or it has undergone vowel lengthening (VL), as one can see from comparing (30a, b) with (30c, d).

(29) Ordering between a **bi-syllabic** UN-AP and an ATT-DET:
a. **yeppu-n** **say** kapang (UN-AP > ATT-DET)
pretty-UN new bag
'a pretty new bag'
b. ***say** **yeppu-n** kapang (ATT-DET > UN-AP)
Intended: 'a new pretty bag'

(30) Ordering between a **mono-syllabic** UN-AP and an ATT-DET:
a. ?**khu-n** **say** kapang (UN-AP > ATT-DET)
big-UN new bag
'a big new bag'
b.??**say** **khu-n** kapang (ATT-DET > UN-AP)
Intended: 'a new big bag'

c. **KHU-n** **say** kapang (UN-AP with FOC)
d. **Kku.u-n** **say** kapang (UN-AP with VL)

Another emprical challenge that confronts the present analysis is that even though Korean APs typically observe the widely-attested AOR 'size > color', which dictactes that a size-term occurs higher than a color-term, when two APs co-occur and one of them contains its own degree adverb (DegAdv) modifier, this AOR may not be abided by. To see this, compare (31) and (32).

(31) a. **khu-n,** **ppal.kah-n** kapang (size > color)
big-UN, red-UN bag
'a big, red bag'
b.??**ppal.kah-n**, **khu-n** kapang (color > size)

(32) a. **[acwu ppalkah-n],** **khu-n** kapang (color > size)
[very red-UN] big-UN bag
'a very red, big bag.'
b.??**khu-n, [acwu ppalkah-n]** kapang (size > color)

Similarly, Korean APs tend to occur adhering to the typologically well-established AOR 'size > quality', as illustrated in (33), but in some cases, this AOR may be violated, as given in (34).

(33) a. **[**$_{\text{UN-AP}}$ **khu-n] [**$_{\text{N}}$ **ko-kup]** cha (size > quality)
[big-UN] [high-quality] car
'a large, high-quality car'
b. ***[**$_{\text{N}}$ **ko-kup [**$_{\text{UN-AP}}$ **khu-n]** cha (quality > size)

(34) a. **[**$_{\text{N}}$ **ko-kup],** **[**$_{\text{N}}$ **tay-hyeng]** cha (quality > size)
[high-class] [big-shape] car
'a high-quality, big-sized car'
b.***[**$_{\text{N}}$ **tay-hyeng],** [$_{\text{N}}$ ko-kup] cha (size > quality)

So how do we go about dealing with such empirical challenges?

In answer to this question, I propose that the syntax of any linguistic system is comprised of evaluative components as well as derivational components, and only certain forms surface because only they have been let in by the relevant output filter that is at work. In addition, I suggest that different languages have different output filters, and they are constructed based on each language's own syntax-morphology or syntax-phonology interface conditions, or whatever other factors govern linearization in human language.

To quickly demonstrate how the mechanism I have just outlined may work, let us suppose that AO in human language is regulated by the interactions between the optimality-theoretic (OT) constraints given in (35), and these constraints are ranked as in (36) (for justifications, see Kim 2019, Chapter 5).

(35) A partial list of constraints regulating AO in human language:
  a. *NA > NNA: An ADJ sequence where a nominal AP occurs before a non-nominal one inside a DPp is banned.
  b. DEGLFT: Every DegAdv is at the left edge of a DPp.
  c. RELLFT: Every AP with relative semantics is at the left edge of a DPp.
  d. HVYLFT: For any pair of APs occurring inside a DPp, the heavier one is at the left edge of the DPp.

(36) AO-related constraint ranking for Korean:
  *NA > NNA >> {DEGLFT, RELLFT} >> HVYLFT

When we apply these ideas to Korean and evaluate the relevant output candidates that the proposed derivational system generates, we can readily explain why we obtain data like (31)-(34). To illustrate this, tableaux (37) and (38) show why a datum exemplifying 'color > size' may sometimes be judged better than one that exemplifies 'size > color' and why 'quality > size' may sometimes obtain rather than 'size > quality'. (Below, the hand symbol '☞' indicates the winner among the competing output candidates, i.e., the input datum that best satifies the relevant OT constraints for the language at hand.)

(37) Reason for the unexpected contrast between (32a) and (32b):

input: [$_{DPp}$ *khun acwu ppalkahn* N]	DEG LFT	REL LFT	HVY LFT
a. ☞[$_{DPp}$ [$_{SortP}$ *a.cwu ppal.kan*, [$_{Sort}$ *khun* [$_{nP}$ [$_{√P}$ N]]]]]		*	
b. [$_{DPp}$ [$_{SortP}$ *khun*, [$_{SortP}$ *a.cwu ppal.kan* [$_{nP}$ [$_{√P}$ N]]]]	*		***!
c. [$_{DPp}$ [$_{SortP}$ *khu.un*, [$_{SortP}$ *a.cwu ppal.kan* [$_{nP}$ [$_{√P}$ N]]]]	*		**!

(38) Reason for the unexpected contrast between (34a) and (34b):

input: [$_{DPp}$ *kokup tayhyeng* N]	*NA > NNA	REL LFT	HVY LFT
a. ☞ [$_{DPp}$ [$_{nP}$ *ko.kup*, [$_{nP}$ *tay.hyeng* [$_{√P}$ N]]]]			
b. [$_{DPp}$ [$_{nP}$ *tay.hyeng*, [$_{nP}$ *ko.kup* [$_{√P}$ N]]]]		*!	

6 Summary and Conclusion

In this paper, I have examined what the make-up of a universal DP is if there is one and how variant DP-internal orders may be derived from it by looking at some AO facts in Korean in comparison to some English data. I have argued that (a) the universal DP structure is comprised of three sub-fields; (b) nominals can be syntactically realized as what I call a DPd/r, a DPq, or a DPp; and (c) even though all languages share the same basic DP structure, different surface orders may come about because of the different types of head or roll-up movements they may undergo and the meta-syntactic filtering process that applies to all output candidates.

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