Parameters

Morphological inflection carries with it a portmanteau of parameters, each individually shaping the very defining aspects of language typology. For instance, English is roughly considered a 'weak inflectional language' given its quite sparse inflectional paradigms (such as verb conjugation, agreement, etc.) Tracing languages throughout history, it is also worth noting that morphological systems tend to become less complex over time. For instance, if one were to exam (mother) Latin, tracing its morphological system over time leading to the Latin-based (daughter) Romance language split (Italian, French, Spanish, etc), one would find that the more recent romance languages involve much less complex morphological systems. The same could be said about Sanskrit (vs. Indian languages), etc. It is fair to say that, at as general rule, languages become less complex in their morphological system as they become more stable (say, in their syntax). Let's consider two of the more basic morphological parameters below: The **Bare Stem** and **Pro-drop parameters**.

Bare Stem Parameter. The Bare Stem Parameter is one such parameter that shows up cross-linguistically. It has to do with whether or not a verb stem (in its bare form) can be uttered. For example, English allows bare verb stems to be productive in the language. For instance, bare stems may be used both in finite conjugations (e.g., *I/you/we/you/they speak-Ø*) (where *speak* is the bare verb)—with the exception of third person singular/present tense (*she speak-s*) where a morphological affix{s}is required—as well as in an infinitival capacity (e.g., *John can speak-Ø French*). In these examples, no morphological inflection is needed to attach onto the verb. It is in this sense that we say the verb is bare. In English, this 'bare verb stem' is lost in other conjugations such as third person singular (*She speak-s*), progressive (*She is speak-ing*), 'to' infinitives (*She likes 'to speak'*), past tense (*John spoke*) where a vowel change infix is inserted), etc. The fact that English even permits bare verb stems tells us something about the larger morphological system in English in a number of ways.

Firstly, the fact that verbs often go uninflected tells us that English is considered to have a parameter setting of [-INFL] (minus inflection, or weakly inflected). (*Note*: This [+/-INFL] parameter should be considered as a third morphological parameter and has to do with whether or not verbs take a sufficient amount of inflection on their stems). This setting differs with Spanish or Italian in the sense that these languages do not permit bare verb stems (e.g., * *Habl-* (from *Hablar* (=*to speak*) **Parl-* (from *Parlare* (=*to speak*)). Spanish and Italian (respectively) always require some form of morphological material to attach onto the verb stem, otherwise, the form becomes ungrammatical (as marked by an asterisk *). In this sense, Spanish

and Italian belong to a classification of languages which set their parameter to [+INFL] (plus inflection, or strongly inflected, and thus a [-bare stem]).

Secondly, this single parameter setting is implicated in the triggering of a second related parameter—the pro-drop parameter.

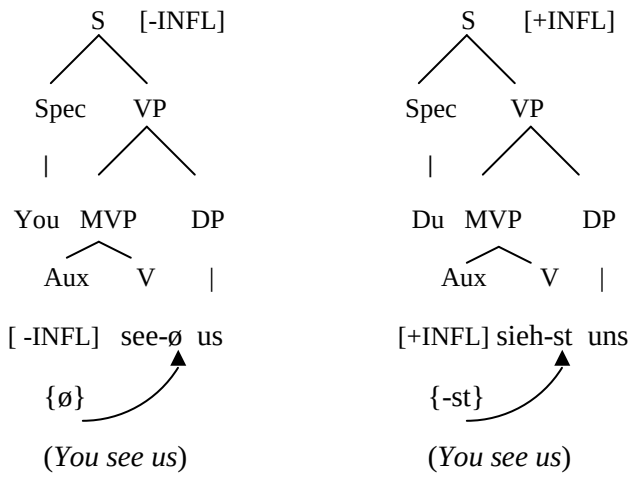
***The Pro-drop Parameter*.** It is of no coincidence that [+INFL] languages also have their Pro-drop Parameters set to [+Pro-drop]. The positive setting of this parameter means that the language allows Subject Pronouns to be deleted in declarative sentences: e.g., Spanish: *(Yo) Habl-o 'English'* (*I speak English*) where the subject/pronoun *Yo* (=I) can be (optionally) dropped; Italian: (Io) *Parl-o 'English'* (where the subject/pronoun *Io* (=I) can be (optionally) dropped). The correlation between the [+INFL] parameter and the [+ Pro-drop] parameter holds in the following way: if a language has a morphological paradigm rich enough in inflection so that there is a co-indexing of subject to verb agreement—as we find in the Spanish paradigm where first person/singular *Yo* co-indexes with the first person/singular/present tense inflected verbal affix {-o} in *Habl-o*—then dropped subjects are recoverable in the verbal morphology and thus need not be made phonologically explicit in the syntax (e.g., *Ø Hablo English*). Italian likewise co-indexes subject to verb (e.g., *Io Parl-o* English > *Ø Parlo English*). Since English has a [-INFL] parameter, there is no way for the morphological system to recover a lost subject. In other words, owing to weak morphological inflection, (a [-INFL] parameter setting), English is forced to maintain a phonologically expressed explicit subject (e.g., *I speak English* vs. **Ø Speak English*). The only exception we find to this rule in English entails the 'imperative grammar', where subjects may be dropped (e.g., *Close the door please!*). In these structures, the subject is understood to be second person (singular/plural) due to the very nature of the 'asking of something' (the first person *I*) 'from somebody' (the second person *You*). Generally speaking, as a morphological rule, the parameter settings between the co-indexing of [+INFL] and [+Pro-drop] holds for most languages.

There is an interesting footnote here to the extent that German, an otherwise richly inflected language [+INFL] does not hold to the aforementioned correlation between [+INFL] and [+Pro-drop]. The fact that German doesn't allow for subjects to be dropped, notwithstanding the fact that it too is considered a richly [+INFL] language, must then speak to other morpho-syntactic issues that separate German from other Latin-based richly inflected languages. For the moment, we shall not get into what these possible morpho-syntactic distinctions are (see note in (7) below), but only state here how German is indeed a richly inflected language (in line with

Spanish or Italian). Consider the +/-INFL paradigm below first showing **Pronoun**, **Pro-drop**, and **Subjecject-Verb Agreement** relations. We follow-up with a brief word on the **German 'Noun' Case** system.

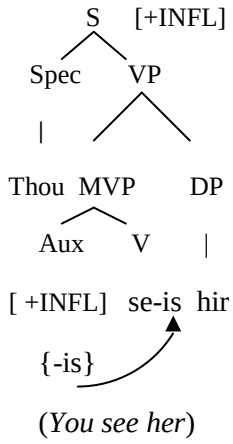
Richly Inflected Languages: [-INFL] vs. [+INFL] showing Pro-drop Status

(4) (a) <u>English (stem: (to) *see*)</u> (b) <u>German (stem: *seh(en)*)</u>



Compare the German example above with that of Middle English (ME) whch also showed a strong [+Inflectional] morphology:

(5) <u>Middle English (stem: (to) *see*)</u>



Note: Our structure in Part-2 will show that [+INFL] morphology shows the Verb (of VP) crossing over Negation into the verb (of *vP*).

(6) (a) Verb: (English): *Speak*

[-INFL] ⇔ [-Pro-drop]

	Subject ⇔	Verb	
• 1st Person	[-Pl]: I	speak	Ø
	[+Pl]: We	speak	Ø
• 2nd Person	[-Pl]: You	speak	Ø
	[+Pl]: You	speak	Ø
• 3rd Person	[-Pl]: He	speak	s
	[+Pl]: They	speak	Ø

(b) Verb (Spanish)*: Habl-ar (Speak)*

[+INFL] ⇔ [+Pro-drop]

Subject ⇔	Verb	
(Yo)	habl	o
(Nosotros)	habl	amos
(Tu)	habl	as
(Vosotros)	habl	ais
(El)	habl	a
(Ellos)	habl	an

(7) (a) Verb (German): *Arbeit (work)*

[+INFL] ⇔ [-Pro-drop]

	Subject ⇔	Verb	
• 1st Person	[-Pl]: ich	arbeit	e
	[+Pl]: wir	arbeit	en
• 2nd Person	[-Pl]: du	arbeit	est
	[+Pl]: ihr	arbeit	et
• 3rd Person	[-Pl]: er	arbeit	et
	[+Pl]: sie	arbeit	en

(b) Verb (Italian): *Parl-are (speak)*

[+INFL] ⇔ [+Pro-drop]

Subject ⇔	Verb	
(Io)	parl	o
(Noi)	parl	iamo
(Tu)	parl	i
(Voi)	parl	ate
(Lui)	parl	a
(Loro)	parl	ono

(*Note*: The status of German being a ‘non-pro-drop’ language dispite its otherwise strong inflection may be due to a separation of Tense from Agreement. In German, a V2 language (verb second position) Tense may

actually be realized in C, while AGR is located under Tense. German movement of main clause from SOV to SVO (V2) may separate T from AGR in this way, thus making pro-drop identification illicit. Interestingly, German children do drop subjects early-on given their utterances are base-generated SOVs—i.e., when there is no such separation of T from AGR).

German 'Noun' Case System

German has maintained a strong 'Noun' Case system throughout its history, very much unlike many of its European counterparts which have since reduced their Case systems to marking Pronouns only. For instance, English, now only marks case on Pronouns (e.g., subject/Nominative 'I' vs. object/Accusative 'me' and possessive/Genitive 'my'). The latter example here in which the English paradigm for Pronoun Case has extended to the Determiner class (i.e, where the 'my' determiner marks for Genitive Case) has its historical roots dating back to German where Determiners still today mark Nouns for Case. In other words, while English has reduced its case sytem to covering only Pronouns and Possessive nouns (via the genitive determiner class), German has maintained a strong case paradigm across the board whereby nouns and not just pronouns receive case. It is also important to note that, unlike English, German nouns have three possible gender features (masculine, feminine, neuter). This also differs with gender in English where only the third person singular pronouns *she/her*, *he/him* and prenominal/pronominal possessives *her/his, hers/his* (respectively) mark for Gender.

In German, one can tell the case distinction of a given noun (i.e., whether or not it is a subject or an object) by looking at the related 'Masc(uline)' determiner (noting that only 'masculine' determiners—a class which by far outnumbers 'Femine' determiners—provide this case distinction).

German 'Noun' Case via Definite Determiners

(8)

	Masc	**Fem**	**Neu**	**Plural**
Nom.	der	die	das	die
Acc.	den	die	das	die

An example of how one could read the case paradigm is provided below. Notice that word order is not an issue given that case is now marked via the determiner.

(9) (a) Der Hund beißt den Mann → The dog bites the man.

(The dog bites the man)

(b) Den Mann beißt der Hund. → The dog bites the man.

(The man bites the dog)

If word order were an essential means of deriving the meaning of these two sentences, assuming an SVO order, one should generate sentence (9b) as '*The man bites the dog*', just as we derived sentence (9a) to mean '*The dog bites the man*'. In fact, in German, word order can be replaced by Case Marking whereby subjects receive the (masculine) nominative determiner 'der' and objects receive the accusative determiner 'den'. Since the accusative case is based only on masculine singular determiners, case can't be determined by feminine, neuter or plural determiners alone. In such contexts, word order seems to be applicable.

It is also interesting to note that while the German noun is sensitive to case as indicated by its matrix masculine determiner class, it is not sensitive to case as marked on the Feminine 3rd person singular Pronoun: 'sie' (she) and 'sie'(her) (note the overlap in the chart below). In fact, 'sie' also marks for the English counterpart 3rd person plural nominative/accusative 'they/them' (sie). So while German may be more sensitive to case on the noun (instead of relying of word order), it seems English is much more sensitive to case as it relates to Pronoun usage. For an example, consider the third person Pronouns in German below marking *Nominative, Accusative, Dative and Genitive* Case (as compared to English):

(10) **German Case (3rd person Pronouns)**

Case	**Masc.**	**Fem**	**Neut.**	**Plural**
Nom	er (he)	sie (she)	es (it)	sie (they)
Acc	ihn (him)	sie (her)	es (it)	sie (them)
***Dat**	ihm (to him)	ihr (to her)	ihm (to it)	ihnen (to them)
Gen	sein (his)	ihr (her)	sein (its)	ihre (their)

*** Dative case** has to do with how certain verbs mark for the receiving or giving of an object. Hence, 'ihn' and 'ihm' tanslates respectively into 'him' as in *I like him* and 'ihm' as in *I gave the book to him*. Both are considered accusative but with the latter showing dative case. Dative is sometimes referred to as **oblique case** in which a DP/Pronoun is preceded by a Preposition.

Syntactic Parameters

Syntactic parameters mostly have to do with how words are to be strung together. Hence, the mentioned syntactic parameters are inherently going to involve the phrase structure level and word order. As earlier presented, our English **Word Order Parameter** has come to be described as the **Head Initial Parameter**.

Word Order. Languages across the world can take on a number of word order variations. For instance, English is an SVO (Subject-Verb-Object) word order (e.g., *S-John V-kissed O-Mary (PP on Saturday))*, whereas Japanese is an SOV (e.g., *S-John O-Mary V-kissed* (*PP Saturday on*)). Irish, for example, maintains a VSO order and German maintain both SVO and SOV orders depending on the type of clause. All other possible word orders do show-up across languages, with some types being more common than others. In formalizing word order as a proper parameter setting, the mechanism that's come to be associated with the order relies on describing how phrases are organized. Before we can move on, we need to spell-out exactly what we mean by phrase structure organization. The phrase is traditionally broken up into two parts (the H(ead) and the Comp(lement)). The head word is said to label the P(hrase)—so that, for example, if you have a head as a preposition, then, by definition, you would have a P(repositional) Phrase (PP) (with the complement being whatever grammatically follows the head). (In the case of the PP, a DP-object would serve as the complement).

Recapping from earlier discussions, consider some general phrase structures:

(11) **Phrase Structure Rules**

(a) VP	→	[(head) V + (comp) N]	[VP [V] [N]]
(b) AdvP	→	[(head) Adv + V + (Adv)]	[AdvP [Adv] [V] [(Adv)]]
(c) DP	→	[(head) D + (comp) N]	[DP [D] [N]]
(d) AdjP	→	[(head) Adj + (comp) N]	[AdjP [Adj] [N]]
(e) AuxP	→	[(head) Aux + (comp) V]	[AuxP [Aux] [V]]
(f) PP	→	[(head) P + (comp) DP]	[PP [P] [DP]]

Consider the structure of a phrase below showing both Head and Complement positions:

(12) Phrase (= SVO/Prepostion) Phrase (= SOV/Postpostion)

(a) Head Comp (b) Comp Head

→ [+Head initial] → [-Head initial]

In considering the phrase structure in (12a), we find the head comes first (moving left to right). This Head first order is referred to as the parameter setting [+Head initial] (as opposed to [-Head initial] found in structure (12b)). Since English abides by an SVO word order, the phrase structure parameter must be [+Head initial], given that a potential Verb and its subsequent Object— (both elements making up a Verb Phrase (VP)—would be ordered Verb-Object, (with the (head) verb being positioned before the (complement) Object).

Consider a reduced English VP showing [+Head initial] as compared to Japanese [-Head initial]:

(13) **English 'Head initial' vs Japanese 'Head Final'**

<u>Token sentence</u>: 'John…VP—kissed Mary PP—on Saturday'

```
                VP (= English)                    VP (= Japanese)
(a)   Head      Comp              (b)   Comp      Head
       V         N                       N         V
       |         |                       |         |
John [VP kissed   Mary ]          John [VP Mary   kissed ]
```

Equally, consider the two types of prepositions, 'pre' and 'post' positional (respectively), where in English the Head of a PP would come in initial position (hence, the term 'Pre'-position), whereas the Head of a PP in the Japanese paraphrase would come in final position (hence, the term 'Post'-position):

(14)

```
                PP (= English)                    PP (= Japanese)
(a)   Head      Comp              (b)   Comp      Head
       P         DP                      DP        P
       |         |                       |         |
[PP   on        Saturday]         [PP Saturday    on]
```

(a) John kissed Mary *on Saturday*. (b) John *Saturday on* Mary kissed.

(c) Japanese example: 'John-ni hon-o age-ta' (= I gave a book to John)

(John a book got).

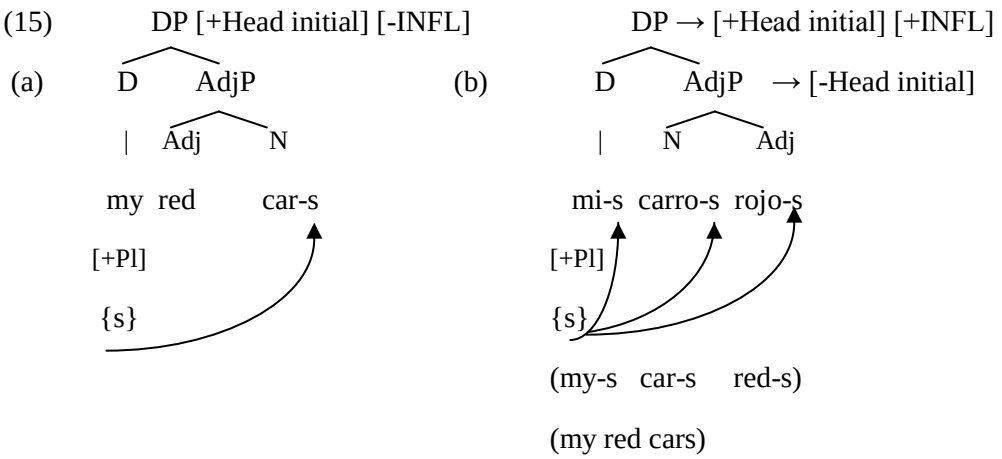
John-ni ('John' indirect obj), hon-o ('book', direct obj), age-ta ('give', past)

In summary, it is an appropriate setting of the [+/-Head initial] parameter that renders a language either SVO or SOV etc. In addition to these phrase examples above, there are some languages which may allow multiple settings. One case in point is Spanish. Spanish is typically considered as an SVO word order, like English, but there are some exceptions to be made to this. For instance, Spanish does seem to allow VP [-Head initial] SOV structures when the Object is in its weak form (e.g., pronoun form): *(Yo) te*

amo (=I you love) and not **(Yo) amo te* (=I love you). This could be described as an example of Object movement where the Object raises from its base-generated lower position in the tree (SVO) and situates above the Verb (SOV). Spanish Adjectival Phrases likewise set their head parameters to [-Head Initial], like Japanese.

Consider the Spanish DP/Adj Phrase— 'John has [DP my [AdjP red cars']] .

(15)



(*Note* above that the Spanish DP/AdjP inflects across the board for plural number {s}—viz., the Determiner, Noun, as well as the Adjective each mark for plural {s}. This richness in the Spanish inflectional morphology is a result of the [+INFL] parameter setting in Spanish. The Spanish plural {s} could also be claimed at one time to have inflected on the Determiner '*Lo-s*' (*The* [+Pl]), but because its paradigm has gone though a process known as **suppletion**—whereby INFL-rule formations no longer apply, given *Lo [-Pl] vs. *Los* [+Pl] is no longer a paradigm as the suppletion form is now *El* vs. *Los*—*Los* could now rather be argued to be a result of **lexical incorporation** or **chunking**. In other words, as attested by most Spanish native speakers, unlike the paradigm *La vs La-s* whereby *Las* is a true result of stem + affix separation, the plural detereminer [*Los*] seems to be now memorized as a chunk).