Inflection is the realization of morphosyntactic features through morphological means. What those means are will be addressed later in this chapter.

In order to fully understand inflection, we must situate it in the grammar. Since we are claiming that the syntax provides the morphology with morphosyntactic features, the job of the morphology must be to get from there to the actual phonological realization:

(1) 

This diagram portrays the relationship between the syntax, morphology, and phonology as derivational, but it is equally possible to model a non-derivational, parallel relationship. Either way, a diagram like (1) is bound to be deceptively simple. We are still left asking precisely how words become inflected. We now turn to an exploration of the answers to that question.

6.1.1 Exponence

Exponence, a term coined by Peter Matthews, refers to the realization of morphosyntactic features via inflection. In the word *seas*, the morpheme [z] is the **exponent** of the morphosyntactic feature plural, and in *sailed*, [d] is the exponent of past tense or past participle (Matthews 1991: 175). In both cases there is a one-to-one relationship between form and meaning, since one morpheme realizes one morphosyntactic feature, a situation that Matthews calls **simple exponence**.

When we go beyond simple exponence, we get into data that have been central to modern theories of morphology. One type is what Matthews first called **cumulative exponence**. These are cases where more than one morphosyntactic feature maps onto a single form. We find this in Latin verbal inflections. In the Latin first person singular present indicative active form, five features (person, number, tense, mood, voice) are spelled out with a single morpheme, *-ō*:

(2) cant-ō
sing-1SG.PRES.IND.ACT
'I sing'

Another example of cumulative exponence is subject–object agreement in Cherokee, an Iroquoian language. Verbs in Cherokee bear prefixes

that agree with their subject and object in person, number, and animacy. Some prefixes, including those listed in (3), indicate both subject and object simultaneously (Scancarelli 1987: 71):

(3) ski-, skw- 2SG.SUB/1SG.OBJ
sti: 2DU.SUB/3SG.INAN.OBJ
kaci:y 1SG.SUB/3PL.AN.OBJ
ci:y 1SG.SUB/3SG.AN.OBJ

Examples of subject/object prefixes in context are given below (tones are not marked; /v/ is a nasalized central vowel). Following Scancarelli, verbs are given in both their surface and phonemic forms, with the phonemic forms aligned with the glosses:

(4) a. sv:kthv kaci:ne:lv:ʔi (Scancarelli 1987: 68)
/kaci:y- ʔne:lv:ʔi/
apple 1SG.SUB/3PL.AN.OBJ-give.PERF
'I gave them an apple'

b. ci:ko:wthiha (Scancarelli 1987: 74)
/ci:y- ko:ʔwthiha/
1SG.SUB/3SG.AN.OBJ-see.PRES
'I see him'

Lastly, inflection for case, number, and gender in many Indo-European languages involves cumulative exponence. The *-os* ending of the Greek adjective *kalós* 'good' indicates that it is masculine, nominative, and singular. The *-á* of Russian *stolá* 'table' denotes both genitive and singular.

Related to cumulative exponence is the notion of a portmanteau, a term coined by Lewis Carroll for words of his own invention that were combinations of other words. For example, *slithy* is his combination of *slimy* and *lithe*.[1] In a portmanteau word, two or more historically distinct words (they may still be distinct in some contexts) are fused together. The French definite determiner occurs in two forms, *le* (masculine) and *la* (feminine). The feminine form can be preceded by the prepositions *à* 'in, to' or *de* 'of, from', as shown below:

(5) à la plage 'to/at the beach'
de la plage 'from/of the beach'

The masculine form, however, may not follow either of these prepositions. Instead, we get a portmanteau word:

(6) au [o] marché 'to/at the market' (*à le marché)
du [dy] marché 'from/of the market' (*de le marché)

The existence of cumulative exponence is very important to a proper characterization of the morphology–syntax interface. Fairly complex syntactic structures may get reduced morphologically. **[Exercise 1]**

In **extended exponence**, the opposite of cumulative exponence, a single morphological feature is realized simultaneously on more than one form. One example presented by Matthews (1991) is the Ancient Greek perfective. The verb *elelykete* 'you had unfastened' (stem *-ly-*) is marked as perfective by reduplication (*le-*), *-k-* infixation, and the presence of a special stem (*-ly-* versus *-ly:-*). We cannot single out any one of them alone as marking the perfect. They do it together. Likewise, in Kujamaat Jóola, deverbal nouns can be formed from some infinitives by changing the noun class and tensing the vowels (7). One or the other isn't sufficient. This is another example of extended exponence:

(7) a. ɛ-ka:y 'to divorce' (a man by a woman)
bu̲-kə:y 'a divorce' (man by woman)
b. ka-kɔɲɛn 'to send a message'
ku̲-koɲen 'a message'
c. ɛ-lɔk 'to cry (of an animal), bark'
bu̲-lok 'an animal cry, bark'

The most complicated cases are those where we get a combination of cumulative and extended exponence. In Latin, the notion perfect is realized by having a special verb stem in addition to a special set of suffixes that encode person, number, and mood (we might also want to list voice, although the perfect is realized periphrastically in the passive):

(8) a. rēx -istī
rule.PERF-2SG.ACT. PERF
'you ruled'
b. rēx -ērunt
rule.PERF-3PL.ACT.PERF
'they ruled'

Here the mapping from the syntax to the phonology is both many to one and one to many. First, the stem *rēx-* is a perfective stem (compare the present stem *reg-*), and the ending is a perfective ending. This exemplifies extended exponence. Second, the endings *-istī* and *-ērunt* simultaneously express second person singular, active voice, and perfective, and third person plural, active voice, and perfective, respectively. This is cumulative exponence. **[Exercise 2]**

We now turn to the distinction between **context-free** and **context-sensitive inflection**. We refer to context-free inflection when there is a simple directional mapping between a morphosyntactic feature and a particular phonological string. Imagine that English has a feature [PRESENT PARTICIPLE] or [PROGRESSIVE]. Because this feature is always realized as /-ɪŋ/, we refer to context-free inflection: all present participles in English bear the same suffix.[2] In context-sensitive inflection, the realization of a morphosyntactic feature varies. For example, the feature [PAST] in English corresponds to several possible phonological realizations, as seen in the following table.

Phonological realizations of the feature [PAST] in English

a.	Ablaut	ran, sat, won, drank, shone ...
b.	Suppletion	was, went ...
c.	Ø	hit, cut, put ...
d.	/-t/	sent, lent ...
e.	/-d/	helped [-t], shrugged [-d], wanted [-əd] ...

We also find partial suppletion, as with *thought* and *brought*, both of which also bear the /-t/ suffix seen in the box above. These exemplify extended exponence. Inflection for past tense in English is context-sensitive in the sense that the feature [PAST] is realized as many things depending on the lexeme it attaches to, with /-d/ suffixation being the default case.[3] As you continue to look at morphological data from a variety of languages, you will discover that context-sensitive inflection is much more common than context-free inflection.

6.1.2 Inherent vs. assigned inflection

We must distinguish between **inherent** and **assigned** inflection. Nouns and pronouns are marked as having a particular gender in the speaker's mental lexicon. For them, gender is inherent. For any other lexical category that reflects the gender of nouns and pronouns, such as adjective and verb, gender cannot be inherent. It must be assigned.

Number is generally not inherent, hence it is not marked in the lexicon. There are exceptions. Some words, like *pants*, have inherent number

that is marked in the lexicon – in this case, plural. In some languages, there are even verbs that occur only in the singular or in the plural. They can also be said to have inherent number.

An example of assigned inflection is case. Nouns and pronouns in the lexicon do not have case. They obtain case by virtue of their position in the sentence. For example, nouns in object position will surface with an objective case in many languages.

6.1.3 Government vs. concord

Once we talk about the difference between inherent and assigned, we can address the question of how inflection may be assigned, which is generally in one of two ways: **government** or **concord**. Another word for concord is **agreement**.

Concord or agreement occurs when one element in a sentence takes on the morphosyntactic features of another element. One familiar example of concord is noun–adjective agreement in the Romance languages or German. Adjectives take on the number and gender of the noun they modify.

Kujamaat Jóola nouns also trigger concord. The adjectives that modify them must be like them in gender or noun class. Similarly, verbs in Kujamaat Jóola reflect the noun class of their subject. We explore Kujamaat Jóola agreement in detail in the second half of this chapter.

The other way in which a word can acquire a category is government. Government is more or less what it sounds like: one word dictates the form of another.[4] Case assignment by verbs is usually thought of in this way. When a noun is required to appear in objective case, for example, it cannot be said that it agrees with (reflects the case of) the verb. This is because verbs don't have case. The same holds for prepositions. Prepositions do not have case-marked forms, either, but in many languages they require that their object surface with a particular case, such as dative or accusative. This is attributed to government of the prepositional object by the preposition itself.

We cannot talk about morphosyntactic features themselves as being "government features" or "concord features." It might seem, for instance, that case should be described as a "government feature" because nouns receive case under government by a verb or preposition. In (9), the noun object of the verb is in the accusative case because the verb *sehen* demands that its direct object be accusative:

(9) Wir haben [$_{NP}$den jungen Piloten] gesehen (German)
we have [$_{NP}$the.M.ACC young.ACC pilot.ACC] seen
Accusative
'We saw the young pilot'

The problem is that the definite article *den* and the adjective *jungen* are usually thought to acquire this same case via concord with the noun. If this is true, then the mechanism of inflection is independent of inflectional features.[5]

6.1.4 Inflectional categories

While most languages have morphological inflection of some sort, the actual inflectional categories can differ quite widely across languages. In this section, we briefly survey both the most common categories and some of the ways languages may differ. It is convenient to make a first broad cut into nominal and verbal categories, though the nominal categories often appear on adjectives and verbs through concord. The most common nominal categories are **number** (Corbett 2000), **gender** (Corbett 1991), and **case** (Blake 2001).

Though some languages do not inflect for number, many languages make an obligatory inflectional distinction between **singular** and **plural** number of nouns and pronouns, which spills over to verbs and adjectives through concord. Less common, but not unusual, is **dual** number, which distinguishes nouns referring to two items from those referring either to one or to more than two. Dual inflection is never found in the absence of singular and plural, and when a language has the category dual, it changes the meaning of the plural from 'more than one' to 'more than two'. We see a similar effect in English, where the dual quantifier *both* causes the plural quantifier *all* to mean 'more than two'. A person who has two children must say *both my children*, not *all my children*. There are even languages with **trial** number, marking nouns that refer to sets of three, or **paucal** number (from Latin *pauca* 'few').

Gender is less common than number and more varied. Because of the connection of the English word *gender* to biological sex and because genders in European languages are sex-based, we tend to think that linguistic genders are always sex-based. For example, the Romance languages (e.g., French, Portuguese, and Spanish) have two genders, masculine and