2 Morphology

Morphology is the study of words, their internal structure and the changes they undergo when altered to form new words (word formation) or when they have different roles within a sentence (grammatical inflection). This leads to a two-fold division in the field as shown in the following diagram.

Morphology	**à**	grammar, conjugation/declination (*inflectional morphology*)
		word formation (*lexical morphology*)

Morphology is often referred to as grammar, the set of rules governing words in a language. Traditionally, grammars were based on the models of classical Latin and Greek, languages which contained a large number of endings. It is thus not surprising that classical authors were concerned with the structure of words. However, for later European languages, and certainly for modern English, the categories which were first devised for Latin and Greek are not usually applicable and can be a genuine hinderance in understanding the grammatical structure of modern languages. Because of the cultural prestige of the classical languages the divisions made by their grammarians have persisted to this day. The difficulty is that, on a formal level, many of the categories of classical grammar do not exist today. For instance, it makes little sense to talk of accusative and dative, in a formal sense, in present-day English as these cases are not marked on nouns and there is only one combined form for pronouns, i.e. *her, him, us, them*, etc. Of course the notion of accusative, the object of a verb's action, as in *Fiona grasped the nettle*, continues to exist as does the notion of dative as in *Fiona gave Fergal the parcel*. But because of the lack of formal

marking, grammatical categories like the accusative and dative are indicated via syntax (sentence structure), the topic of the next chapter.

Grammar is a part of language which is relatively autonomous. By this is meant that it has its own internal rules and is not necessarily affected by the organisation of reality outside of language. The correspondence between language and the external world is not obligatory and during the long evolution of human language it has developed a degree of autonomy which students of linguistics should be aware of. For instance, plural nouns do not always refer to a group of objects, e.g. *The contents of the bag* could be an apple (singular) and *The means to open the box* could be a knife (again, singular).

Another instance of autonomy can be seen in gender. Languages usually have some concept of natural gender, for instance in Modern English nouns referring to female beings co-occur with feminine personal pronouns and those which refer to male beings co-occur with the appropriate masculine forms. However, many languages, particularly in the Indo-European family, still have grammatical gender which has co-occurrence restrictions for all nouns, adjectives and determiners (articles and pronouns). German is one such language, the Romance languages are further examples. Now while it is probably the case that grammatical gender derives historically from natural gender, in Indo-European it became independent of the linguistically external facts of gender very early on and by the time of the first attestations of daughter languages (before 1,000 BC) gender had become autonomous vis à vis the non-linguistic reality which language reflects.

This can be illustrated by a few examples: in Irish the word for 'soul', *anam*, is masculine, the word for 'mind', *intinn*, is feminine; in German the word for 'moon' is masculine, *der Mond*, and that for 'sun' is feminine, *die Sonne*. In Romance languages it is the other way around, consider *la luna* 'the moon' and *il sole* 'the sun' in Italian. It is obvious that this kind of gender has nothing to do with biological gender but just refers to the manner in which the nouns are declined and the form of the article they take in various cases such as the nominative and genitive singular and in the plural. Why the words for 'soul' and 'mind' or for 'sun' and 'moon' should belong to different classes in this respect is an accident of history and for the native speakers at any one point in time, the matter is completely arbitrary.

The discussion so far has been about the nature of morphology in certain languages. But a brief crosslinguistic examination reveals that not every language has a full morphology. For instance, Russian, Irish and German are much richer in this respect than English although this language is related to the others, albeit at different time depths. The question to consider is how morphology arises and how it recedes.

Morphology arises basically through words merging with each other. A word becomes semantically bleached, i.e. it loses clear meaning, and becomes attached to another word – this is the stage of a clitic. After some time a clitic may further lose semantic contours and become inseparable from the lexical

word it co-occurs with. Then one speaks of an inflection. This process can be carried further and this inflection may later be lost – usually through phonetic blurring – in which case there is a reduction in morphology and the language as a whole becomes analytic in type (this has happened to English in its history). Such a series of developments over a long stretch of time – at least several centuries – is called a typological cycle.

Typological cycle

Stage A	A starting point for a language with few if any endings
Stage B	Some words attach to others and lose their independent meaning (cliticisation). Example: Old English *-lice* 'like' becomes attached to stems, e.g. *sothlice* 'truly', i.e. *truth-like.*
Stage C	Clitics lose their phonetic clarity, here: *-lice* > *-ly*, and become inflections because they are no longer recognised as related to the independent words from which they stem. At this stage the inflection can become productive, consider English *-ly* which can be attached to many nouns to form adjectives.
Stage D_1	The language remains stable with a given number of inflections
Stage D_2	Further phonetic reduction proceeds and established inflections are lost so that the number of bare stems increases.
Stage D_{2a}	The language remains stable with few inflections
Stage D_{2b}	Some separate words begin to attach to stems again so that the cycle starts at B and posssible on to C again.

2.1 Word, morpheme and allomorph

Morphology is the level of linguistics which is concerned with the internal structure of words, whether these be simple or complex, whether they contain grammatical information or have a purely lexical status. There are various units which are used on this level and they can be seen as parallel to the distinctions which have already been introduced in connection with phonology. To begin with, however, one has to deal with the word, as lay speakers have a strong

awareness of this. It is a fairly imprecise notion whose definition, if any, is chiefly derived by non-linguists from orthography.

A word can be defined linguistically as an element which exhibits both internal stability and external mobility. To take an example the word *pack* is internally stable inasmuch as it cannot be broken down into further elements, i.e. *pack* does not consist of *pa* + *ck* or *p* + *ack*. It is externally mobile inasmuch as it can occupy various positions in a sentence, i.e. it is moved as a unit within a syntactic construction, cf. *They left the pack on the table* and *The pack has to be mixed again*.

The spaces used in orthography have nothing to do with the linguistic definition of the word. These spaces are used in (some) languages because speakers recognise the internal stability of the word but the spaces do not define the unit. Furthermore, there is much variability in the spelling of words. To take a simple example, the word *loanword* can be written as one word or with a hyphen *loan-word* or as two orthographic words *loan word*. Linguistically, the criteria to be considered is whether primary stress is found on the first element, which is indeed the case: [ˈləʊnwɜːd]. Other nominal compounds which also illustrate this phenomenon are *tail-wind*, *nose-dive*, *space-shuttle*, *job-stress*, *road-rage*, *anti-freeze* and which can therefore be linguistically regarded as a single word.

Largely because of the imprecision of the term 'word' linguists frequently prefer to use another term, *morpheme*. This is the system unit on the level of morphology much as the phoneme is on that of phonology. By definition a morpheme is the smallest unit which carries meaning. It is kept apart from the phoneme in that the latter distinguishes, but does not itself carry meaning. Normally the morpheme is transcribed in curly brackets: { }, for instance in English there is a plural morpheme {S}. This morpheme naturally has a number of realisations, just consider the words *cat*, *dog* and *horse* which in the plural are *cats* /kæt+s/, *dogs* /dɒg+z/ and *horses* /hɔːs+ɪz/ respectively. In order to capture this fact, one speaks of *allomorphs* which are non-distinctive realisations of a morpheme just as allophones are non-distinctive realisations of phonemes. Allomorphs are a feature of the morphology of all languages. Even those with highly regular grammatical systems, like Finnish or Turkish, show variants of morphemes depending on the words to which they are attached. Other languages, such as members of the Indo-European language family, group variants into classes and thus have different sets of ending to indicate a single grammatical category. An example of this would be Irish which has various means of declining nouns (showing case and number). For instance, there are two endings *-n* and *-ch* for the genitive (of fifth declension nouns) as in *caora* 'sheep', *olann na caora<u>ch</u>* 'the wool of the sheep', *comharsa* 'neighbour', *gluaisteán na comharsa<u>n</u>* 'the neighbour's car'. This type of situation is found in other languages such as German, Russian and the other Slavic languages, the Baltic languages (Lithuanian, Latvian), etc.

2.1.1 Various types of morphemes

Any discussion of morphemes requires that further subdivisions be recognised. There are at least two sets of divisions here, one according to status and one according to function. The first that between ***free*** and ***bound*** morphemes. A free morpheme is one which can occur one its own. Most words in a dictionary, for example, are instances of free morphemes. Their occurrence does not depend on that of another word with which they are associated. A bound morpheme is one which can only occur in connection with a further (free) morpheme. An example of this is English ***-ish*** which can only occur as the ending of an adjective, e.g. ***brutish, fiendish, peevish***. Bound morphemes are typically polyfunctional, e.g. the Irish ending ***-ach*** /-əx/, either as part of a noun, as in ***brollach*** 'preface' or as an inflection as in ***riail*** : ***rialach*** 'rule-NOM' : 'rule-GEN'. The same is true of the ending ***-s*** in English which can function as a plural marker or a marker of the this person singular in the present tense of verbs. Bound morphemes can contrast with one another, providing a means of distinguishing meanings, consider ***childish*** and ***childlike*** or they may develop an additional semantic connotation, apart from changing the class of a word, consider ***coldish weather*** 'slightly cold', ***a hardish test*** 'somewhat hard'.

The second set of divisions is that between ***lexical*** and ***grammatical*** morphemes. Lexical morphemes are those which have a specifiable independent meaning. One can usually ask the following question of a lexical morpheme: 'What is an X?'. For example, the word ***book*** is a lexical morpheme and one can ask the question 'What is a ***book***?' Grammatical morphemes are also units which carry meaning. However, they only occur in combination with other lexical morphemes. It is this dependence on other morphemes which sometimes leads non-linguists to doubt whether grammatical morphemes really carry meaning. Examples of grammatical morphemes in English are the endings ***-al***, ***-ish***, ***-ic*** as in ***comical***, ***peckish***, ***fantastic*** (see further discussion below).

There is also a small class of morphemes which are both bound and lexical. A well-known example from compounding is ***raspberry***: ***berry*** is an unbound lexical morpheme but ***rasp-*** only occurs in this combination and it is obviously not grammatical. With verbs there are series of bound lexical morphemes which are all derived from Romance loanwords. The morphemes ***-ceive***, ***-fer*** in Modern English occur in a number of verbs, just consider ***conceive***, ***perceive***, ***receive***; ***transfer***, ***prefer***, ***confer*** but they are not found on the their own (see discussion below).

There are some elements which appear to straddle the interface of phonology and morphology in that they show properties of phonemes and of morphemes. Such an element is termed a ***morphophoneme***. This denotes a unit which has two grammatical variants although it does not itself carry meaning. The two variants are always phonemes in the particular language. An example in English is {F} which has the realisation /f/ in ***roof, half*** and /v/ in ***rooves, halves***. The origin of this variation lies in Old English where the plural ending

caused the voiceless final fricative to become word medial and in this position the fricatives /f, θ, s/ were voiced: *rōf* : *rōfas*. The same principle lies behind the many other examples of morphophonemes in Modern English such as *life* : *lives*; *wife, wives*.

2.2 Word classes

Word classes are types of words grouped on the basis of their functions in sentences. They differ in their status and in the relations they may have with other words. Basically there are two categories of classes, the first carries lexical meaning and the second carries grammatical meaning. Those word classes with lexical meaning refer to concepts outside of language. Nouns exist because we conceptualise entities in the world as discrete objects and name them individually. Verbs exist because we live in time and have a clear perception of action and change on a time axis. The attributes of lexical word classes reflect those in the extralinguistic world, e.g. number and natural gender with nouns or person, number and tense with verbs. Case relations (as noted above) must be distinguished on a formal level, for instance with regard to the inflections used to mark them, and on a semantic level in respect of the notions conveyed by cases. Grammatical word classes have a language internal function and typically serve to indicate relations between lexical elements in a sentence. For instance, prepositions can express a spatial or temporal relation, e.g. *Fiona is lying on the couch. Fergal is under the car*. Other grammatical word classes offer information about a lexical element, e.g. the definite article shows that the noun it qualifies is a certain member of a set, e.g. *The book Fiona published last year*.

1) Lexical word classes

NOUN A noun deonotes something in the nonlinguistic world which is conceived of as an object in the widest sense. This includes beings (human and animal), physical objects and also ideas, feelings, notions each of which is regarded as forming a delimited whole, i.e. an 'object'. Because of the way human conceptualise, abstract notions, such as beauty, laziness, valour, are talked about as objects and expressed via nouns, e.g. *Fergal's laziness is exasperating.*

Nouns typically show number and case (not always formally expressed). They may also have gender, in the Indo-European languages, to which English belongs. Many languages do not have a formal gender distinction, e.g. Finnish and Turkish. Other languages may have more complex divisions and arrange nouns in classes, e.g. the Bantu languages of sub-Saharan Africa.

Nominal categories

Number is a distinction among nouns for at least (i) singular (one) and (ii) plural (more than one). Languages may refer explicitly to the number two and use a dual for this purpose or have a special form for a few (paucal).

Case is the formal marking of nouns depending on the relations they show with other word classes in a sentence. Typical cases are the accusative for the direct object and the dative for the beneficiary of an action, usually the indirect object. English does not have formal dative marking, this is shown by word order (indirect object before direct object) as in *Fergal gave Fiona her supper*. Languages with many inflections, e.g. Russian and German in Europe, normally have a means of formally expressing the dative, as in German *Klaus gab ihr das Geld zum Einkaufen* 'Klaus gave her-DATIVE the money for the shopping'.

Gender is a marking of nouns found in some languages. The labels used for the different gender categories are 'masculine', 'feminine', 'neuter' in the Indo-European languages. These terms suggest that gender has something to do with the sex of the object denoted, but this only holds for those nouns which have an animate referent, e.g. German *der Lehrer*, Russian *prepedavatelj*, both 'the teacher'. Such cases of natural gender should not lead one to imagine that for languages with gender there is anything masculine about, say, a table (in German *der Tisch* or French *le table*). In such languages gender is a system of government, the noun *Tisch* in German 'takes' *der* as its form of the definite article. Some languages, like Russian, do not have a definite article but nonetheless specific forms of the adjective are governed by certain nouns, e.g. *bolsh<u>oi</u> teatr* 'big theatre' but *bolsh<u>aya</u> zemlja* 'big land'.

English no longer has grammatical gender (this died out after the Old English period, after about 1100 AD) but only natural gender which demands one set of pronouns for males and another for females. Natural gender has been extended to technical objects to express admiration of them, e.g. *Did you see the schooner down in the docks? She's a beaut!*

VERB Verbs fall into two broad groups, those which indicate an action or process, dynamic verbs as in *Fiona drove to Dublin*, and those which indicate a state, stative verbs as in *Fiona knows Russian*. Each set of verbs behaves somewhat differently because for the latter there is no extension in time or at least no implication of change. It is true that a sentence like *Fiona knew Fergal* implies that the state lasted for a certain length of time but there is no change involved which makes this type of verb inherently different from a dynamic verb as in the sentence *Fiona fell in love with Fergal* which does imply a change in state. Stative verbs do not normally occur in the progressive form, hence the ungrammaticality of **Fiona is knowing Russian* though some varieties, like South African English, are much more lenient in this respect.

Verbal categories

Person Verbs typically distinguish between the person talking, the person being talked to and the person talked about. These situations correspond to the first, second and third person. If one adds a distinction in number – singular and plural – then the figure is six. Many languages distinguish between males and females in the third person; some languages (e.g. French) also make this distinction in the plural. Other languages, like Finnish, do not even distinguish in the singular.

All European languages, except English and Irish, have a pronominal distinction between formal and informal address (but Swedish has more or less abandoned this, despite some slight revival of the formal term *ni* 'you'-PLURAL). The pragmatic range of the two categories is not the same in each language, Russian has a different system from Italian for instance, but the distinction is nonetheless present. In these languages one pronominal form is used for the formal, with the second person singular being employed for informal address (amongst acquaintances and relatives). Because formal address arose only after the Middle Ages, different languages have different pronouns, Russian and French use the second person plural, *vy* and *vous* respectively, German uses the third person plural *Sie*, Italian the third person singular feminine *lei*, etc.

For a fuller discussion of these issues, see section ??? below.

Number The distinction between singular and plural, found with nouns, is also characteristic of verbs. The second person singular and plural are used for one's interlocutor in a conversation. In English, because of the demise of *thou* (in general usage), there is no specific form for the singular. This has led to the use of *you* for the singular and some additional form for the plural in various varieties of English, e.g. *youse, ye, yeez, y'all, y'uns*, etc. A distinction can be found in the first person plural between an inclusive *we* (speaker and hearer) and an exclusive *we* (the speaker and someone else, not the hearer). In Tok Pisin (a creole spoken in Papua New Guinea) *youmi* is inclusive but *mipela* is exclusive. The third person is used for the individual who is the topic of the discourse. Some languages, such as German, allow one to use the third person pronoun for someone who is present in a conversation while other languages, such as English, tend to avoid this.

Tense Dynamic verbs denote actions and these take place in time so verbs also show distinctions for tense. The basic unmarked tense is the present which is usually now but in some cases is the time of the discourse (the topic of the conversation, e.g with the so-called 'narrative present'). A special form is usual for the past and one for the future is also common. Not all languages have forms of verbs for these other tenses. In Germanic languages (as opposed to Romance or Celtic languages) lexical verbs do not have a form for the future. This is

reached by employing auxiliary verbs, e.g. *will/shall* in English, *werden* in German, *ska* in Swedish. The present may also be used with future meaning especially if there is a temporal adverb indicating this, e.g. *The prime minister is going to Brussels tomorrow.*

The action of a verb may often be set in the context of another verb in which case one has a difference in time depth (in the past or the future). This is the origin of the pluperfect which indicates an action which took place before another, e.g. *Fergal had prepared the curry by the time Fiona got home.* An analogous tense for the future is the future perfect to be seen in a sentence like *The snow will have been cleared by the time you get there.*

Aspect Apart from saying when an action took place one can say how this happened, whether the action is completed or has just started, etc. In all these instances one is dealing with aspect. In (standard) English aspect exists in the present of verbs, the simple present indicating habitual aspect, i.e. that something takes place at regular intervals as in *The government introduces a budget every autumn*. Many varieties of English, from Irish English to African American and Caribbean English, have formal means for expressing the habitual, e.g. *She does be worrying about the children, My cousin, he be home all day long.* The continuous form of English represents a progressive aspect, that is that an action lasts a certain length of time *Fiona was talking to the new students yesterday.* A further aspectual type, which is common across the world's languages, is the perfective which indicates that an action has been completed. Standard English does not have a formal perfective, though many varieties do, e.g. Irish English which uses the word order Object + Past Participle as in *Fiona has the work done* 'Fiona has finished the work'. Other varieties, such as African American English, use the past participle *done* in this sense, e.g. *She done spent all her money.*

Aspect can be lexicalised, i.e. involve two different verb stems. This is common in the Slavic languages, e.g. Russian *zamechatj* 'to notice'-IMPERFECTIVE : *zametitj* 'to notice'-PERFECTIVE. In some cases the perfective is shown by a specific prefix, typically *po*, e.g. *chistitj* 'to clean'-IMPERFECTIVE : *pochistitj* 'to clean'-PERFECTIVE. The perfective specifies that an action has been completed and the imperfective simply says that it took place.

Mood This is a category which characterises the mode of an action. The most common mode is the indicative which is used in declarative statements which denote real events or states, *Fiona is a teacher, Fergal drives a sportscar*. The second mode is hypothetical, often called irrealis, and is formally expressed using the subjunctive in languages which inflect lexical verbs for irrealis. English only does this for the verb *be*, e.g. *If he <u>were</u> interested we could start immediately*. Otherwise the auxiliary verb *would* is used, e.g. *She would come if they were staying overnight.* Traditionally, a further mood is recognised, the

imperative, though this is more of a sentence type determined by pragmatic factors much as the interrogative is, e.g. *Come here immediately! Can you come here for a moment?*

Objects Verbs are traditionally divided into categories according to whether they take an object and if so what type this is. The primary division is between transitive and intransitive, the latter being typical of actions which do not affect an individual other than the subject or result in a change in state in an object. Transitive verbs on the other hand do involve these effects. Hence the sentences *Fiona cooked the meal* and *Fergal broke the glass* show transitive verbs while *Fergal spoke and Fiona sang* shows two intransitive verbs. Whether a verb is transitive or not often depends on the manner in which an action is conceptualised. For instance, an action can be regarded as involving something specific in which case it is often transitive as in *Fergal considered the matter* or *Fiona sang a beautiful song*, the latter showing a verb which optionally transitive. These instances are similar to a sequence of verb plus adverb, i.e. the object does not offer any new information beyond the verb itself, consider *Fiona's grandmother died a peaceful death* and *Fiona's grandmother died peacefully*.

Should a verb involve two objects then it is ditransitive. In English such verbs involve a direct and an indirect object, the latter often recognizable by its position before the direct object, e.g. *Fiona gave him a new tie.* Objects governed by prepositions are often semantically equivalent to indirect objects, as in *Fiona explained the problem to him* but are not always interchangeable, hence the ungrammaticality of **Fiona explained him the problem.*

Complements It is obvious from even a cursory glance at verbs that the elements governed by the verb can extend beyond a single or double object. In the sentences *Fiona persuaded Fergal to buy a new computer* and *Fiona asked Fergal to stop biting his nails* there is a direct object, *Fergal*, but also a further specification *to buy a new computer* and *to stop biting his nails* respectively. From a structural point of view one can see that this is part of the verb phrase. Such a phrase is labelled an infinitival complement. However, the verb in a complement need not be in the infinitive, e.g. *Fiona considered hiring a car for the holiday* (gerundial complement). The complement thus 'fills in' necessary information in the verb phrase and can often be substituted by *what* in an interregotive sentence, e.g. *Fiona considered what?* or *Fiona asked Fergal what?* Complements are elements of a sentence which are directly governed by a verb much as an object. With some verbs they are the equivalents of a direct object, inasmuch as it can occupy the same slot in a sentence, consider *Fiona wants a new car* with *Fiona wants to leave for Cork.*

ADJECTIVE Adjectives are used to specify an attribute of a noun. Normally an adjective is immediately adjacent to a noun, either before it (as in English) or

after it (as in Irish) or occasionally before or after according to meaning as in French where *pauvre* which means 'with little money' it precedes its noun – *un pauvre homme* – and 'to be pitied' when it follows *un homme pauvre*. When an adjective is adjacent to the noun it qualifies it is termed *attributive*. Because of the close association with the noun in this position synthetic languages frequently demand that the adjective be inflected, cf. Irish *Tá na leanaí beag* 'The children are small' but *Na leanaí beaga* 'The small children' or German *Die Kinder sind klein* but *Die kleinen Kinder* 'ditto'.

Another possibility is to use a sentence with the verb 'be' in which the adjective is *predicative* as in *Paddy is stubborn*. This type of sentence is called an equative sentence as the subject is equated with the predicate. The latter may be an adjective but also a noun or a prepositional phrase, for example: *Paddy is a plumber*; *Paddy is on his way to Sligo*.

There are restrictions on which of the two basic positions – attributive or predicative – an adjective can occur in. For instance, the adjectives *asleep, awake, alive* only occur in predicative position as the ungrammaticality of phrases like **the asleep/awake children*, **the alive insects* shows. Other instances may involve more tendencies than clear distinctions, e.g. *He was upfront about his intentions*, but ?*His upfront remarks startled the others*.

ADVERB This word class is a holdall for many different elements. The essential feature of adverbs is that they characterise a further element, usually a verb, hence the name adverb, i.e. something which accompanies a verb. Typical uses of adverbs are seen in *Fiona spoke nervously* and *Fergal drank the beer quickly*. A common extension of adverbs is to have them qualify a phrase or entire sentence. In such usage adverbs usually occur in initial position, e.g. *Undoubtedly, Fergal is determined to succeed* or *Surprisingly, Fiona did not enter the competition*. The function of an adverb can be fulfilled by a phrase as much as by a single word and such phrases can be employed for stylistic reasons, e.g. *Fiona spoke gently / in a gentle voice, Fiona spoke resolutely / in a resolute manner.*

2) **Grammatical word classes**

The word classes considered so far contain elements with independent meaning which is why they are termed 'lexical'. Essentially, words with lexical meaning can answer the question 'what does X mean?'. This does not apply to the word classes being considered in the present section. These are grammatical in nature, that is their function is to establish relationships in sentences (prepositions, conjunctions) or to bond sentences together into coherent discourse (pronouns) or to specify more abstract qualities like specificness (definite article) or genericness (indefinite article) or to point to individual instances of something (demonstrative pronouns), etc.

ARTICLE There are two forms of the article in English, the definite and the indefinite. As their names imply the former refers to a specific instance of a set, e.g. *The linguist we met yesterday*, or a random member of a set, e.g. *We need a doctor to attend to our child.* This is the simplest division but there are uses which do not fall into this scheme of things. For instance, the definite article can be used for typical representatives of a set, but not specific ones, e.g. *The English like toast in the morning*.

Not all languages have articles, Russian is a notable example of one which does not. Even if a language has articles it need not have both types. Irish has a definite article but no indefinite one, the absence of an article is equivalent to instances of the indefinite article in English *Bean cliste*, lit. 'woman clever'.

The precise usage of articles can and does vary across languages. For instance, in English non-countable, abstract nouns do not take an article, consider *Fiona is interested in philosophy*. In German, however, the definite article is used in such cases: *Sie interessiert sich für die Philosophie*, lit. 'She is interested in *the* philosophy'.

PRONOUN This word class covers a group of elements which have different functions. The original meaning of the word is of an element which stands for a noun, usually in cases where repetition of the noun is not preferred, e.g. *Fergal was here this morning. He was looking for some blank diskettes.* This usage illustrates a typical function of pronouns: they point back to a noun in a different sentence or clause. Elements which do this are called 'anaphoric' and play an important role in linking sentences together and thus establishing cohesion in discourse. The types of pronouns which fulfil this function are *primarily personal pronouns*. There are, however, other types. Possessive pronouns indicate possession or at least relevance to a certain individual, e.g. *my new car* refers to a car which presumably belongs to me. *My shoe size* on the other hand refers to the size of shoe which fits me, that is the shoe size is relevant to me but is not 'possessed' by me. The same is true of usages such as *His taste in wine, Their Ireland doesn't exist anymore*.

The term 'pronoun' is used with reference to a further group of grammatical elements, demonstrative pronouns. Their function is to 'point' to a noun, often by constrasting one near from one far away, e.g. *This man and that girl are an item.* The distance can be temporal, e.g. *That linguist you met at the conference last year* and slight distance can equate with relevance as in the use of *this* in sentences like *This problem has to be solved soon*. In general, linguists use the term 'deixis' to refer to the act of pointing. both literally and figuratively, both spatially and temporally. Common functions can be recognised across word classes if viewed from a deictic standpoint. For instance, both demonstrative pronouns and adverbs have deictic functions, e.g. *Last week they went for a meal together* points back in time as does *That day we had the boring meeting*.

DETERMINER In order to have a common label for elements which can come before a noun and specify additional aspects of its usage, linguists use the term 'determiner'. This encompasses all grammatical elements which can precede a noun and are part of the phrase of which the noun is the head, e.g. *this man, that silly teacher, the capital city, my new jacket*. An inclusive definition of determiner would also encompass quantifiers, as in *All students who qualify can take part. Some teachers are not prepared for their classes.*

PREPOSITION All languages have elements for expressing temporal and spatial relationships among lexical words. Frequently, one and the same word can be used for both purposes, e.g. *in the nineteenth century* and *in the house*. Such words are prepositions and can appear in a variety of contexts. For instance, *in* can occur in a prepositional complement, e.g. *I waited in the office*, as part of a phrasal phrase, *The gangsters wanted to do him in*, as part of a sentential adverb, *In time we came to understand his point of view*. Some prepositions may involve two nouns as they express relative position, e.g. *Dark clouds were hanging over the city*. *The dog was under the table.* These cases are literal uses which are frequently matched by figurative applications, e.g. *We will not work under these conditions*, *She stayed there over a period of four weeks* where the notion of relative position is less tangible. These and similar instances illustrate a central feature of grammatical words: they are polyfunctional and the specific meaning is dependent on the context in which the word occurs. For example, the word just used, *over*, has the further meaning of 'past in time'. This interpretation is obvious from the context in which it occurs, e.g. *The party is over* can only be read with this meaning.

CONJUNCTION In spontaneous discourse complex sentences are likely to occur. When expressing a stream of thoughts, we frequently link clauses and sentences to reflect the flow, e.g. *I came downstairs and she was gone although I told her I wanted to talk to her because we hadn't a chance the night before and really it was quite important but I think she was annoyed with me and still I think she could have stayed a bit and then we would have had some time together despite the work which had to be done before she was free again.* We probably do not write such rambling sentences but they nonetheless illustrate the manner in which parts of a sentence can be linked in daisy chain fashion by using conjunctions of various kinds. The simplest conjunction is *and* which links two clauses which are not in a hierarchical relationship (the term *parataxis* is often used for this usage). Other conjunctions may signify a hierarchical relationship (the term *hypotaxis* is often used here) in which one clause is a main one and another a subordinate one, e.g. *She visited her aunt although she was pressed for time.* The type of subordinate clause is concessive in this case, another frequent type is a causal clause seen in *She glanced at the clock on the wall because her watch was broken.*

2.3 Inflectional morphology

In the remaining two sections of the current chapter a closer look will be taken at the two subdivisions of morphology mentioned at the outset. Recall that inflectional morphology comprises the endings in the grammar of a language, mainly the declensions of nouns and the conjugations of verbs but also changes made to other word classes (see above) under certain grammatical conditions. The addition of the *-e* in the genitive case of an Irish noun like *súil* 'eye' – *dath na súile* 'colour of the eye' – is a matter of inflectional morphology. The various conjugational forms of a verb are also instances of inflectional morphology, e.g. *walk, walks, walking, walked* are all forms of the verb WALK with an additional inflectional morpheme (note that the abstract form of a word, the lexeme, is written in capitals to distinguish it from actual forms which are found in italics). Inflectional morphology also encompasses the formation of noun plurals.

Languages like English, which are analytic in type (see section ??? on typology below) have very regular plurals, though languages with many grammatical endings, e.g. German and Russian, have many more plural types. In English /-s/ is the most common plural ending, but a small residue of common words have irregular plurals, e.g. *man : men, mouse : mice, tooth : teeth, ox : oxen*. The word *child* has a double plural – *children* < *child* + *er* + *en* – although neither *-er* nor *-en* are used productively in modern English. With less commonly used words, especially borrowings from Latin or Greek, there may be uncertainty about how the plural is formed, e.g. in a recent discussion about holding a referendum, this word appeared variously as *referedums* and *referenda* in the plural.

The process of attaching inflections to a lexical base is called *affixation* and there are three main types depending on the position relative to the base as outlined below.

PREFIX Any inflection which is attached to the beginning of a base is termed a prefix. Examples abound from the vocabulary of English where such elements are derivational (see next section), i.e. they form new words.

re-make	*un-kind*	*in-decent*
re-read	*un-tidy*	*in-accurate*

SUFFIX An inflection which is placed at the end of a word is a suffix. Grammatical inflections in English and in most other languages tend to occur as suffixes but many the latter also fulfil word formational functions are can be seen from the following brief selection.

kind-ly	*wait-er*	*book-s*	*walk-ed*
quick-ly	*play-er*	*mat-s*	*jump-ed*

INFIX There exists a further option, namely that of putting the affix somewhere in the middle of the word. This is a characteristic of languages from other families outside of Indo-European, for instance of Semitic: Arabic and Hebrew make much use of this possibility. In English there are practically no instances of infixation. Historically the /n/ in the verb *stand ~ stood ~ stood* may be an infix but this has never had a recognisable function in the development of the language. In contemporary English there is a case of infixation in colloquial speech. This is where an expletive is inserted into a polysyllabic adjective in order to reinforce it as in the following examples:

impossible	→	*in-fuckin-ˈpossible*
kangaroo	→	*kanga-bloody-ˈroo*
absolutely	→	*abso-blooming-ˈlutely*
boomerang	→	**ˈboome-bloody-rang*
desperate	→	**ˈdesper-blooming-ate*

There is a condition on this insertion, namely that the stress comes after infix hence the last two examples above are not permissible.

2.3.1 Other types of inflection

Apart from affixation, inflections may involve other changes, typically those which alter the shape of the base on which they operate. However, prefixes and affixes are more common and are preferred by first language learners because the base remains constant and hence easily recognisable across grammatical categories. But in English one also finds the alteration of a base vowel to show a change in tense, this applying to those verbs which are traditionally referred to as strong, e.g. *ring ~ rang ~ rung, get ~ got ~ got, speak ~ spoke ~ spoken.*

The base to which an inflection is added may affect the appearance of an affix. In Turkish, for instance, there is a phenomenon known as vowel harmony which means that an inflection must take one of two forms, back or front, depending on whether the vowel in the base to which it is attached is back or front. Contrasting examples of this would be *evlerim* ‘my houses’ (morphologically *ev+ler+im* with front vowel endings) on the one hand and ??? ‘’ (morphologically with back vowel endings) on the other.

The Celtic languages (chiefly Welsh, Breton, Irish and Scottish Gaelic) are known for a further kind of inflection called ‘initial mutation’. Here grammatical categories are indicated by changing the beginnings of words. This can be seen with nouns, e.g. Irish *a chaisleán* /x-/ ‘his castle’, *balla an chaisleáin* /x-/ ‘the wall of the castle’ < *caisleán* /k-/ ‘castle’, and with verbs in the past tense and the conditional *cónaigh* /k-/ ‘live, dwell’, *chónaigh* /x-/ ‘lived’.

Finally one should mention a situation which is rare across the forms of a language, but common because found with frequently occurring words. This is ***suppletion*** by which is meant that the forms of a word show elements from two stems with different historical sources. For instance, English *go* has the past form *went* which comes from a different verb (cf. German *wenden* 'to turn'), the two having coalesced in the course of time. The same is true of the verb *be* which contains elements from a verb *wesan* (cf. German *Wesen* 'being'), namely *was* and *were*. Indeed in this case there are elements – such as *am* – from yet another stem and the forms of the present plural – *are* – were borrowed from Scandinavian, making the verb *be* in present-day English a veritable mix of forms.

2.3.2 Status of inflectional morphology

Present-day English is an analytic language, i.e. one which does not use inflections to indicate grammatical categories but rather individual words. For instance, whereas a synthetic language like German uses a single dative form for pronouns English has a preposition with the general oblique form: *to him* or it relies on word order for the recognition of dative as a grammatical category: *He gave him the book / the book to him*, German *Er gab ihm das Buch* (*ihm* = he-DATIVE). Languages with different case forms for grammatical words tend to have flexible word order, this being exploited to highlight an element in a sentence, consider German *Ihm gab er das Buch* 'Him-DATIVE gave he the book', i.e. not to someone else.

In English the genitive is the only nominal inflectional category left. But it has been expanded in scope. There is a kind of genitive in current English known as the 'group genitive' to be seen in the sentence [*The president of Ireland*]*'s new hat* where the entire nominal phrase is treated as a single noun with the end of it carrying the *'s* of the genitive.

The group genitive is an example of the relaxation of grammatical requirements for inflection. This again characteristic of languages with little morphology. It would seem that the meaning of a sentence or phrase can override formal requirements. Consider The police have arrived, The bank have written to you where the subjects of the phrases are treated as plurals because notionally they are so. In a language like German this is impossible, there must be grammatical agreement between sentence elements, e.g. *Die Polizei ist gekommen* (not *sind gekommen* 'have come') 'The police has come'.

Morphology may very often have requirements which are at odds with the non-linguistic world which elements refer to. This can be seen clearly with nouns which are plural although their referents are singular – as with *trousers*, *jeans*, *pyjamas*; *means*, *contents*. There are also nouns which show no change, those which end in *-s* such as *series* and *species*. Still other nouns have come to be used in the singular although the reference is plural. This is often the case with the word *data*. What is happening here is that the noun is coming to be

viewed as a collective noun like *information*. Singular reference is then achieved through the use of a phrase like *an item/piece of information/data*.

2.4 Derivational morphology

This area of morphology is concerned with all types of word formation, something which involves (1) the addition of affixes to bases or (2) the linking of two bases together. These processes can be divided into two basic types, those which maintain the word-class of the input base and those which change it, often called class-maintaing and class-changing respectively. For instance, a word like *superthin* consists of two adjectives, *super* and *thin*, linked to give yet another adjective. In the case of *brainy* the noun base has an ending suffixed to it to yield an adjective, a different word class. Examples of class-maintaining derivation from English would be negation prefixing or productive verbal prefixes like that indicating repetition: *un-* in *unfriendly* and *re-* in *redo* for example.

The other major area where class-maintaining derivations are found is that of nouns. Here the process of compounding is the major type, take a simple example like Irish *gearrscéal* 'short story' which consists of the adjective *gearr* 'short' and the nouns *scéal* 'story'. Another example would be *leathscéal* 'excuse' from *leath* 'half' and *scéal* again.

Instances of word-class changing suffixation abound and can be quoted at random, e.g. *-ly* in *kingly*, *womanly*; *-ish* in *sheepish*, *foolish*. The change is not compulsory, this depends on the input form. Thus with *pink* : *pinkish* there is no change. There may also be an alternation in the stem on suffixation. For instance with adjectives deriving from country names this is common: *Spain* : *Spanish*; *Denmark* : *Danish*. The input word-classes for word formation vary greatly and will be discussed in more detail below.

Derivations in a language can be either transparent or opaque. They are transparent when the speaker immediately recognises the elements of which they are composed, e.g. *undoable* obviously consists of *un* + *do* + *able*. However, where the derivational process is not productive the matter becomes more difficult. Native speakers of English recognise that *warmth* is derived from *warm* + *th*. But when the vowel of the derived form is different from that of the base the case becomes less clear: *health* is derived from *heal* and would probably be recognised as such after a little reflection on the part of the native speaker. But if there is a change in vowel quality *and* if the meanings of the input and derived forms are different then the derivation can be justifiably termed *opaque*, that is the native speaker cannot recognise it intuitively. An instance would be *foul* and *filth*. The second word is from Old English *fylþ*. Before this the form was *fulþi*. Here one sees the /u/ which was in the adjective *foul* (the pronunciation /au/ results from an earlier /u:/). However, this is an historical explanation which is not part of contemporary speakers' intuitions.

2.4.1 Types of word formation

Word formation in the broadest sense refers to the techniques employed in a given language to create new, complex lexical items from existing simple ones. These processes can be subdivided into a number of types. The first distinction is between those processes which are active in the present-day language and those which are fossilised. The former are termed ***productive*** while the latter are ***lexicalised***, i.e. are no longer transparent to native speakers of the given language (see previous paragraph). Consider the ending ***-wise*** in present-day English which is productive.

> *Flatwise Dublin is not the best of places to be in.*
> *Moneywise he seems to be managing quite well.*

Lexicalised endings are those which cannot be used in new formations. The ending ***-th***, as in ***warmth***, ***breadth***, etc. was mentioned above. Another instance is ***-dom*** as in ***freedom, kingdom wisdom***. This class is limited and no new members occur.

In the discussion of morphology so far the general term ***base*** has been used without further discussion. But in fact this requires a few further distinctions to be useful and accurate in an examination of word formation. Strictly speaking, a base refers to any unit to which any affix can be added (and in this meaning it has been employed in previous paragraphs of this chapter). Hence in derivational morphology one speaks of bases as these can take prefixes and suffixes used for word-formational purposes. You can view stems as a subgroup of the class of bases in a language.

Base:	***big ~ bigger***	(comparative: inflection)
Base:	***big ~ biggish***	(new adjective: derivation)

If the internal structure of bases are considered then one can recognise a subdivision into two main types. A ***root*** is the irreducible core of a word, that part which cannot be broken down further. There are many roots in English which are also bound morphemes as seen in the following examples (all of these are ultimately words borrowed from Romance languages, chiefly French or Latin).

-mit	*permit, remit, commit, admit*
-ceive	*perceive, receive, conceive*
pred-	*predator, predatory, depredate*
sed-	*sedate, sedentary, sediment*

A ***stem*** is the part of a word which exists before any inflectional material is added to it. A stem may be a root as in ***house***, ***dog***, ***girl*** but may already be

complex, for instance where an element has been added to a root for some word formational reason. Consider the following examples where the stem is the result of deriving a noun from a verb. The inflection is then added to the result by suffixation.

worker (← *work* + *er)*	**à**	*worker-s*
drinker (← *drink* + *er)*	**à**	*drinker-s*

Not every instance of a stem, however, can be analysed as a root and a transparent ending. For instance, *butter* does not consist of *butt* + *er*.

2.4.2 Further issues in word formation

ANALOGY This is often a factor in the formation of new items. By analogy is meant that an existing word formational pattern is used to create a new word which is formally similar to that which acts as model. Thus in English one has *landscape* and certain new formations like *cloudscape, seascape, waterscape* by analogy.

WORD FORMATION AND SPELLING In many cases the spelling of a new formation may show the loss of one or more letters as in *writer* (from *write* and *er*) or an increase as in *skinny* (from *skin* and *y*) with double *n*. This is an orthographical matter and not of linguistic interest.

Another issue here is whether compounds are written together, hyphenated of with a space between the elements. There is a large degree of variation here, especially among varieties of English. When deciding whether two separately words are actually a compound the stress provides the clue: where the first word has primary stress and the other secondary stress one is dealing with a compound ortherwise with a syntactic phrase. Thus *fieldwork* [ˈfiːld͵wɜːk] is a compound whereas *field size* [ˈfiːld ˈsaɪz] is not. Of course, semantics can also be considered, i.e. *field size* is the 'size of a field' whereas *fieldwork* is not *work in a field* (in a literal sense).

WORD FORMATION AND SYNTAX In many analyses of word formation, linguists have attempted to set complex lexical items in relation to an underlying sentence. This was first practised seriously by early generative grammarians (in the late 1950s and early 1960s) and has been shown to be a valid and insightful means of analysing the internal structure of many compounds. To this end one can distinguish at least four basic types:

1) SUBJECT TYPE as in *shoemaker* which derives from *someone makes shoes*.
2) PREDICATE TYPE as in *waterfall* which derives from *water falls/is falling*.

3) OBJECT TYPE as in *drawbridge* from *someone draws the bridge*.
4) ADVERBIAL TYPE as in *writing table* from *someone writes at the table*; *closing time* from *someone closes at a certain time*.

The above types can be described more specifically by taking into account the exact grammatical relation in which the elements of the compound stand to each other. This then yields further sub-types as shown in the following instances.

1) SUBJECT-PREDICATE TYPE For instance *earthquake* from *the earth quakes*; *sunrise* from *the sun rises*.
2) PREDICATE-OBJECT TYPE Words like *bloodshed* from *blood is shed*; *handshake* from *someone shakes someone's hand*.
3) PREDICATE-ADVERBIAL TYPE For instance *boatride* from *someone rides on a boat; jetflight* from *someone flies on a jet*.

ASSIGNMENT OF STRESS Most adjectival formations in English conform to phonological and morphological rules. Affixes can be divided into two types, neutral (1) and non-neutral (2). The latter are those which affect the base phonologically usually by attracting stress. For example, in the case of *-ic* one is dealing with a pre-accenting suffix (1) whereas *ee* is an auto-stressed suffix (2).

(1)	ˈ*strategy*	*straˈtegic*	ˈ*morpheme*	*morˈphemic*
	ˈ*Mongol*	*Monˈgolian*	ˈ*grammar*	*graˈmmarian*
(2)	*deˈtain*	*detaiˈnee*	*emˈploy*	*employˈee*
	ˈ*China*	*Chiˈnese*	ˈ*kitchen*	*kitcheˈnette*

In the first set (pre-accenting suffix) the stress shift also causes lengthening of the vowel (as in *strate*[iː]*gic* above). This is because there is a general correlation of syllable stress and vowel length in English. This is reinforced by the fact that unstressed syllables are usually short (unless diphthongs: ˈ*pillow*, ˈ*futile*) and reduced to schwa if the input is a short vowel: ˈ*sofa*, *caˈnal*, ˈ*children*).

The above suffixes are all of Romance origin, deriving from French or Latin often from the latter via the former. For a small number of words from the core of the lexicon there are similar native suffixes.

broad ~ breadth *wide ~ width* *long ~ length*

The term *lexicalised* is used to describe such cases. What is meant here is that no new formations on the basis of this pattern can occur. It is true that at some stage in the development of the language the pattern must have been productive, otherwise the forms would not exist, but in contemporary English they do not form a model for new words. Lexicalised formations need not be remnants of previous productive formations, there are also seemingly arbitrary instances.

For instance, the adjectives from city names in England are good examples of this, consider *Liverpool* with the adjective *Liverpudlian*, *Manchester* with *Mancunian*, *Glasgow* with *Glaswegian*.

2.4.3 The mixed lexicon

Due to the many loanwords from French which entered English mainly in the Middle English period (*c* 1100-1500) the lexicon of the language has divided into two main parts, an older Germanic one, containing all those elements which were not borrowed, and a more recent Romance one, with elements from French. These borrowings not only consisted of entire words but also of derivational affixes which have come to be semi-productive in the course of time.

GERMANIC AFFIXES The ending *-hood* is found chiefly with Germanic bases (compare German *-heit*, Swedish *-het*). Due to the integration of Romance loans, some may co-occur with this suffix, but the number is limited and there are many instances where such formations are not permissible.

> *boy-hood, child-hood, girl-hood; *judge-hood, *author-hood*
> *parent-hood, nation-hood*

As a relic of former stages of the language English has some Germanic suffixes which are not attached to Romance bases and which are not productive with Germanic bases either. A good example of this is the ending *-dom* (cf. German *-tum*) as in the following instances.

> *king-dom, free-dom, serf-dom*

ROMANCE AFFIXES The affixes which entered English from French already had funcctional equivalents of Germanic origin. For instance, the ending used on a noun indicating someone who performs an action is *-er* in English (equivalents are found in other Germanic languages), e.g. *reader, speaker, drinker*. The French ending with the same function is *-ant* which is found only with French loanwords

claim	→	*claimant*	*serve*	→	*servant*
inhabit	→	*inhabitant*	*combat*	→	*combattant*
take	→	**takant*	*put*	→	**puttant*

Like many suffixes this is semi-productive. By this is meant that it occurs frequently but not in all possible cases. There are some instances of stems of Romance origin which take the Germanic ending *-er* such as *destroy* with

destroyer, not ****destroyant*** as the agent noun. The same applies to ***perform, employ, entertain*** for instance.

In some instances there is a semantic distinction between an agent form with the Germanic suffix and one with the Romance suffix. Consider ***defender*** 'one who defends' as in ***a defender of the faith*** and ***defendant*** 'the accused in a court of law' as in ***the defendant had a good lawyer***. This example illustrates a general principle in linguistic development: if two forms with the same function exist, then they tend to separate out semantically and acquire different meanings. The other option is that one of the forms dies out, for instance the verb ***take*** in English is a Scandinavian borrowing and completely replaced the Old English word ***niman*** which had the same meaning.

2.4.4 Phonological processes in word formation

In English there are many cases of unexpected variation in the sounds of words derived from a base. For historical reasons these have developed, posing difficulties for learners of the language as there is normally no set rule for guessing what change takes place. However, one can generalise and say that the changes mainly involve a shortening of vowels when a disyllabic form becomes trisyllabic. There may be a change in the stressed syllable as the trisyllabic forms are nearly all stressed on the middle syllable and many of the input forms have initial stress.

ˈauthor	:	*auˈthority*	*commerce*	:	*coˈmmercial*
sane	:	*ˈsanity*	*seˈrene*	:	*seˈrenity*
ˈtutor	:	*tuˈtorial*	*proˈfound*	:	*proˈfundity*
part	:	*ˈpartial*	*diˈvine*	:	*diˈvinity*
oˈbey	:	*oˈbedient*	*eˈxample*	:	*eˈxemplary*
ˈnumber	:	*ˈnumerous*			

Apart from vowel shortenings and changes there are processes which lead to a change in consonant in a derived form. This process is called ***velar softening*** as the velar stop /k/ is shifted to the alveolar fricative /s/; it is only found among French loanwords.

critic	~	*criticism*	*fanatic*	~	*fanaticism*
ascetic	~	*asceticism*	*sceptic*	~	*scepticism*
electric	~	*electricity*			

It also applies to verbs if they can be derived from an adjectival input: ***criticise***, ***fanaticise***. In some cases there are alternations between three possible sounds depending on the word class involved, for instance the change of /t/ to /ʃ/ or /s/ between verb, noun and adjective as seen in the following examples.

permit /-t/	~	*permission* /-ʃ-/	~	*permissive* /-s-/
submit /-t/	~	*submission* /-ʃ-/	~	*submissive* /-s-/

Summary

- *Morphology* is concerned with the study of word forms. A *word* can best be defined in terms of *internal stability* (is it further divisible?) and *external mobility* (can it be moved to a different position in a sentence?).
- A *morpheme* is the smallest unit which *carries meaning*. An *allomorph* is a *non-distinctive* realisation of a morpheme.
- Morphology can further be divided into *inflectional* (concerned with the endings put on words) and *derivational* (involves the formation of new words).
- *Affixation* is the process of attaching an inflection or, more generally, a bound morpheme to a word. This can occur at the beginning or end and occasionally in the middle of a word form.
- Morphemes can be classified according to whether they are *bound* or *free* and furthermore *lexical* or *grammatical*.
- *Word formation* processes can be either *productive* or *lexicalised* (non-productive). There are different types of word-formation such as *compounding*, *zero derivation* (conversion), *back formation* and *clipping*.
- For any language the distinction between *native* and *foreign* elements in the lexicon is important. In English there are different affixes used here and stress also varies according to the historical source of words.

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