6.   Verbs

Nouns and verbs are the two basic word classes of language. Almost every sentence contains both. Verbs are primarily used for predication, and nouns for reference, where the referring NPs provide the arguments for the predication expressed with the verb. Chapter 4 dealt with the major aspects of reference and NP semantics. Now we will turn to the semantics of verbs. As we saw in the previous chapter, sentences may contain several nested predications. One of them is the central predication around which the whole sentence is organized. Recall the first example from chapter 5, repeated in (1a) below. The sentence contains five predications. The central predication is the one expressed by the verb sent, while the other predications, expressed by Johnny, money, dubious and company serve to specify the arguments of the central predication. It is the central predication that is subject to negation if the sentence is negated, as it is in (1b). And it is the central predication to which the temporal information applies that is expressed by aspect and tense, which are not accidentally realized by the choice and the form of the verb, in this case past perfective (see 6.3 and 6.4 below).

(1)   a.   Johnny sent money to a dubious company.

         b.   Johnny didn't send money to a dubious company.

There are languages which, in certain cases, can express the central predication without using a verb. These would be predications by means of adjectives, nouns or PPs in languages which do not use a copula. For example, in Russian the equivalents of the English sentences *I'm a linguist*, *I'm in Moscow*, *I'm stupid* would just be expressed as 'I – linguist', 'I – in Moscow', 'I – stupid'. Most sentences, however, contain a verb for their central predication. In many languages, including English, there are no sentences without a verb.

In all languages, verbs constitute a large part of the lexicon; English has tens of thousands of them. Verbs express actions *to walk*, processes *to melt*, events *to explode* and states *to know*. The situations expressed are of a temporary nature, they may apply for long or short periods; they are located and ordered in time. Also the situations may have an internal temporal structure such as one state changing into another, an activity coming to an end or a process beginning. Therefore, temporal aspects of predications with verbs are one central issue of verb semantics. We will turn to them in the sections 6.2 to 6.5 on situation structure, aspect and tense. The other central issue is the fact that verbs almost always express a predication about not only their own referent but also about one or more additional arguments. In this respect they can be compared with relational nouns (5.4.1.2). Thus, while most nouns are one-place predicate terms, most verbs are multi-place. The situation to which a verb refers does not exist independently, but it manifests itself in certain temporary conditions of the participants. The only exceptions are zero-place verbs such as *rain* or *thunder* which apply immediately to the situation referred to. Verbs differ in the number of arguments and the roles these inhabit (5.3). We will turn to general aspects of argument structure in a minute.

Investigating the argument structure of verbs on the one hand and the temporal structure of the situations expressed on the other will enable us to distinguish major subclasses within the vast number of verbs. In addition, this chapter will deal with grammatical meaning in more depth than any other chapter of the book. We will treat three general issues of verb grammar: diatheses (such as passive), aspect and tense. What we will not deal with is the complex issue of mood and modality, i.e. of elements like the modal verbs and auxiliaries written in italics in (2):

(2)   a.   She *can/may/must/shall* go home.

       b.   She *could/might/should/would* go home.

Dealing with general aspects of verb semantics, you will realize a very important general trait of language: language is not just a matter of depicting reality 1-to-1, but rather a matter of describing reality selectively and from one particular perspective out of many possibilities.

6.1   Argument structure, diatheses and alternations

6.1.1   Argument structure

Verbs not only differ in the number of arguments, but also in the constellations of thematic roles. Action verbs have an agent argument, others do not. Verbs of movement have locational arguments such as GOAL, SOURCE or PATH, in addition to the role of the AGENT or THEME moving. Verbs of sensation or perception have an EXPERIENCER argument. Among the possible arguments of a verb predication, there are **core arguments** (one, two, or at most three). These are typically syntactically obligatory and appear as subject, direct object or indirect object. AGENT and THEME/PATIENT are always core arguments. The other arguments are of a more peripheral nature; they appear as **oblique complements** (or **adjuncts**), for example in the form of prepositional phrases. They are typically optional and not included in the lexical verb concepts; such peripheral optional arguments include, for example, INSTRUMENTS. Syntax provides for a privileged status of one argument of the verb, featuring it as the subject of the sentence. There is a hierarchy among the arguments of a verb. If there is an AGENT or EXPERIENCER, i.e. a participant which is typically human, it will appear as the subject of the sentence. In absence of such a role, other arguments may be assigned the subject status. Recall the variants of the verb *open* in (19), chapter 5: if there is an AGENT involved, it will appear as the subject; in absence of an AGENT, an INSTRUMENT, if involved, will assume subject status; if there is neither an AGENT nor an INSTRUMENT specified, the lowest ranking THEME appears as subject.

6.1.2   Voice, diatheses and alternations

The core argument structure of a verb can vary and it can be changed by certain grammatical operations. We encountered verbs with varying argument structure in Chapter 5 (*eat*, *give* and *open*). These variations are technically called **alternations.** Alternations come with different syntactic constructions, e.g. with or without a direct object, but without a change of the form of the verb; we will turn to them in 6.1.3. The more general term for changes of argument structure is **diathesis** (plural: diatheses); it also covers morphologically marked variation of the argument structure, like passive in English. We will briefly have a look at four diatheses: passive and antipassive, causative and anticausative.

6.1.2.1 Passive and antipassive

We mentioned **passive** in 5.6.1. In English, the common passive[1] is formed by combining the past participle with the auxiliary *be*. It is only possible with agentive verbs with a further argument. One of the further arguments becomes the subject argument, while the subject of the active sentence is either dropped are turned into a *by*-PP. (3) gives the passive versions of some sentences.

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[1]   There is also the so-called *get*-passive as in *He got injured in the fight*, which will not be discussed here.

(3)   a.   *active*:   The boy (AGENT) watched the man (PATIENT).
            passive: The man (PATIENT) was watched [by the boy (AGENT)].

      b.   *active*:   She (AGENT) threw the letter (THEME) into the shredder (GOAL).
           passive: The letter (THEME) was thrown into the shredder (GOAL) [by her (AGENT)].

      c.   *active*:   She (AGENT) taught Dutch (THEME) to the immigrants (RECIPIENT).
           passive: Dutch (THEME) was taught to the immigrants (RECIPIENT) [by her (AGENT)].

      d   *active*:   She (AGENT) taught the immigrants (RECIPIENT) Dutch (THEME).
           passive: The immigrants (RECIPIENT) were taught Dutch (THEME) [by her (AGENT)].

The three-place verb *teach* alternates between two constructions, corresponding to different passive constructions. The application of passive has two effects: a former non-subject argument NP is 'promoted' to the privileged function of subject. At the same time, the former subject is 'demoted'; it is either dropped altogether or degraded to an optional oblique argument, peripheral to the predication. Thus, the number of core arguments is reduced by one. In German, the number of core arguments can be reduced to zero, if the verb has an AGENT as its only argument. There are sentences like those in (4); in English the same effect can only be achieved with impersonal active constructions using *they*, *one*, *you* and other impersonal expressions as subject. This is a secondary way in English to demote the subject argument.

(4)   a.   Hier wird gearbeitet.   (German)
           here work.PASS.PRS.3SG
           lit. 'here is worked ' = 'people/they/you work here)

      b.   Gestern   wurde   gestreikt.   (German)
           yesterday strike.PASS.PAST.3SG
           lit. 'yesterday was striked' = 'they went on strike yesterday'

Antipassive in English consists of demoting the direct object argument by omitting it. It removes the THEME/PATIENT argument from the set of core arguments. English does not mark antipassive by a different form of the verb, but there are languages that do. Thus, antipassive in English is a matter of alternation of certain verbs. We already looked at one example of this in the previous chapter: the use of *eat* without a direct object:

(5)   *active*:   She (AGENT) ate her cereals (THEME).
           antipassive: She (AGENT) ate.

The omitted THEME/PATIENT argument is interpreted as ›something/someone‹ depending on the selectional restrictions of the verb for this argument. The antipassive alternation with *eat* is responsible for the inconclusive status of the object argument (recall the discussion in 5.3.3 on the number of arguments of the verb). In fact, *eat* can be used in different **voices.** In the active voice, AGENT and THEME are both obligatorily specified, by subject and direct object, respectively; in the antipassive voice, only the THEME is specified, by the subject; in the passive voice, the THEME obligatorily appears as subject, while the AGENT may optionally be specified with a *by*-phrase. Thus, the number of arguments of a verb is not just a matter of the verb as it is lexicalized, but a matter of the verb and the voice in which it is being used.

Antipassive is not possible with all transitive verbs. A minimal pair often quoted is *eat* as opposed to *devour,* which does not allow omission of the object.

6.1.2.2 Causative and anticausative

The **causative** diathesis has the opposite effect of passive: it adds a core argument. The causative of *drink*, for example, means ›let drink‹ or ›have drink‹. It introduces a new AGENT, the 'causer' and turns the original subject argument into a PATIENT, the 'causee'. The causer appears as the subject of the sentence, the causee as direct or indirect object. (6a, b) are examples from Japanese. Japanese has a suffix –(s)ase- attached to the stem of the verb which turns it into a causative:

(6) a. kodomo ga   biiru   o   nonda. (Japanese)
       child   NOM beer   ACC   drink.PAST
       'The child(ren) drank beer'.

    b. obaasan   ga   kodomo   ni   biiru   o   nom- ase- ta
       grandma NOM child   DAT   beer   ACC   drink- CAUS PAST
       'Grandma had/let the child(ren) drink beer.'

The causative form in Japanese has a weak reading of allowance and a strong reading of causation. English has no grammatical causative. There are three options of expressing causation: (i) using, if possible, the same verb in a causative construction: intransitive *open* > transitive *open*; (ii) using a corresponding lexicalized causative verb: *eat* > *feed*, (iii) combining the verb with auxiliary-like *have* or *let*: *eat* > *have eat*, *let eat*. Neither (i) nor (ii) constitute *general* options for English verbs. By contrast, the Japanese causative can be applied to almost all verbs. The third type of construction, too, is generally available; *let* carries the weak meaning, *have* the strong meaning, but lexically causative verbs like *feed* 'make eat', *teach* 'make learn', *show* 'make see', *kill* 'make die' and very many others only have the strong reading of causation. The same holds for lexically causative verbs in Japanese, for example for *oshieru* 'teach', *korosu* 'kill', *miseru* 'show', etc.

In Japanese, passive can be applied to causatives. First, the causative introduces a causer into the argument structure, then passive demotes or eliminates the causer. What remains is the element of causation in addition to the event as such that is expressed by the original verb. Compare (6c) to the simple active sentence in (6a):

(6) c. kodomo ga   biiru   o   nom- ase rare- ta.   (Japanese)
       child   NOM beer   ACC   drink- CAUS PASS PAST
       'someone let/had the child(ren) drink beer'

Anticausative is a diathesis that removes a causer AGENT from the set of core arguments. We already encountered the example of intransitive *open*. Another example would be *break*, *widen* or *burn*:

(7) a. She (AGENT) opened the door (THEME).
      anticausative: The door (THEME) opened.

    b. She (AGENT) burnt his letters (THEME).
      anticausative: His letters burnt well.

Unlike with the antipassive and the passive, the argument omitted is not understood as still being involved. Along with the causer agent, the whole meaning component of causation is eliminated; (7a) does not mean ›someone/they opened the door‹ – although we might infer causation from our world knowledge. Likewise, (7b) does not mean that someone burnt the letters. In German and other languages, including Spanish, the anticausative is expressed by using a reflexive pronoun as object. The reflexive pronoun is a semantically empty grammatical element that just fills the object position required by the syntax for the originally transitive verb.

(8)   Die Tür (THEME) öffnete sich.   (German)
        lit. 'the door opened itself'

6.1.3   Levin's classification of verbs

Levin (1993) used alternations of verbs in English for a systematic semantic classification of more than 3,000 English verbs. According to her, verbs with the same patterns of syntactic constructions and alternations among them have certain meaning components in common, and these are responsible for their syntactic behaviour. In the first half of her book, Levin describes eighty alternations in English, where an alternation is defined by a pair of constructions applicable to the same verb, but differing in the choice and linking of the arguments involved. For example: active–passive, active–antipassive or transitive–anticausative would be alternations. In the second half, she defines fifty-seven major verb classes (many with several sub-classes) in terms of the alternations which they do or do not exhibit. We will take a look at a few sample classes, mainly concerning verbs we have already encountered.

Open. The verb *open* belongs to a subclass of class 45, 'Verbs of change of state' (pp. 240 ff). They share the 'causative/inchoative alternation' and the 'instrument subject alternation'. Due to the causative/inchoative alternation, there is a transitive version verb with an AGENT subject and THEME object (*she opened the door*) along with the corresponding anticausative 'inchoative' variant (*the door opened*). The instrument subject alternation allows the use of an INSTRUMENT subject (*this key opens the door*). There are further, minor, alternations possible for this class. Other verbs belonging to the larger class are *break*, *bend* and *bake*.

Eat. *Eat* and *drink* form a subclass of class 39, 'Verbs of ingesting' (pp. 213 ff). Most of them allow an antipassive use, which Levin captures with the 'unspecified object alternation': the THEME object can be omitted (*Kate ate*) and is understood as existing, but not specified. In addition these verbs exhibit the 'conative alternation':

(9)   a.   Sheila ate the sashimi.

       b.   Sheila ate [at] the sashimi. (conative)

The conative variant means that the act of eating is related only to parts of THEME – Sheila may be just nibbling at the sashimi, while the basic construction expresses that THEME is affected as a whole. Note that this alternation is impossible with verbs such as *open*.

Give. *Give* is representative of a larger subclass within class 13, 'verbs of change of possession' (pp. 138 ff). Most of them exhibit the 'dative alternation' between, e.g. '*give* RECIPIENT THEME' and '*give* THEME *to* RECIPIENT'. Similar verbs are *pass* and *offer*. The dative alternation is also possible for *send*, but this verb belongs to class 11, 'Verbs of sending and carrying' (pp. 132 ff).

Shave. *Shave* belongs to class 41, 'verbs of grooming and bodily care'. It has a transitive AGENT–PATIENT use and an intransitive use (*he shaved*), where the PATIENT is understood to be the AGENT him- or herself. Levin calls this the 'understood reflexive object alternation'. Like antipassive, this alternation eliminates the direct object from the construction, but its semantic effect is different (note that *Kate ate* does not mean 'Kate ate herself'). In languages with a more extensive use of reflexive pronouns or verb forms, the equivalent alternation would make use of a reflexive pronoun object:

(10) a. *transitive*: Das Kind (AGENT) wusch   die Puppe (PATIENT). (German)
the child   washed   the doll.

   b. *reflexive*: Das Kind (AGENT) wusch   sich.
the child   washed   REFL

This group includes verbs such as *wash*, *dress* or *comb*.

Marry. *Marry* is a 'verb of social interaction' (class 36, pp. 200 ff). There are two characteristic alternations; some verbs of social interaction exhibit the first, others the second:

(11) *simple reciprocal alternation*

    a.   Eunice and Eugene hugged/kissed/married.

    b.   Eunice hugged/kissed/married Eugene.

understood reciprocal object alternation

    c.   Eunice and Eugene quarrelled/fought/agreed.

    d.   Eunice quarrelled/fought/agreed with Eugene.

In (11a and c), the subject is an NP conjunction that refers to two arguments; alternatively the subject may make use of a collective noun (*the team*, *the pair*, *the family*). The persons referred to inhibit the same role in the situation; there is no asymmetry as between the usual AGENT and PASSIVE, where the AGENT is in an active role and the PATIENT in a passive one. The construction in (11b) is asymmetric, and it does allow for an interpretation where the subject referent plays a more active role. (11d) is syntactically asymmetric, but the understanding of the two roles is reciprocal.

6.2   Situation structure

Levin's classification does not relate to the temporal structure of the situations expressed by the verbs. The temporal or **situation structure** of the situations expressed by verbs is by far not as manifold as Levin's classes. There are a number of terms for what is captured with this kind of classification of verbs: there is the traditional term 'aktionsart(en)' (German, lit. 'kind(s) of action'), others talk of 'inherent aspect' or 'aspectual class'. We will use the term 'aspectual class'. All these terms are motivated by the fact that these classes are relevant for understanding the interaction of verb meaning and aspect. Some distinguish only three or four, others more, up to the magnitude of twenty (Russian 'aktionsarten'). Thus, classifications of verbs according to situation structure are much more general than Levin's classes. The main aspects of situation structure are whether a verb is stative or dynamic, whether it conceives of the situation as simple or complex, and whether the verb concept provides a criterion for the completion of the event denoted. I will introduce five classes in this section, and take a look at their interaction with aspect in 6.3.

When talking of aspectual classes, it is most important to realize that the classification applies to linguistic expressions and their meaning, NOT to types of situations in the world, such as events, activities, processes, states, etc. Unfortunately the literature in this field is often inconsistent in this regard. You will find formulations like '*work* is an activity'. This is a confusion of semiotic levels; it should be: *work* is an activity VERB and its meaning an activity CONCEPT.

6.2.1   Accomplishment terms
Accomplishment expressions conceive of a situation as a process or activity that leads to a specific result. The process or activity is conceived of as uniform and as involving some sort

of constant change; it 'culminates' in the result specified. Accomplishment verbs, i.e. verbs that by their very lexical meaning express an accomplishment are hard to find in English. But accomplishments can be easily expressed by the combination of certain transitive verbs of action with an object NP: *eat an apple*, *write a paper*, *build a house*, *drive to the station*.

Let us take a closer look at *eat an apple*. The expression depicts a situation denoted as a particular activity of the AGENT (let us assume for the sake of illustration that the AGENT is a person) and that they perform their activity on the THEME: the AGENT bites off pieces of the THEME, chews them and swallows them, making the THEME smaller and smaller. This ongoing activity can be referred to in the progressive mode: *She is eating an apple*. Eventually, the AGENT may have reached the end of their activity by having eaten as much of the THEME as there is to be eaten (people differ in their eating habits as to which parts of the apple they actually eat, some peel it, some leave the core, some eat everything except the stalk; but this does not matter). Thus, apart from the THEME chosen for the example, the concept ›eat an apple‹ specifies two ingredients of the situation expressed: (i) the kind of process or activity going on and (ii) a criterion for its culmination and completion. These ingredients constitute an accomplishment concept.
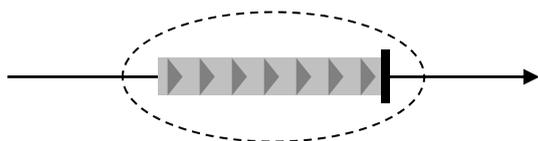
Figure 6.1 Structure of an accomplishment concept

In Figure 6.1, the horizontal arrow represents the time line; there is a certain period, or stage, of uniform activity or a process in time represented by the grey rectangle covering a section of the time line; the little triangles indicate the uniform and culmination-oriented dynamicity of this phase; the bold vertical stroke signifies the culmination point. The broken-line ellipsis encircles the whole situation. This is what an accomplishment term refers to: the dynamic activity or process together with its culmination.

It is very important to realize that situations in the world are not accomplishments by themselves, or of any other aspectual class. When you read this text, there is a situation where you are looking at your screen or tablet or holding a copy of this book, looking at it, reading the words, trying to make sense of them. Describing the situation, you might opt for putting it as an ongoing accomplishment, by saying (12a), or you might choose to say (12b), putting it as just an ongoing activity without formulating a description that provides a criterion of completion for the ongoing situation.

(12) a. I'm reading the section on accomplishment terms.

b. I'm reading in the verbs chapter.

Thus the difference between an activity as part of an accomplishment and the mere activity does not lie in the actual events; it lies in the way one chooses to describe them, and in the conceptual distinctions which a speaker chooses to apply.

It must be cautioned that the term 'accomplishment' is not restricted to human or animate actions, i.e. to situations with an AGENT argument. There are also concepts for non-agentive processes with a specified result, but these verbs are rare; *evaporate* would be one. As it hap-

pens, however, the term 'accomplishment' is so solidly established in the literature that a more neutral term never came up.

6.2.2   Activity and process terms

Activity concepts lack a criterion of culmination. We will use the more general term 'process' in order to also capture expressions that lack an AGENT argument. The structure of a process concept is depicted in Figure 6.2.
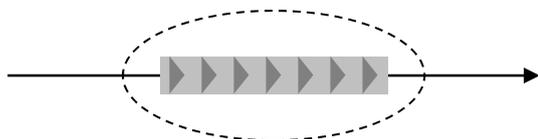
Figure 6.2 Structure of a process concept

Typical process terms are intransitive verbs that denote some manner of acting by the AGENT – *eat*, *work*, *sleep*, *sing*, *read*, *walk*, *jog* – or a process involving the THEME, e.g. intransitive verbs such as *glide*, *flow*, *buzz*, *vibrate*. Due to the process component of the concept, process terms, too, can be used in the progressive.

Accomplishment and activity predications with the same verb. A very important point to observe with verbs of activity like *eat*, *write*, *read*, *build* is that the specification of the object will determine whether they yield an accomplishment or an activity predication. If the activity is such that you perform it only once on a given object (like eating or writing, but not necessarily watching or singing), specification of a quantity of the object argument ('quantized object') will lead to an accomplishment predication. But bare plurals or bare mass nouns do not fix a quantity and therefore provide no criterion for the activity being completed. Thus, only sentences like those in (13a) can be taken as accomplishment predications, while those in (13b) express activities.

(13) a. *quantized THEME*   she ate an apple / the apple / three apples / all the apples …

      b. *non-quantized*   she ate apples /soup

In addition, it must be cautioned that some activity verbs with a quantized object may be taken in a conative sense like in (9b). If so, they take on an activity meaning, because the conative voice excludes the culmination of the activity. Thus the conative voice can be understood as removing the culmination component from an accomplishment concept.

For a large group of verbs, the accomplishment character with quantized objects (in non-conative voice) depends to some degree on context. These are verbs for actions which are connected to specific aims, where the aim may be accomplished or not, or be accomplished more or less, when the action is performed. Consider the transitive *wash the clothes*, or the implicitly reflexive *wash* or *tidy the bedroom*. These activities are aimed at achieving certain results, like the THEME or AGENT's body being clean or the THEME being tidy, respectively. The intended results are part of the meaning, because the kind of activity these verbs refer to is largely left open in the verb meaning except for the criterion that they lead to the result to be achieved. (Just think of the completely different activities involved with washing clothes by hand or by using a washing machine – both are 'washing clothes'). If someone says 'I've washed / I've washed the clothes / I've tidied my room', these will by default be taken as re-

ports of accomplishments, as activities which reached their goal. But the same expressions can also be used for referring to the mere activities which may or may not have succeeded.

There is a standard diagnostic for distinguishing the accomplishment sense from the mere activity sense. With accomplishment predications one can add an ***in*-adverbial** for specifying the time it took to complete the situation:

(14) a. He ate an apple in 30 seconds.

b. He washed in 3 minutes.

c. He tidied his desk in half an hour.

For mere activities, one can add a ***for*-adverbial** that specifies the length of time during which the activity was carried out, leaving open whether the aim was achieved or not.

(15) a. He washed for 3 minutes (but it didn't make much of a difference).

b. He tidied his desk for half an hour (but it didn't make much of a difference).

For accomplishment predications, *for*-adverbials are impossible – or the predication must be shifted to a different reading. Consider (16a) and (16b):

(16) a. Sheila drank a cocktail for two hours.

b. Sheila drove to the bar for 20 minutes.

(16a) coerces a conative activity reading. (16b) is odd if it is to be taken in the sense that Sheila engaged for 20 minutes in the driving-to-the-bar activity. The sentence does have an acceptable reading if the adverbial *for 20 minutes* is taken to specify the duration of Sheila's stay at the bar. But then, the *for*-adverbial relates not to the situation referred to, but to the state resulting from it. Thus, we have to be careful when applying the *for*-test: the adverbial must be taken to apply to the situation itself.

Conversely, an *in*-adverbial coerces an accomplishment reading on an activity verb:

(17) She jogged in ten minutes.

This sentence would be understood as expressing that the AGENT did her standard quantum of jogging in ten minutes; ›do one's standard quantum of jogging‹, is an accomplishment concept.

Let me sum up what we have said about accomplishment and process terms. Both refer to a situation as having a dynamic process component. The process component is a uniform dynamic situation of some kind that continues in time. In addition, accomplishment concepts contain a criterion of culmination. We mentioned three linguistic characteristics which can be used as diagnostics. Both, accomplishment and activity terms can be used in the progressive, relating to the ongoing process. Accomplishment terms can be combined with *in*-adverbials that specify the amount of time consumed till the situation is completed; process terms cannot. Process terms can be combined with *for*-adverbials that specify the overall duration of the process; accomplishment terms cannot. Application of the 'wrong' adverbials either does not relate to the situation itself or coerces a meaning shift of the VP.
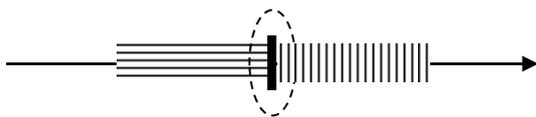
6.2.3 Simple change and achievement terms

Many verbs express just a simple change: the THEME or AGENT is in a certain condition before, and in a different condition after the event. Let us refer to these conditions as the initial condition and the resultant condition. (18) lists a few examples:

(18) *predication*   *initial condition*   *resultant condition*

a.	She entered the room.	she is not in the room	she is in the room
b.	She turned the TV on.	the TV is not on	the TV is on
c.	She stopped.	she is moving	she is not moving
d.	She started reading.	she is not reading	she is reading
e.	She left.	she is here	she is not here
f.	She died.	she is alive	she is not alive
g.	The door opened.	the door is not open	the door is open
h.	The letter arrived.	the letter is on its way to its destination	the letter is at its destination
i.	She reached the top.	she is climbing to the top	she is at the top

Simple change predications always presuppose that the initial condition holds prior to the change (recall 4.7.2.2); otherwise this kind of change would be logically impossible. The initial condition may be a dynamic process, as in (18c, h, i), or a state, i.e. a constant condition that does not involve change. The same applies to the resultant condition: in (18d) it is dynamic, in the other cases a state. In the literature, often all simple change terms are called **achievement** terms. I prefer to reserve the term for predications with a dynamic initial condition, i.e. to terms that denote the culmination of a process, such as *arrive* or *reach*. Usually, one of the two conditions is defined as the negation of the other. In most cases, it is the resultant condition that is defined positively; we will then have an 'ingressive' or 'inchoative' verb which is used to express the beginning of a state or process. If the initial condition is the one which is positively defined, as in *stop*, *halt*, *end*, *leave, die* we have an 'egressive' verb that describes a situation as the ending of a state or process. Simple change verbs can be schematically illustrated as in Figure 6.3; the initial condition is marked with horizontal stripes, the resultant condition with vertical stripes.

Figure 6.3 Structure of a simple change concept

Figure 6.4 displays the special case of an achievement concept.
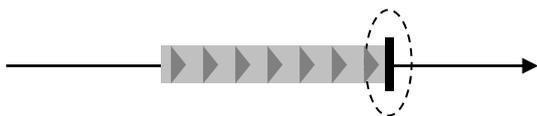
Figure 6.4 Structure of an achievement concept

Accomplishment terms and achievement terms differ in one point only: the referent of accomplishment terms includes the culmination point plus the whole process leading to it; achievement terms only refer to the culmination point, while the existence of the preceding process is presupposed. Consider the following pair of sentences:

(19) a. Sheila drove to the supermarket.

b. Sheila arrived at the supermarket.

The first is an accomplishment sentence. It refers to a situation which comprises both the drive and the arrival. If the sentence is negated (*Sheila didn't drive to the supermarket*), it is denied that Sheila undertook the whole action of driving to the supermarket. Compared to this, the second sentence only refers to reaching the endpoint of going to the supermarket. If the sentence is negated (*Sheila didn't arrive at the supermarket*) it is understood, that Sheila was on her way to the supermarket, but for some reason did not complete going there.

The concept of a change term refers just to the change; the change is the transition from the initial condition to the resultant condition. A simple change concept does not contain information about the manner of transition, or its duration. In this sense, the change is 'simple'. Simple change verbs are often said to be punctual, but this is misleading because it evokes the wrong impression that the situation in the world that is referred to with a simple change verb must not have any temporal extension, or at least be very short. These concepts are 'punctual' in the abstract sense that they do not contain any information about the transition event itself; to these concepts the changing event might as well be just a 'point' without temporal extension. To illustrate the point, let me mention some Japanese examples: *iku* ('go'), *kuru* ('come') or *otiru* ('fall, drop') are simple change verbs. They cannot be used in the progressive in order to express that the AGENT/THEME is on their way between A and B.

Simple change verbs are not used in the progressive, because there is no process defined which the progressive might state as going on. They do not take *for*-adverbials, or if they do, the *for*-adverbial relates to the resultant condition (*she opened the window for ten minutes*). If the initial condition is not a process, they do not take *in*-adverbials either, except with special contextual support. For example, *she opened the window in ten minutes* would require a context in which her opening the window was due for some reason. Simple change verbs are fine with *at*-adverbials – provided the time specified by the adverbial is long enough to cover the actual transition. For example, *she changed to Beijing University* denotes a change that actually would take a couple of days, at least. Combining this statement with *at 2:43* would make no sense, but *at the beginning of the next term* would be fine.

6.2.4 Simple occurrence terms

Verbs like *click*, *hit* or *knock* are similar to simple change verbs in not claiming temporal extension of the situation referred to. They differ in not denoting a change between an initial and a resultant condition. The world is the same before and after a click, a hit or a knock. These simple occurrences are conceived of as just interruptions. Schematically, they can be represented as in Figure 6.5. The term 'simple occurrence' is introduced here. In the literature they are sometimes referred to as 'semelfactives'; other classifications do not distinguish this class.
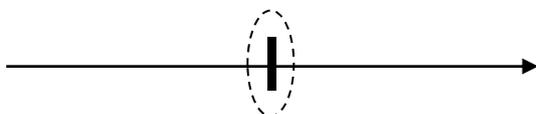

Figure 6.5 Structure of a simple occurrence concept

Characteristically, simple occurrences can be repeated because the conditions which make a first occurrence possible will not change with it. If you have just knocked, you can knock again (actually, one usually knocks several times when one knocks). This is different with change terms: For example, if you have just opened a window, you cannot open it again, you would have to close it first. By applying repetition, simple occurrence predications can be turned into predications about uniform, dynamic processes and then lend themselves to the progressive and to *for*-adverbials (*she knocked for 30 seconds*, *she is presently knocking at his window*). Thus, the progressive and *for*-adverbials coerce a repetitive reading of these verbs. In their single occurrence reading, they are not combinable with the progressive, nor with *for*- or *in*-adverbials. Of course, they are fine with appropriate *at*-adverbials.

Before we proceed to the aspectual class of states, which is very different from the classes discussed so far, let me sum up the four dynamic classes and their respective diagnostics. In Table 6.1, a class receives a negative entry for a given test, if its application is necessarily connected with a meaning shift such as coercing simple occurrence predications into process predications or applying the conative alternation to accomplishment terms.

Aspectual class	progressive	*in*-adverbial	*for*-adverbial	*at*-adverbial
accomplishment term	+	+	−	−
process term	+	−	+	−
simple change term	−	−	−	+
simple occurrence term	−	−	−	+

Table 6.1 Diagnostics for the dynamic aspectual classes

While these are just diagnostics, the four classes can be distinguished semantically by the following properties of the underlying concepts: (i) presence of a process component as part of the situation referred to, (ii) specification of a resultant condition and (iii) conceptual 'punctuality'. For accomplishment predications, the resultant condition is the state reached with the culmination of the situation: the apple is finished, the paper is written, the house is built, the drive has reached its destination. The distribution of the three properties is displayed in Table 6.2. They will play an important role for the interaction of verb meaning and aspect.

Aspectual class	process component	resultant condition	'punctuality'
accomplishment term	+	+	−
process term	+	−	−
simple change term	−	+	+
simple occurrence term	−	−	+

Table 6.2 Semantic properties of aspectual classes

6.2.5   State terms

State terms denote a condition which is, at least temporarily, constant. States are predicated of times, as we will see in the next section. States may result from a change, but they do not themselves involve change. For example, the dynamic verb *memorize* may lead to a state of *know*ing which once established is conceived of as constant. There are not so many state verbs in English, mainly verbs such as *like, love, hate, know, understand, want* or *have, belong, contain*, etc.; some verbs are state verbs only in certain readings, e.g. *cost, weigh, taste, mean* in uses like the ones in (20). Other verbs are ambiguous between a state reading and an ingressive change reading; these include *understand* as well *sit* and *lie*.

(20) a. A flight to Glasgow costs 19 euros.

   b.   She weighs 59 kilos.

   c.   This cake tastes awfully sweet.

   d.   Japanese *uni* means 'sea urchin'.

State predications as such are not used in the progressive. Progressive with a state expression such as *she is being rude/silly* coerces a meaning shift from state to activity, in this case to 'be acting in a rude/silly manner'. The states expressed by state verbs may last for a long or short period of time, they may be temporary or permanent, they may have a beginning and an end or not. For example, the state expressed by *be dead* has a beginning, but not an end; it is what is called an irreversible state. With conditions like these, it depends if a state expression can or cannot be combined with a *for*-adverbial, or with an *at*-adverbial. Thus the applicability of temporal adverbials yields an inconclusive picture for state terms in total.

There is one point in which state predications differ clearly from all the dynamic aspectual classes considered above: when used in an episodic sentence (i.e. applying to a particular concrete situation, recall 4.6 on genericity) with the present tense, it is only state predications that can be used for genuine present time reference, i.e. reference to the time of utterance. With dynamic predications, present tense use with the plain (non-progressive) form of the verb either is impossible in episodic sentences or yields future time reference. Consider the following contrast:

(21) a   *State*   I know the answer.

   b. *State*   She hates me.

   c. *Accomplishment*   I write a paper. (??)

   d. *Process* I walk. (??)

   e. *Simple change*   I switch on the TV. (??)

   f. *Simple occurrence*   I knock. (??)

Dynamic verbs in their plain (i.e. non-progressive) form can only be used with the present tense in special cases.

(22) a. I promise I will wait for you.

   b. Now Khedira passes the ball towards Özil, but ….

   c. In 1815, Napoleon loses the battle of Waterloo and is banished to Saint Helena.

   d. I commute to work by subway.

In (22a), *promise* is used as a 'performative verb', i.e. a verb which indicates the speech act that is performed by using it: saying 'I promise …' constitutes a promise. (22b) is only possi-

ble as a running commentary. (22c) is 'historic present', referring in the present tense form to past events and situations and thereby simulating a witness perspective. (22d) is a habitual statement, i.e. a generic sentence about a situation that recurs regularly; a single such situation need not be in progress at the time of utterance. (22a) and b constitute, or at least claim, coincidence of the event expressed with the utterance itself; historic present refers to the past, habitual predications do not refer to single events. We will return to these special cases in 6.4.2. Apart from these exceptions, for dynamic verbs, the present tense with reference to the time of utterance is only possible in the progressive – and this is restricted to accomplishment and process predications:

(23) a. I am writing a paper.

b. I am walking.

c. I am switching on the TV. (??)

d. I am knocking. (*repetitive reading only*)

The classification presented here ultimately goes back to the very influential work on English aspectual classes in Vendler (1957/67); many call aspectual classes simply 'Vendler classes'. He introduced the four classes of accomplishment, activity, achievement and state terms and used the diagnostics of progressive and *for-*, *in-* and *at-*adverbials. His proposal was later generalized and elaborated, to be extended to more general and additional types of verbs, as well as to different languages. The classification presented here can be considered essentially common sense in the field.

6.3   Aspect

As to the description of aspect and tense, there are a lot of half-truths to be met in the literature, in particular in descriptive grammars. In the following two sections, I will try my best to give a clear and consistent picture of the matter.[2]

6.3.1   The central distinction: imperfective vs. perfective aspect

Talking of 'aspect', the fundamental distinction is between **imperfective** and **perfective** aspect. It can be illustrated with a minimal pair such as this:

(24) a. *imperfective*:   I was watching TV   [when the door bell rang].

b. *perfective*:   I watched TV for a while [then went to bed].

The two sentences might be used with reference to the very same instance of the speaker's watching the TV. The distinction between perfective and imperfective aspect is not to be found in the way things are in the world. Rather, it is a matter of the way in which the speaker chooses to talk about the world.

The **imperfective** variant is a predication about a given time; in this case, the time is determined by the punctual event of the door bell ringing (a simple occurrence expression) and, less specifically, by the past tense. What the main clause of the imperfective sentence says is that, at the time considered, the speaker was in the state of watching TV. An imperfective predication is about a contextually given time; it tells what kind of situation is given at that time. It does not tell anything about the situation before or after the time referred to. Therefore

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2   The approach taken here owes much to the theory of aspect developed in Galton (1984).

people often say that imperfective aspect relates to uncompleted situations (in fact the term *imperfective* is motivated by this view); but this is not really adequate – since imperfective aspect leaves open what happens after the time referred to, the situation may be later completed or not. Very often you will find the definition that with imperfective aspect the situation is 'seen from within'. This is not a very clear notion. The crucial point is that predications in the imperfective aspect are predications about a given time which describe the situation at that time. If the situation extends beyond the time predicated about, the time can be considered embedded in the total situation, and therefore the total situation is in some sense 'seen from within'.

The time referred to may be a point in time or an extended period. In any event, the state expressed by the imperfective predication must not change during this time. This is a consequence of the presupposition of indivisibility (4.7.3.2) which applies to every predication whatsoever, including the predication about time expressed by an imperfective predication. In this sense, the time referred to is LIKE a point, i.e. not divided. It is the same sense of punctuality which we encountered with 'punctual' verbs. The time referred to is located by the tense of the verb: in (24a) it is a past time, i.e. located before the time of utterance. Thus a tensed imperfective sentence constitutes a double predication about a given time: a temporal localization by means of grammatical tense and a specification of the conditions at that time by the rest of the rest of the predication.

The **perfective** sentence in (24b) does not predicate about a time; it predicates about an event – the referential argument of the verb. In this case, the predication describes what he speaker did: watching TV (and then, going to bed). The event is, in addition, located in time, expressed by the past tense: it occurred at some time before utterance time. Thus, tensed perfective sentences, too, provide a double predication, but this time the two predications are about an event – by tense about its temporal location, and by the rest of predication, about the referential argument of the verb. Due to the presupposition of indivisibility, the two predications must apply to the event argument as a whole: the event, or situation, referred to must be of the kind the sentence describes and it must be wholly located in the interval of time referred to. The perfective aspect is therefore often described as 'referring to an event as a whole'. You may also find the more traditional description that perfective aspect refers to a completED event. This is wrong, for the simple reason that it is possible to use perfective aspect referring to future events which, of course, would not be completED yet. Perfective aspect deals with complete events, not necessarily with completED events.

Figure 6.7 illustrates the difference between imperfective (left) and perfective (right) aspect. It is a matter of perspective. Imperfective aspect views the situation from a given time, stating that the world is, at this time, in a certain state. Being about one time, the predication can only be a state predication because any kind of change can only be stated with respect to at least two times. Perfective aspect views the situation from an event in the world, stating that and when it happens. Thus, imperfective aspect 'looks' from a time into the world, and perfective aspect 'looks' from an event in the world onto the time line. These are two basic ways of correlating situations in the world with the time line.

The difference, and the interaction, of perfective and imperfective aspect can be illustrated with narrative texts, such as stories, tales, reports or novels. The following is the beginning of the translation of Grimm's fairytale of the frog prince. The tensed predications are marked for imperfective (ipf) and perfective (pf) aspect. The perfective predications are put in italics.

Imperfective aspect   Perfective aspect
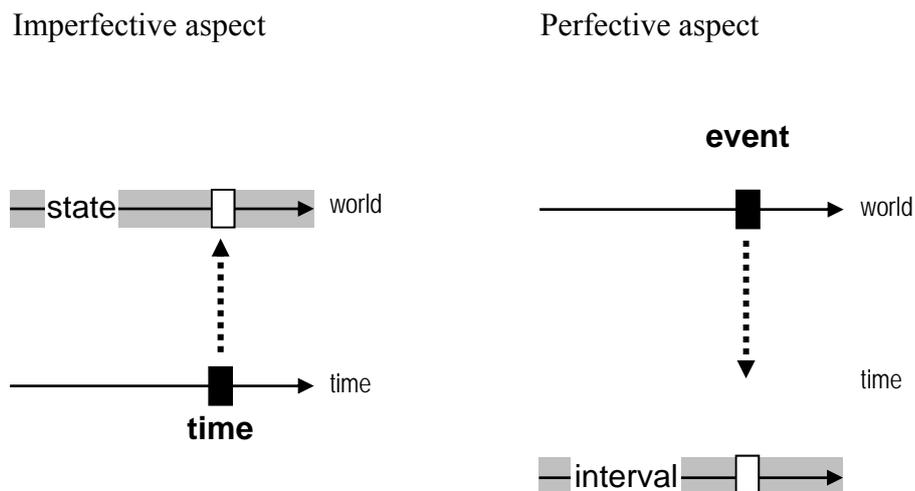
Figure 6.7 Imperfective aspect and perfective aspect

(25)   One fine evening *a young princess put on her bonnet and clogs* (pf), and *went out to take a walk by herself in the wood* (pf); and when *she came to a cool spring of water* (pf), that rose (ipf) in the midst of it, *she sat herself down to rest a while* (pf). Now she had a golden ball in her hand (ipf), which was her favourite plaything (ipf); and she was always tossing it up into the air (ipf), and catching it (ipf) as *it fell* (pf). After a time *she threw it up so high* (pf) *that she missed catching it again* (pf) as *it fell* (pf); and *the ball bounded away* (pf), and *rolled along upon the ground* (pf), till at last *it fell down into the spring* (pf).[3]

The narration starts with a time adverbial *One fine evening* that defines the temporal frame for the series of events described in the following. All the events mentioned in the passage are located within this time interval. It corresponds to the marked time zone in the diagram for perfective aspect. The first two events are told chronologically (putting on bonnet and clogs and then going out). The first event is located indeterminately within that evening, setting a temporal starting point for the story. The second event is taken as following next; narration time advances a bit. Some time will have elapsed until the next event mentioned takes place, her coming to the spring in the wood. The narration here inserts an imperfective predication about the location of the spring. This is background information predicated about the time reached in the narration. The spring, of course, exists much longer, but this is irrelevant at this point; what matters is the state of the world in the situation described. Now she sits down – the next event in series. By the following two imperfective statements we learn that at this moment she has a golden ball in her hand and that it is her favourite plaything. There follow two predications in the progressive; progressives are imperfective. They express continued uniform action as a temporary state. We will relate the total predication to some stretch of time, because the repetition of tossing and catching the ball necessarily consumes time; we will locate this interval after she has had her rest. The text then describes a series of events in

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3   Quoted from *Grimm's Fairy Tales*, Amazon Kindle edition.

perfective aspect, one following the other, carrying narration time further to the situation where now the frog will appear. What we can see looking at this example is the dynamic function of perfective aspect – it takes the story forwards – and the static function of imperfective aspect which gives information about a given situation at a given time.

6.3.2 Perfective aspect

Among the aspectual verb classes introduced above, state terms, when used with the plain form of verb yield imperfective predications; dynamic aspectual types yield perfective aspect with the verb in its plain form and in episodic use. If the perfective aspect is applied to state predications, they are turned into event predications.[4] One way is to turn a state concept into a simple occurrence concept by adding an adverbial that provides the state with a temporal delimitation. The resulting event consists of a state that pertains for the time specified:

(26)   I <u>was in the garden</u> for a while and then washed the dishes.

Another common strategy is to use a state term to refer (metonymically) to the beginning of the state; this turns a state predication into an ingressive simple change predication:

(27) a. I'll be with you in a minute.

b. She had a ticket within half an hour.

6.3.3 Imperfective aspect

While state predications immediately yield imperfective aspect, event predications must be turned into states for enabling imperfective aspect. The most prominent means is applying the progressive. Progressive is a variant of the imperfective aspect; it denotes the state of a dynamic condition that continues uniformly, such as some activity being done or some process going on. In English, progressive is possible with accomplishment and process predications, as well as with simple occurrences predications (*knock*, *beat*) in a repetitive interpretation. As mentioned above, certain states (*be silly*, *be rude*, *be polite*) can be used in the progressive, taking on the meaning of the activity of acting in a certain way.

Another way of using event predications in imperfective aspect is the habitual mode of speaking. Habitual predications express actions and events that are repeated regularly; the repetitions form what is called a 'serial state':

(28) a. This shop opens at 9:30 a.m.

b. She listens to her mp3 player on the subway.

While these are examples where the plain verb is used, there are also special forms in English for the expression of habitual predications, but these are restricted to past tense:

(29) a. This shop used to open at 9:30 a.m.

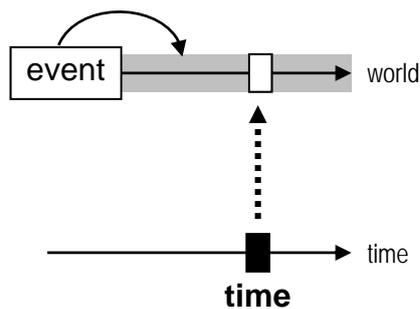b. She would listen to her mp3 player on the subway.

6.3.4 Perfect aspect

The perfect aspect, too, yields a state predication about a given time. The state is a state that results from a previous event. Consider a simple example:

(30)   I have written my term paper.

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4   In the discussion of aspect, I will use the term *event predication* for dynamic predications in general.

Figure 6.8 Perfect aspect

The sentence predicates about the present time that it is located in the state resulting from a past event of the type 'speaker write a term paper'. While reference is primarily to the time predicated about, the event from which the current state results is also referred to as having occurred before the time referred to. The perfect aspect can be schematically depicted as in Figure 6.8.

In English, the perfect aspect is expressed by using the auxiliary *have* with the past participle. It lends naturally to all classes of predications that provide a resultant condition: accomplishment and change predications (recall Table 6.2). The perfect is possible for non-resultative verbs, too. In this case, context must provide a sense in which the situation at the given time results from the former event. For example, *consult* in (31) is a simple occurrence verb that does not come with a specified resultant condition. The sentence would be read in the sense that the speaker's consulting the dentist has lead to some result, like now knowing better what to do with their aching molar.

(31)   I've consulted my dentist.

One variant of perfect, the **experiential perfect** takes any occurrence of an event as resulting in a change. With this variant one would express that one has had a certain kind of experience:

(32)   Have you ever had a renal colic?

English has a special use of the perfect, called the **perfect of persistent situation**. It is used to express that a certain state has prevailed up to the time referred to. In German, for example, this would be expressed in plain present tense.

(33) a. We've lived here for six years now.

  b. Wir wohnen [*present tense*] hier jetzt seit sechs Jahren.   (German)
   lit.: 'We live here now since six years.'

It is very important to realize that the relation between the former event and the subsequent state is not just temporal precedence, but a causal relation: the former event is the cause of the subsequent state. It is this causal relation which connects the time referred to to the former event. The causal connection is indicated by the curved arrow from the event to the state in Figure 6.8. Often this connection is described in terms of 'relevance': the former event is relevant for the subsequent situation.

6.3.5   Prospective aspect

Prospective aspect is the temporal mirror of perfective aspect. It refers to a state that leads up to a future event:

(34) a. I'm leaving!

b. It's going to rain.

c. The train is about to leave.

Be going to and *be about to* are usually cited as ways of expressing prospective aspect: the event expressed is scheduled or on its way at the time referred to. The *be V*-ing form normally used for progressive, however, can also be considered an expression of prospective aspect if it is combined with a punctual verb. (With non-punctual verbs, the form inevitably yields the progressive reading.) This is the case in (34a), taken as an announcement of an imminent action; and this is the way in which *we are arriving* or *he is dying* would be interpreted. These constructions do not express that a situation as described by the verb is going on; rather they describe a situation that is causally linked to a future event of the kind – the situation is such that this kind of event is likely to arise from it. Figure 6.9 illustrates the prospective aspect.
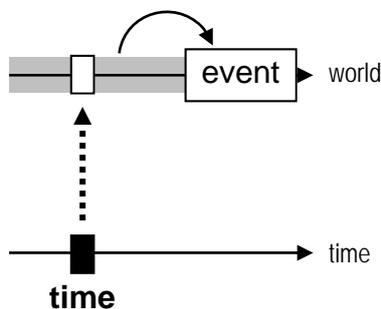
Figure 6.9 Prospective aspect

While the prospective *be* V-*ing* form is restricted to punctual verbs, *to be going to* V is possible with all aspectual classes, including state terms. The construction *to be about to* V is restricted to prospective states of imminent events and hence restricted to event predications.

Concluding the section on aspect, we find that the perfective aspect constitutes a predication about an event, while the other three aspects – imperfective, perfect and prospective – are stative. They all express a state predication about a time: the given time is related to either the active phase of the event itself or to a state the event led to or to a state that is likely to lead to such an event. I will call the event referred to in the perfective aspect and the time referred to in the stative aspects as the **tense argument** of the predication. In the aspect diagrams it is represented by the symbol ▮.

As we will see in 6.5, and have partly already demonstrated in this section, aspect is not always marked explicitly. For example, *I went to work on the subway* can be interpreted as an episodic perfective predication about a particular event or as a habitual imperfective statement. Many languages do not mark perfective vs. imperfective aspect; the Romance languages mark it only in the past tense and standard German does not mark it at all. Nevertheless, if we interpret a given sentence with its central predication, we have to make up our mind whether we are to take it as stating that an event of certain kind occurred, and if so when (*perfective*), or whether we are to take it as a description of a certain state that existed at a given time (*imperfective*). Since these are predications about quite different things, there is no way of leaving this issue open. Therefore, whether marked for aspect or not, every sentence will receive some aspectual interpretation or other.

We can sum up the considerations on aspect in the following definition:

DEFINITION 1 **Aspect**
The aspect of a verbal predication concerns the way in which the situation expressed and the time referred to are related to each other. Aspect determines whether the predication is about an event in time (perfective aspect) or about a time related to a situation (imperfective, perfect and prospective aspect).

6.4   Tense

Aspect concerns the way in which a given time is aligned with a state (imperfective, perfect, progressive) or in which way an event is aligned with time (perfective), but aspect does not locate the situation in time. This is the function of tense.

DEFINITION 2   **Tense**
Tense locates the situation expressed in time.

Thus tense and aspect are independent, but – as we will see immediately – they interact. We will confine the discussion in this book to 'absolute' tenses, i.e. tenses which relate to the time of utterance: past, present and future tense. So-called relative tenses primarily relate to a 'reference' time, which itself may be related to the time of utterance. The combination of relative tense with absolute tense yields temporal relations like past-in-the-past (pluperfect), past-in-the-future ('future past') or future-in-the-past.

6.4.1   Interaction of tense and aspect

As a start, let us have a look at the three standard absolute tenses – present, past and future tense. In principle, they can be combined with all aspects:

(35)	*past tense*	*present tense*	*future tense*
perfective	I promised	I promise	I will promise
imperfective	I was reading	I'm reading	I will be reading
perfect	I had finished	I have finished	I will have finished
prospective	I was leaving	I am leaving	I will be leaving

While this looks all very smooth, there is a problem with the first case in (35), the combination of perfective aspect with present tense, the 'present perfective' for short. As we saw in connection with the examples in (21) and (22) above, dynamic predications can be used with present time reference only in some very special cases.

Recalling the remarks in 4.3 on temporal deixis, the reference of present, past and future tense is determined by the temporal relation to the time of utterance, where the time of utterance is the time which the event of uttering the sentence takes. Figure 6.10 illustrates the definition of 'past', 'present' and 'future' TIME, to which past, present and future TENSE refer, respectively. The utterance U is an event in the world. It defines a time on the time axis, the 'time of utterance', abbreviated TU. This is the present time; past is prior to TU, and future subsequent to it.

Now – what is it that tense relates to TU? Grammatical tense is applied to a predication, the main predication of the sentence. The predication is interpreted as carrying a certain aspect, and it is the tense argument of the predication that is related by tense to TU. Let us consider the past tense examples in (35). *I promised* is a past perfective; it predicates about an event as a whole; the past tense of the verb locates this event in the past. Consequently, the event is completed by the time of utterance. This is small wonder with a punctual verb like
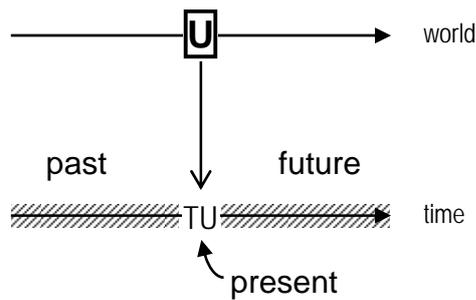
Figure 6.10 Past, present and future time

'promise', but it also holds for accomplishment and process verbs denoting events of arbitrary duration: *she built a house* means that the house is finished.

The past imperfective *I was reading* TU dicates about a contextually given time; this time lies completely within an ongoing process of the speaker reading; past tense places this TIME in the past – not the state in its total temporal extension. The situation of reading may be continued after the time referred to; it may even extend into the future. Thus, with imperfective predications, it is just one time in the past which is located within the situation.

The past perfect *I've finished* is similar to the past imperfective; it differs in that the state predicated of the time is defined as resulting from a previous event of finishing. Again, this state can extend into the future.

The past prospective *I was leaving* or *I was about to leave* predicates of the past time referred to that a later event of leaving was being envisaged or prepared at that time. The event may later actually take place or it may fail to come about; it may take place in the past or in the future (cf. for instance *I was about to leave the day after tomorrow*). The three cases of past perfective, past imperfective and past perfect are illustrated in Figure 6.11.

past perfective	past imperfective	past perfect
I jogged	*I was jogging*	*I had jogged*
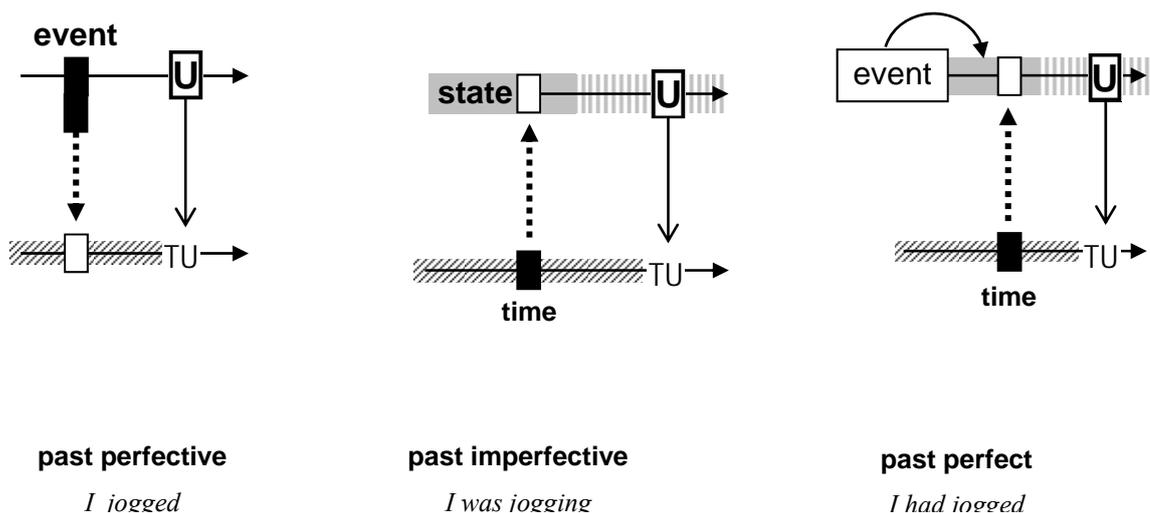
Figure 6.11 Past perfective, imperfective and perfect (right)

The diagrams are obtained by adding the U–TU component of Figure 6.10 to the basic pictures of perfective, imperfective and perfect aspect. For past tense, U–TU is added to the right

of the tense argument ▮. Placing U–TU to the left of ▮, yields the pictures for future tense. The situation with the present tense is more complex; we will turn to it in a minute.

6.4.2 Past, present, non-past and future tense

Past tense. There is little to say about the past tense beyond what was stated in the previous section. The past tense places the tense argument before utterance time. In actual discourse, the tense argument will be temporally located with much more accuracy – recall the interpretation of the narrative passage in (25). This is a consequence of interpretation in context: we will inevitable try to connect the event or time referred to to other events and times in order to come up with a coherent interpretation of the given sentence in its context. Except by tense, the tense argument may be more precisely located by temporal adverbials such as the *at*-adverbials discussed above or expressions like *in a minute*, *soon*, *yesterday*, *this morning* etc. This is, of course, also possible for present and future time reference. In languages without grammatical tense, this is the only means of explicit temporal location of the tense argument.

Present tense. Applying the present tense to the stative aspects can be done by simply identifying the tense argument with TU. The result is a predication saying that the state described applies at TU.

In order to align a perfective statement with U–TU one would have to temporally match two events: the tense argument event and the utterance event. For 'normal' events this is impossible. Consider 'AGENT-eat-an-apple' as a tenseless perfective predication. Application of the present tense would mean to identify the event of the AGENT eating the apple – which of course would take some time – with the event of uttering, for example, 'I eat the apple'. This is impossible, because the two events do not coincide temporally. There are basically two scenarios in which coincidence can be considered as given; both were mentioned in connection with the examples in (22). The first case is performative verbs. They refer to an event which comes about by making an utterance which describes this event. Thus, in the case of performative verbs used in this way (in a 'performative utterance'), the event of utterance indeed coincides with the event referred to of performing the speech act expressed. The second case is running commentaries, like a live soccer game commentary on radio or TV. In this style of report, simultaneity of commentary and events described is claimed and tried to be achieved – and accepted by the hearer as a manner of speaking, although strictly speaking, the events reported usually minimally precede the corresponding verbal reports.

The other two cases are different. Historic present is an established non-literal *as-though* use of present tense. The effect of quasi-witnessing the situations described comes about because the present tense in its literal use relates to really present situations. It would be wrong to conclude from the existence of historic present tense that relation to a past time is just another meaning of the present tense, or that the present tense relates indiscriminately to past and present time. If this were the case, the present perfect would not have its witnessing effect. It is crucial to observe that this is a SHIFTED meaning of the present tense.

Habitual predications with event verbs in their plain form (*I go to the university by subway*) involve an aspectual shift from singular events to a serial state. As we saw above, they are a variant of imperfective predications, and hence not relevant here.

There are state predications such as *ducks are birds* and *two plus two equals four* which do not refer to temporary conditions. In many descriptions of the present tense you will find examples as these cited as evidence for a 'timeless' or 'eternal' variant of the present tense. Ascribing cases like these to the semantics of (an alleged) variant of present tense is inadequate. In such cases, too, the meaning of the present tense is the same as with all stative predications.

Present tense places the time of utterance within the state described. Strictly speaking, *ducks are birds* is a predication just about the time of utterance. It lies, however, in the nature of the predications expressed by such sentences that they apply forever if they ever apply. Therefore, it FOLLOWS from the fact that if such a predication is true of any arbitrary time when it is uttered then it is always true. There is no need to claim a special meaning variant of the present tense for these cases.

Non-past tense. Many languages have a non-past tense (usually called 'present tense'). Non-past includes relation to the present and to the future. Therefore, with the non-past tense no problem arises with perfective aspect. A non-past perfective will be taken as referring to a future event, while a non-past imperfective will be taken to relate to the time of utterance, unless the context indicates reference to a future. In German, the so-called present tense is in fact a non-past tense. Consider the following sentences:

(36) a. Es regnet. (German)
lit. 'It rains' = 'It is raining.'

b. Morgen regnet es. (German)
lit. 'tomorrow rains it' = 'It will be raining tomorrow' *or* 'it will rain tomorrow'

c. Ich fahre nach Brüssel. (German)
lit. 'I go to Brussels' = 'I'm going to Brussels.'

They are all in the plain 'present' tense form. (36a) is taken in an imperfective progressive reading (note that there is no progressive form in standard German). In (36b), the verb has the same 'present' tense form; the sentence can be used either as a future imperfective or a future perfective; future time reference is only indicated by the adverb meaning ›tomorrow‹. (36b) is taken as referring to a future event; it is a non-past perfective. English is held by some scholars to have no future tense, but only a non-past tense. While this view is controversial (and will not be adopted here), English uses 'present' tense forms for future time reference in certain subordinate clause, for example in *before*-clauses:

(37) Before I leave, let's fix a date for our next meeting.

Future tense. Future tense relates the tense argument to the future. For perfective aspect, the event referred to is completely located in the future; for the stative aspects, the time referred to lies in the future, but this does not mean that the state that applies at this time is confined to the future. There is no contradiction in saying: 'I'm sick today and will be sick tomorrow', meaning that the state of being sick will not be interrupted between today and tomorrow. It is often argued for English, German and other languages that what is traditionally called 'future tense' like *they will work, sie werden arbeiten* (German) is not a real tense, but expression of some kind of modality, like probability, conjecture, etc. One argument against considering these forms as a real future tense is the fact that they have also non-future readings. Both, *they will work* and *sie werden arbeiten* can also be used with present time reference for uttering a conjecture, as in (38a) and its German equivalent (38b).

(38) a. What do you think they are doing? – I think they will be working.

b. Was, glaubst du, machen sie gerade? – Ich denke, sie werden arbeiten.

This, however, is just a matter of polysemy. The forms have two different functions; one is the modality of conjecture with present or non-past tense, and the other future tense. Another argument against the future tense analysis of such forms is that future time reference in both languages can also be expressed with non-past 'present' tense; in fact, in German using the non-past forms is the normal way of referring to future time. What this shows is that the so-

called present tense is in fact a non-past tense. Existence of a non-past tense does not preclude existence of an additional future tense proper. Tense systems are not necessarily such that the different tenses available mutually exclude each other. To sum up, English and German can well be considered to have a future tense.

6.4.3   The verbal onion

Similar to the noun phrase, the verb forms an 'onion' with several structural layers. The innermost is the verb stem; it is followed by one or more diatheses. These two layers determine the argument structure. They are followed by the layer of aspect; it determines the tense argument. It is followed by tense, which predicates about the tense argument. The general structure is given in Figure 6.12. This hierarchy is directly reflected in the order of affixes in Japanese verbs as shown in (39a). Two more layers can be added – which we have not dealt with so far: mood/modality (39b) and sentence type (39c):

(39) a. mat-   ase-   rare-   te i   ru   (Japanese)
          stem   *diath 1* *diath 2* *aspect* *tense*
          wait-   CAUS   PASS   CONTINUATIVE   PRESENT
          '[someone] is having [her] wait'

      b. mat-   ase-   rare-   te i   ru   darō
          stem   *diath 1* *diath 2* *aspect*   *tense*   *modality*
          wait-   CAUS   PASS   CONTINUATIVE   PRESENT   TENTATIVE
          'I think [someone] is having [her] wait'

      c. mat-   ase-   rare-   te i   ru   darō   ka
          stem   *diath 1* *diath 2* *aspect*   *tense*   *modality*   *sentence type*
          wait-   CAUS   PASS   CONTINUATIVE   PRESENT   TENTATIVE   QUESTION
          'Will [someone] be having [her] wait ?'

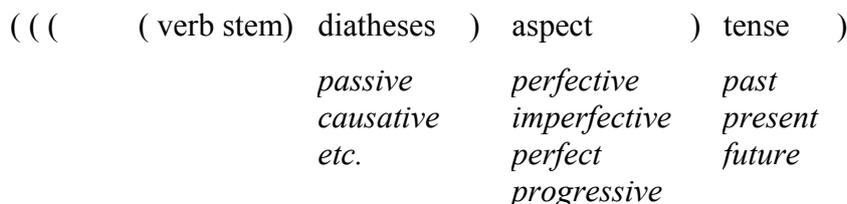| (((	(verb stem)	diatheses	)	aspect	)	tense	)
		passive		*perfective*		*past*	
		causative		*imperfective*		*present*	
		etc.		*perfect*		*future*	
				progressive			

Figure 6.12 The verbal onion

The tense argument is the central object of anchoring when it comes to establishing reference for a sentence. If the situational element is an event, the event is anchored along with its participant arguments – not only in time, but also within the facts applying at that time. Similarly, if the tense argument is a time, the predication with its arguments is located at this time and within the given circumstances.

6.5   Selected tense and aspect systems

We will conclude this chapter by having a brief look at four tense and aspect systems; the description will be confined to the major tenses and aspects introduced above.

English. The English system has two aspectual distinctions. The first distinction is expressed by the plain form vs. the form *be* + gerund. The latter expresses progressive in most cases (and in some cases prospective). For the majority of dynamic verbs, this form can be

considered as marking imperfective aspect. The imperfective aspect is not formally marked with state verbs. The perfective aspect goes unmarked throughout. The second aspectual distinction is between perfect and non-perfect. The perfect aspect is expressed by *have* + past participle; non-perfect is not marked. These two distinctions can be each combined with three tenses, past, non-past and future tense. Future tense is (almost) obligatory in main clauses with future time reference.

German. The German verbal system is formally similar to the English one, except that it lacks a distinction corresponding to the English progressive form.[5] German has one aspectual distinction, perfect vs. non-perfect. Perfect is expressed by the auxiliary *haben* 'have' or *sein* 'be' + past participle. The non-perfect (plain) forms can be used indiscriminately for imperfective as well as perfective predications. As in English, there are three tenses, past, non-past, and future tense, which can be combined with the non-perfect and the perfect aspect. Complicating the matter, the present perfect forms have a second function of simple past; thus the so-called present perfect ('Perfekt') in German is either a non-past perfect or a past non-perfect. In colloquial German, the present perfect forms are replacing the genuine past forms more and more as the standard means of relating to the past. The non-past forms are the unmarked way of relating to the future, but genuine future tense is also possible.

Russian. Russian distinguishes between imperfective and perfective verbs. Almost all verb stems are imperfective; using a rich set of prefixes they are turned into perfective verbs. Prefixation also affects meaning; for some verbs a certain prefix yields a neutral aspectual counterpart with the same meaning except for inherent aspect, but for most verbs there is no neutral counterpart. For example, imperfective *čitat'* (read) has the perfective derivations *pročitat'* (read, recite), *počitat'* (read a while), *načitat'* (read a lot) and *dočitat'* (finish reading). Thus, the distinction between the imperfective and perfective aspect is inherent to the verb meaning and lexicalized rather than a matter of the grammatical form. In addition, there is 'secondary imperfectivization': adding a suffix to a perfective verb yields an imperfective predication. This instrument is a means of grammatical aspect, like the progressive and perfect forms in English. Russian does not have a distinct perfect form. There is a past tense that can be applied to all verbs. The formal present tense, however, functions as a present tense with imperfective verbs and as a future tense with perfective verbs. There is no present tense with perfective verbs; all the exceptional cases of present perfective mentioned above – performative verbs, running commentaries, historic past ad habituals – are expressed with imperfective verbs. Thus, the formal present tense is a real future tense with perfective verbs, not just a non-past tense. Present tense with imperfective verbs is restricted to present time reference. For future time reference with imperfective verbs, there is a special future tense which is morphologically different from the future tense of perfective verbs.

(40)	(Russian)	*imperfective verb*	*perfective verb*
	past tense (fem. sing.) [6]	čita-la	pročita-la
	present tense (1st sing)	čita-ju	---
	future tense (1st sing)	budu čiťat'	pročita-ju

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[5] This applies to standard written German. Colloquial German and most, if not all, German dialects have an equivalent of the English progressive form: *am* + infinitive + *sein* (inflected): cf. *ich bin am lesen* 'I am reading'.

[6] Historically deriving from adjectival past participles, Russian past forms are inflected for number and gender, but not for person.

Japanese. Japanese has two tenses, non-past tense marked with the ending –(*r*)*u* and past tense marked with the ending –*ta*. It has a major aspectual distinction between perfective (plain form of the verb) and 'continuative', marked with a suffix –*te i*- (gerund + *be*) before the tense ending. For *taberu* 'eat' the four forms are:

(41)	*plain form*	*continuative*
non-past tense	tabe-ru	tabe-te i-ru
past tense	tabe-ta	tabe-te i-ta

Similar to English, the plain forms yield the imperfective aspect with state verbs. State verbs do not take the continuative form; there are only very few, including *i*- 'to be' which appears in the continuative form. With dynamic verbs, the plain form expresses perfective aspect. The continuative form yields a progressive reading with accomplishment and process terms and with simple occurrence verbs in repetitive use; with accomplishment and simple change terms, the form yields a resultative perfect. Thus, for accomplishment verbs such as *kiru* 'put on', the continuative form has two readings – *kimono o* [ACC] *ki-te i-ru* can mean '[she] is putting on a kimono' and 'she is wearing a kimono.' In addition, the continuative form can express general perfect for all dynamic verbs.

6.6   Concluding remark

Taking a closer look at the general semantics of verbs, we are now able to recognize a very important trait of human language – the way in which a situation in the world can be put into words for describing it is by no means determined by the way the situation 'is'. First, of course, it is up to the speaker which aspects of the situation they want to talk about. But even if the speaker chooses to talk about a very particular situation, say a 'read' situation by a particular person of a particular book, there are many different ways to do so. The speaker can choose to mention the AGENT or not and to mention the THEME or not; if the speaker mentions both, they can manipulate the structure of the sentence, choosing the active voice for highlighting the AGENT or the passive voice for promoting the THEME. The speaker can choose between various aspectual variants of 'reading', describing the situation as an activity or an accomplishment. The reader can choose to use the sentence as a description of the situation at the given time (imperfective), or as an event that happened (perfective), or as a situation resulting from a reading event (perfect), or leading to it (prospective). Finally, the speaker can place the situation in time relative to when they utter the sentence. All these choices can be applicable to the very same 'objective', 'real' situation. Thus, the semantic distinctions we encountered in this chapter are not distinctions that apply to the situations in the world; rather they are conceptual distinctions among the ways in which we may cast reality when we describe it by means of words and grammar.

Exercises

1. Describe in your own words the effect on the argument structure of the diatheses
   a. passive   b. antipassive   c. causative   c. anticausative

2. For each of the following alternations, find five more verbs that exhibit it. Do not consult Levin (1993).
   a. the causative/inchoative alternation
   b. the dative alternation
   c. the simple reciprocal alternation.

3. Define in your own words the five aspectual classes introduced in 6.2: accomplishment, process, simple change, simple occurrence and state terms.

4. Use the diagnostics mentioned in 6.2 (progressive, *for*-, *in*-, *at*-adverbials, present time reference) to determine the aspectual classes of the following predications; consider the whole phrases. Set up a table.
   a. *say*
   b. *dress*
   c. *exceed*
   d. *hammer*
   e. *melt* (intransitive)
   f. *snow*
   g. *write e-mails*
   h. *grow*

5. Describe in your own words the distinction between the imperfective and perfective aspects.

6. What is common to the
   a. perfective and perfect aspects
   b. imperfective and perfect aspects

7. What is the aspect of the following sentences:
   a. *She baked cookies*.
   b. *They tasted awfully sweet*.
   c. *I tasted them*.
   d. *The dog was sick on the floor*.
   e. *I'll never have any of those again*.

8. Put the predication 'Sheila-mow-her-lawn' into the following tense-aspect combinations:
   a. present progressive
   b. past habitual
   c. past perfect
   d. future perfective
   e. present prospective

9. Discuss the problem of the present perfective.

10. There are four different uses of *would* + verb in English. Try to describe them in terms of aspect, tense and mood/modality.

Further reading

Argument structure. On passive in English: Huddleston and Pullum (2002: ch. 16.10 by Ward, Birner & Huddleston); on passive and other diatheses in English Givón (1993: ch. 8). Levin (1993), on her classification. On causative and passive in Japanese, Shibatani (1990: ch. 11.4.1–11.4.2).

Aspect and Tense. Comrie (1976) and Galton (1984) on aspect and the interaction of aspect and tense, Comrie (1985) on aspect. On English tense and aspect, Huddleston and Pullum (2002: ch. 3.3–3.5 by Huddleston), Givón (1993: ch.4.1–4.3). In WALS (Dryer and Haspelmath, eds. 2011, http://wals.info), you will find four chapters by Östen Dahl and Viveka Velupillai On 'Perfective/imperfective aspect' (ch. 65), 'The past tense' (ch. 66), 'The future tense' (ch. 67) and 'The perfect' (ch. 68).