

## 5 Aspect, tense, mood

---

*Alan Timberlake*

### 0 Introduction

To introduce aspect, tense, and mood, it might be useful to think first not of language but of a painting, *The Hunters in the Snow* (1565) by Pieter Bruegel (1525?–69).<sup>1</sup>

This well-known painting depicts a group of three hunters returning home to their village on a winter day, combining a number of detailed states and activities: the grey state of the sky overhead, snow covering the ground, the hunters and their dogs walking on a hill in the foreground, ice-skating on a frozen pond. In an approximate way, these scenes are like predications in language: they represent states and events of the world and of individuals in the world. As in language, events occur in places, under certain conditions, and one can identify some participants as agents (the villagers standing by the boiling cauldron) and some as patients (the pig whom the villagers are singeing in that cauldron). The whole painting is a combination of smaller scenes, just as in language individual predications are combined into larger texts. Up to a point, there is some similarity in what a painting like Bruegel's and language can do in terms of presenting an image of reality. There are, at the same time, significant differences, and these have to do in large measure with aspect and tense and mood.

In Bruegel's painting, the hunters are shown coming over the hill in the foreground and are preparing, we presume, to head down into the valley where their village is located. At that moment, from their perspective on the top of

<sup>1</sup> The painting is one of five surviving from a commissioned series of pictures depicting characteristic scenes of the months (Grossman (1973:27)). The painting, in the collection of the Kunsthistorisches Museum Wien, can be viewed on the Museum's website ([www.khm.at/homeE/homeE.html](http://www.khm.at/homeE/homeE.html), through the following links: Collections / Picture Gallery / Netherlands: 16th Century / Pieter Bruegel the Elder / Hunters in the Snow). The website writes of the painting: 'The hunters are making their way back to the low-lying village with their meager bounty, a pack of hounds at their heels. Their backs are turned towards us. That, along with the perspective of the row of trees, draws the observer down into the distance, on to the remote, icy mountains on the horizon, and at the same time out of the whole cycle.' The author wishes to express his gratitude to the Kunsthistorisches Museum Wien for permission to reproduce the painting here. For a print version, (Grossman 1973:plate 88).



Figure 5.1 Pieter Bruegel, *The Hunters in the Snow* (1565)

the hill, one can see nearby that some villagers are singeing a pig in a boiling pot, and skaters are playing ice hockey further away. These events are ongoing at the time at which the hunters crest the hill, and can be seen from a point of perspective in the picture.

Language can do the same: depict states and activities that are going on at some time. And in language, as in Bruegel's painting, the speaker (artist) invites the addressee (viewer) to adopt a point of perspective from which events can be observed. Here, with respect to language, that point of perspective will be termed the *contextual occasion*.<sup>2</sup> The contextual occasion is a variable occasion in the narrative or discourse at which situations and changes are taken to be significant and related to other events. For example, in *Treasure Island*, the speaker – the first-person narrator Hawkins – visits the Spy-glass Tavern, where he sees the villain Black Dog and talks with Long John Silver. The speaker (narrator) leads the addressee (reader) back to this contextual occasion, his visit to the tavern, and we are informed of the situation that holds at that time: *All the time he was jerking out these phrases he was stumping up and down the tavern on his crutch*. Thus, both painting and language can transport the addressee (viewer, reader) to an internal viewpoint and exhibit scenes and activities in progress at that time, whether singeing a pig (in Bruegel's painting) or stumping up and down on a crutch (in *Treasure Island*).

From this point on, the similarities fade. The painting can basically represent only actions at a moment, as they are in progress. Language can indeed report events in progress, but, more than that, it can distinguish events in progress from other types of events – events that occur prior to the contextual occasion, or events that repeat over and over through an extended interval of time, or events that are completed. For example, if this painting were narrated in language, one could assert that the hunters first came over the hill, then arrived home, after

<sup>2</sup> On 'viewpoint' in aspect, see Smith (1983, 1991). Klein's (1992) 'topic time' is analogous. A familiar and influential formulation of a similar idea is Reichenbach's 'R', for reference time, opposed to 'S' (speech time) and 'E' (event time). In Reichenbach's approach, the goal is to define various tense-aspects of English by manipulating algebraic combinations of these primitives. For example, the present perfect is  $E < R = S$ : that is, an event (E) occurs earlier than (hence '<') a reference time (R), and that reference time coincides with (hence '=') the speech moment (S). The ordinary past tense would be  $E = R < S$ : that is, an event E is examined from a time in the past, R, which is before S, and hence E itself is in the past.

The glory of the Reichenbachian system is that it promises a one-to-one mapping between combinations of R, S, and E and the categories encoded as morphology. At best, however, the categories it generates are those of English, not those of Russian or Lezgian or Maori. Even for English there are some mismatches between the possible combinations generated and the categories actually encoded (Comrie (1981b); Binnick (1991)). It is not clear that the notation for the perfect, in which a punctual reference time R is distinctly later than the E ( $E < R = S$ ), adequately expresses the sense of the perfect as a state extending continuously backwards in time. It seems best to adopt a less literal and less algebraic understanding of the notions of situation (an adaptation of 'E', event) and contextual occasion (analogous to Reichenbach's 'R', reference time).

which night will fall, and there will be no further traipsing around. A painting can only show events in progress at one time, and can only hint at change, while language can explicitly differentiate stasis from change, by using distinctions of *aspect*. This is one crucial difference between language and this genre of painting.

In Bruegel's painting, the scene evidently falls at the end of a winter's day. In this way the painting indicates something about how the states represented in the painting are located in time, at least the cyclic time of day and seasons. The painting, however, says nothing about how the time of the scene depicted relates to the speaker (artist) and addressee (viewer). Language, in contrast, can indicate how the contextual occasion, and the scene that occurs at the contextual occasion, relate to the here-and-now of speech. By using distinctions of tense, language can indicate whether the contextual occasion and the reported event are earlier than or simultaneous with or later than the here-and-now of speech. *Tense*, then, is a deictic operation that locates events and their contextual occasions with respect to the here-and-now of speech. The time of speech, so crucial to language, is missing from painting, which can only reflect events in a single time and world.

In addition, Bruegel's painting does not comment directly on alternatives, or *modality*. The booty of the hunters seems meagre, and the painting hints – but only hints – that the hunting could have been better. In language, it is possible to compare explicitly what has actually happened with what might have happened. Using language, one might reason: if they had hunted differently, they could have bagged more game. Or, in language, one could attempt to impose on another person an obligation to change the state of the world: 'Hunt more successfully!', their families might have said. Modality – notions of 'what if' or 'you must' or 'so be it' – can be expressed overtly and directly in language, but in painting can only be hinted at in an implicit way.

Painting and language, then, share the ability to represent reality: that is, to make predications, basically. But there is a significant difference in the treatment of times and worlds. Painting depicts events that co-occur at one time and in one world. Language allows one to locate events at a contextual occasion in relation to the here-and-now of speech (tense), to report change in states of the world in the vicinity of the contextual occasion (aspect), and to consider alternatives from the perspective of an authority (modality).

The categories of aspect, tense, and modality pervade language, from the level of the lexicon to the level of text. These categories are of interest above all when we deal with grammaticalized instances of them – with regularized combinations of lexical verbs and morphological operators that apply to lexical verbs. A wide range of morphological devices can be used – derivational morphology, inflectional morphology, verb compounds of various types (verbs and particles, auxiliary verbs and main verbs, verbs and participles). For aspect,

tense, and modality, it seems best to take a generous view of ‘morphology’ and include in the discussion any conventionalized and codified relationships between form and meaning that have to do with the distribution of situations over occasions (tense and aspect) and a space of alternatives (modality).

## 1 Aspect

Predicates report situations, and changes of situations, of the world. The states reported are sometimes the states of the world as a whole, sometimes the properties of a particular entity. Often there is one argument whose states or changes of state are central to the whole situation reported by the predicate. That privileged argument, which has come to be called the *theme* of the predicate, is the object or patient of transitive verbs (*carry, abandon* something) and the sole argument of intransitives (*go, remain*).

Predicates differ in the way they present situations. *Stative* predicates (*be trustworthy; like; be aware; be sad; be located; fear; be asleep*) report situations that do not change. Statives are the same at all moments; successive intervals do not differ, and can be expected to continue by inertia. For this reason, combining stative predicates with *for-* phrases measuring duration is awkward: *?I knew the answer for a day*. Durative phrases become natural only if there is an implicit comparison of one time with other possible times when the state might not have held – *I knew the answer for a day, but I seem to have forgotten* – or if activity is imputed to the stative: *that cat had been a terror to the neighbourhood for years* implies it was an active terror, and for much too long a time, justifying his death at the hands of a pet owl.

Next, *processes* (or *activities*) present situations that change in a continuous fashion. Processes do not continue by inertia. To continue, processes require an input of energy (*work; sing; tend the garden; small boys hooted; lurk in the grass; shine like stars; develop; slumber; chafe; curious faces peered*), lest the activity grind to a halt. Processes are nevertheless continuous, and successive intervals of a process are equivalent, if not identical. In contrast to statives, processes are in constant danger of ceasing, and it is therefore meaningful to measure the duration of the activity: *small boys hooted for hours; he lurked in the grass for days on end*.

Some lexical processes are intrinsically *cyclic*: they repeat themselves in a cycle, returning each time to the initial configuration of the world (*twitch; quiver; trample; jostle; twiddle one’s thumbs*). Cyclicity is relevant not only to the lexical meaning of predicates. Cyclic (or *iterative* or *repetitive*) situations are often encoded by morphological means.

In contrast to statives and processes, which report continuous situations, some predicates report situations that change in a way that is discontinuous and irreversible. Such predicates can be termed *liminal*, or *bounded*, or *telic* (that is,

having a telos or goal or end-point). Liminal predicates have three phases: an initial phase, in which some property (of the world or of an entity in the world) does *not* hold; a transition phase, during which the property changes and comes to hold; and a final phase, in which there is no more change and the property, once established, can be expected to hold by inertia.

There are two types of liminal predicates that differ in the nature of the transition phase. *Liminal processes* (approximately Vendler's *accomplishments*) have an intermediate phase consisting of incremental changes that, like Zeno's paradox, seem insignificant at any given point but eventually add up to a definitive change. The clearest examples are predicates reporting changes in location with respect to some spatial boundary: *hasten back to the ballroom* (a process of continuing urgent movement in which the theme argument eventually crosses the boundary between two domains, the non-ballroom and the ballroom) or *place a hedgehog between the sheets* (the theme argument moves from a location in the hands of a prankster to its new goal). Liminal processes can combine with adverbs that describe the manner of the process phase in the middle. Thus in the sentence *he was resolved to skin Boko alive, lingeringly and with a blunt knife*, the process of flaying is liminal, in that the agent strives to reach a definitive change of status of the skin from its original position on Boko to off. Although the predicate is liminal, something can be said about how the middle phase proceeds – *lingeringly*, in this instance.

Other liminal predicates do not describe a cumulative result of a continuous process, but rather place a boundary on a state: *catch sight of; arrive at; fall ill*. Such predicates are then *liminal states* (approximately Vendler's *achievements*), in the sense that they report the inception of a new state. One might think of liminal states as a degenerate or reduced form of liminal processes: they are pure change; there is no extended process phase in the middle; the polarity of the state is either positive or negative; and there is little agentive control over the progress of the event. A liminal process like *climb Mt Ida* takes energy but a liminal state like *reach the summit of Mt Ida* does not – you're either there or you're not, and there is no gradual transition. Liminal states are reluctant to characterize the manner of the transition; compare the liminal process *we climbed Mt Ida slowly* with the liminal state *\*we reached the summit lingeringly*.

Liminal predicates present a definitive result. Accordingly, they do not combine readily with *for*-phrases that measure the time interval over which a process continues. Thus, utterances such as *?he read the newspaper cover to cover for five minutes* or *?he cooked up a pot of black beans for days* are awkward, since *read cover to cover* and *cook up* presume completion, while the phrases *(read) for five minutes* or *(gamble) for days on end* measure the duration of open-ended processes. When a *for*-phrase is used with a liminal predicate, the *for*-phrase measures the duration of the state that results after the change, not the duration

of the process. Thus the *for*-phrase in *he went outside for five minutes* measures how long his state of absence would last, not the duration of the motion. Liminal predicates can also combine with phrases that measure a larger interval of time *within which* the change occurred (*he read the newspaper cover to cover in five minutes*).

Predicates, then, report a situation distributed over time, and that situation can be uniform and stative, or processual and changing, or liminal and bounded. Each verb tells a characteristic story of stative or process or liminal change. In this way, aspect is in part a property of the lexical semantics of verbs. Still, it has to be stated that the *lexical aspect* of verbs is not fixed. Many lexical units can change interpretations in context, depending especially on which arguments they are combined with. The usual interpretation of *she painted a picture* is liminal – the process is completed, and the picture should be the enduring result. But if we say *she painted one picture for seventy years*, we force the interpretation that she engaged in a continuous process of working that extended for some time, over more or less identical sub-intervals of time, without reaching the definitive result of a whole picture. *See* in English can be used in various senses.<sup>3</sup> *See* can report: (i) a state, in its usual momentary perceptual sense (*I see a dish*); (ii) a process involving some agency, in the sense of ‘pay attention to, have contact with’, when it combines with the progressive or a measure of duration (*May I not come and see you for half an hour?*); (iii) a liminal process (*she saw him to the door* – ‘accompanied up to a boundary’); or (iv) a liminal state (*Looking up, as she mechanically folded the letter she saw Lord Warburton standing before her* – ‘she caught sight of, began to see’).

Any given lexical item thus presents a characteristic, though not rigid, view of the flow of situations over time, as uniform or changing or liminal. It is exactly because predicates have their preferred lexical histories that it is useful to have morphological operations. Aspect morphology indicates how situations are related to some occasion internal to the ongoing discourse or text, termed the contextual occasion here. As they place situations in time, these operators impose a sense of the predicate in context, and the sense that is imposed sometimes goes against the grain of the lexical aspect of the predicate. Thus, in English, the basic sense of *see* is that of a state true at an instant, as in *I see a dog*, but with a little effort (and in some languages, with explicit morphology), one can impose a process sense (*I am seeing spots everywhere*). In Russian, *kurit* ‘to smoke’ is a process, but adding a prefix *za-* (meaning ‘to deviate from the prior path’) produces a liminal predicate *zakurit* ‘to begin to smoke, to light up’.

<sup>3</sup> On the interaction between the interpretation of verbs and arguments (singular vs plural, definite vs indefinite, or referential vs non-referential), see notably Dowty (1991), Verkuyl (1993)

Aspectual operations – the semantic and pragmatic correlates of morphological operations – make use of the same concepts that describe the aspectual proclivities of predicates. Much of what is called aspect, in the sense of those distinctions that are encoded in morphological distinctions, can be described in terms of four operators. These are presented below in a form that is necessarily idealized, because the same categories are never quite identical in two languages. In addition, it is worth keeping in mind that terminology differs in different traditions.<sup>4</sup>

The *progressive* (= PGR) presents the world as an activity. It establishes that a process exists – is going on – at the contextual occasion. Often the progressive implies that the activity is going on ‘still’ (longer than expected) or ‘already’ (sooner than expected) or that the activity is tenuous and about to cease. Progressives ‘often denote a transitory as contrasted with a permanent state’ (Jespersen (1924b/1965:279)). The progressive, then, establishes the fact that the process is ongoing at the contextual occasion, in contrast to the possibility that the process might not be going on.

The progressive interacts with lexical aspect. It combines naturally with predicates expressing processes, but it combines reluctantly with stative predicates: *Back at the shed, everyone was asleep* is acceptable, but *?everyone was being asleep* is awkward. When the progressive is in fact used with an intrinsically stative predicate, it imputes a sense of activity. For example, a characterization by an acquaintance of Bob Dylan in his early years presents what is normally a state as a kind of behaviour: *He was being kind of anti-intellectual, a primitive folk singer who couldn’t admit he knew anything intellectual; He was being really obnoxious*. Or the progressive of a stative imputes a modal sense of temporariness and contingency: the world happens to be this way now, but it could easily be otherwise. In Maori (New Zealand, Austronesian), for example, the progressive of a stative, expressed by bracketing the verb with a proclitic (*e*) and an enclitic (*ana*), is used most naturally when the state continues despite expectations to the contrary:

- (1) E    poori tonu ana    te hooro  
       PGR1 dark    still    PGR2 the.hall  
       ‘the hall was still dark’<sup>PGR</sup>

Applied to liminal processes (Vendler’s ‘accomplishments’), the progressive implies that the event of reaching the limit might be disrupted before the limit is reached. The progressive is not natural with liminal states (Vendler’s ‘achievements’) unless the state is in effect understood as a process. Using the progressive of a liminal state can imply that the last phase of change is

<sup>4</sup> Terminology and abbreviations are explained in the ‘List of abbreviations and symbols’ at the beginning of the volume.



underway, and the change of state is imminent: *?The sun was shining and we were happily reaching the summit* is awkward, while *We were just reaching the summit when it began to rain* is more natural. Or applying a progressive to a liminal state paints a picture of a series of achievements (liminal states) that collectively form a process: *She's no longer recognizing old friends*.

The contextual occasion of the progressive is typically shared by other events attempting to occupy the same time. The progressive is often used to provide a background frame for other predicates that report significant change in the world: 'the effect of the progressive with its opening on to further possible development is to reinforce the disruptive effect of the intervening circumstance' (Hirtle (1967:89)). A beginning such as *In 1797, while he was helping his pioneer neighbours build a bridge* presents a situation laden with potential. It does not bode well. And in fact, in this instance, it turned out that *Joseph Palmer fell and was killed, with all his dreams unrealized*.

If a language has a progressive, it has to be distinguished from some other way of reporting situations, which, for want of a better term, might be called 'neutral' (= NTL). Progressives in different languages, in opposition to neutral aspect, differ in how extensively they are used, in a way that often reflects diachronic change. In an early stage of development, an incipient progressive insists on the unexpected nature of the ongoing activity. For example, in Lezgian (Nakho-Daghestanian), the progressive (or 'continuative') imposes the modalized sense that the activity continues longer than anticipated (Haspelmath (1993:145)). The derivational progressive in *Oneida (Iroquoian)* has a sense of extended and continuous motion: 'keep on going along doing something'. *Lithuanian* is developing a new progressive, a periphrastic combination of 'be' and a present active participle prefixed with a continuative marker *be-*. With lexical activities it is used preferentially with a modal-aspectual adverb *jau* 'already', that is, 'sooner than anticipated':

- (2) Jis jau buvo užstalėje be-sėdįs  
 He already be.PST at.table PGR-sitting.PCP.MSC.SG  
 'he was already sitting at the table'

With a liminal predicate (3), this emerging construction means that an imminent event is interrupted just before it has a chance to become actual (Ambrasas, Bemadišienė, Dumašiūtė *et al.* (1971)).

- (3) Jis jau buvo ją be-čiumpaš už kaklo, bet . . .  
 he already be.PST her PGR-grabbing.PCP.MSC.SG around.neck when  
 'he was already grabbing [just about to grab] her around the neck, when . . .'

From such restricted beginnings a developing progressive construction comes to apply to more situations and becomes more general. If a progressive develops

long enough, it may come to report any incomplete activity, and appropriately be termed imperfective.

The progressive, then, presents a situation that changes, or could possibly change, in the vicinity of the contextual occasion.

A second operator makes extended states out of situations by repeating a situation over multiple occasions. *Iterative* (or *serial* or *periodic* or *cyclic* or *habitual*) situations are then complex states composed of equivalent sub-situations in which activity alternates with the absence of activity. Iterative situations can be evaluated by languages in different ways. Iterativity can be expressed by non-actual modality (in English, the modal auxiliary *would*, as in *he would often break into song*, or by the future in Lezgian), on the grounds that each sub-situation is potential, possible, but not actual, and there is usually a hint of contingency: *he would often break into song when the spirit moved him*. Another possibility, discussed below, is that iterative situations are expressed by the imperfective, inasmuch as the total iterative predication amounts to a continuous state. Iterativity (and plural quantification of the arguments) can change a liminal predicate into a process (*he was always going around throwing bouts*).

Iterativity can be expressed by its own, distinct morphological means. Iterativity is often expressed derivationally, reduplication being a favourite, iconic, device; note Tübatulabal (Uto-Aztec) *ánaṇát* 'he is crying', *ánaṇá:ʼát* 'he is crying repeatedly'; *lahyát* 'it is loose', *láixlahyát* 'it is getting loose repeatedly' (from Voegelin (1935a:109–10), here in slightly modified transcription). Czech expresses iteration by adding an extra derivational affix to the imperfective stem of some verb classes: compare perfective *dát* 'to give (on one occasion, definitively)', imperfective *dávat* 'to be giving, attempting to give', iterative *dávávat* 'to give repeatedly', or imperfective *chodit* 'to walk', iterative *chodívat* 'to walk repeatedly', and in folk speech even a double iterative *chodívávat* 'to walk around repeatedly' (Petr (1986:85)). Irish distinguishes iterativity and progressivity, and therefore has four aspectual possibilities in the past (Ó Baoill (1994:205)). Speaking of Seán engaging in an activity of tea-drinking at six o'clock, one may use: a punctual past *d'ól* 'drank'; an iterative *d'óladh* 'used to drink'; a periphrastic progressive (with the subject noun interposed) *bhí Seán ag ól* 'Seán was [at the] drinking'; or a progressive iterative *bhíodh Seán ag ól* 'Seán used to be [at the] drinking'. Progressive and iterative in Irish are then cross-classifying categories.

The third idealized operator, the *perfect* (=PF), presents a situation as a state. The contextual occasion of a (present) perfect includes the here-and-now of the speech event and extends back, as a continuous interval, to include the actual event reported by the predicate.<sup>5</sup> To illustrate, a discussion of the

<sup>5</sup> Analyses of the perfect (Jespersen (1924b/1965); Maurice (1935); Bryan (1936); Bennett and Partee (1972); McCoard (1978); Mugler (1988); Klein (1992); Michaelis (1998)) are more similar

arduous process of restoring the Hermitage (the Tennessee home of American President Andrew Jackson), including restoring the wallpaper hand-blocked with an epic theme, reports various steps that were taken: *Curators let it be known they were in the market for the Telemachus paper . . . They contacted the Louvre . . . A French family eventually advised one of the institutions that they were dismantling their summer home . . . The Hermitage bought the paper . . .* And then the discussion comes to the installation of the wallpaper. A past tense – *It was rehung in the upstairs hall by a crew who specialize in historic work* – would continue the story of the wallpaper in narrative sequence with the other past events, without association with the present. It would leave room for other liminal events to intervene between the events narrated and the present; there is no particular expectation about its present state or whether one could expect to see it now in Tennessee. But shifting to the present perfect at this point in the discussion – *It has been rehung . . .* – closes off the sequential narrative of the past and returns the perspective to the present state of restoration. The perfect invites expectations about what is possible in the future; for example, a tourist could now expect to see the wallpaper.

More broadly, the difference between a past tense and perfect is one of orientation and continuity. With the past tense, earlier situations are examined from a time in the past and viewed as disconnected from the present. In one formulation: ‘the [past] tense represents an action or state as having occurred or having existed at a past moment or during a past period of time that is definitely separated from the actual present moment’ (Bryan (1936:363); similarly Binnick (1991:103)). It is ‘separated’ in the sense that there is much water under the bridge: the results of situations that developed in the past could be long submerged and overlaid by further changes; other events could intervene between the past event and the present; the past event has consequences for the immediate vicinity of time in the past, but not necessarily in the present. For example, in the now classic sentence *I didn’t turn off the oven*, there was a past contextual occasion when turning off an oven was possible and expected. Now other events (leaving the house, driving down the turnpike) mean that there is no possibility of reversing the result. In contrast, the perfect speaks of the state of the present world and how it arose and how it might be expected to develop. Thus the perfect in *I haven’t turned off the oven* allows one to think that it might be better if the past had been different and possibly that a future action (a U-turn?) would still be possible and desirable. Past and perfect, then, not only characterize the past, but suggest different ways of viewing what other situations are possible or likely in the present and the future.

than might appear. The pendulum has swung toward the view of the perfect as an ‘extended now’ rather than as an expression of the ‘current relevance’ of a resulting state. Yet if ‘the perfect requires a reference period which is, or includes, the present’ – which is the view of the perfect as extended now – ‘it does so because only thus is it currently relevant’ (Binnick (1991:383)).

Perfects, although they all report an extended state, can do so in somewhat different ways, along more than one parameter. One parameter has to do with quantification of the situation and time intervals (Mittwoch (1988)). Some perfects are *existential*: what is relevant is the mere fact of a state having been in effect, or a liminal event having occurred at all, at some anterior time – *I have been to England before, but have never enjoyed it much*. In contrast, a *universal* perfect reports a situation that holds continuously over all subintervals of an extended interval from the past up through the present. The sense differs depending on the lexical aspect of the predicate. A non-liminal state or process continues into the present – *I care only for you.* – *You have known me too short a time to have a right to say that.* – the acquaintance is presumed to be continuous; similarly, *I am sure she has lived all her life in a boarding-house* – the living is continuous over the named interval (here, *all her life*). If the predicate is not a continuous process or state but a liminal one, so that it reports a significant change, what endures is not the process, but the result of the change: *I had something particular to say. You've never asked me what it is. Is it because you've suspected?* – there was a liminal event of forming a suspicion, and once that suspicion formed, it was maintained through all subintervals up to the present. Existential and universal readings of the perfect are natural with different types of durational intervals. In an existential reading, there is one occasion that falls within a continuous interval of possible occasions, *Since 1942, John has been to Boston only once*. In the universal reading, as in *John has been in Boston since yesterday*, there is a continuous activity or state that held universally over *all* relevant subintervals.

A separate parameter is *whose* enduring state the perfect characterizes. The state can be a property of the theme argument – the property likely to change as the result of a liminal action: *No, I'm not easily charmed! But you have charmed me, Miss Archer* – what is relevant is the continuing state of the enchanted person, which is the theme argument of the transitive verb *charm*. Or the property can be a property of the agent: *Perhaps you have married a lord. I almost hope you have*. Or the state can be the state of the world in general. In such instances, the new state of the world is unexpected – that is, it is ‘hot news’. Thus *LBJ has just announced that he will not run for president* is a statement about the recent transformation of the whole world more than it is a statement about one individual.

In context, then, perfects can acquire different readings along two axes, depending on whether the quantification of the subintervals is existential or universal, and whether the state is the state of the theme, or of the agent, or of the whole world.

Because perfects comment on how the current situation arose out of a prior situation, the prior situation is embedded in an extended interval of the present and is accessed from the present. As a consequence, the time of the actual event

is part of the extended interval that includes the contextual occasion, and that interval can be named (*John has dug up the garden twice since January*). The time of the event cannot be named by precise temporal adverbs (*\*John has dug up the garden {two years ago / in January / at noon}*).

A perfect situation can be viewed from various contextual occasions. When the contextual occasion is the time of speech, it is a present perfect. If the contextual occasion is moved into the future or the past, one gets a future perfect or a past perfect (or *pluperfect*). Perfects set in the past and future are less finicky than present perfects (Klein (1992)). They insist less on a continuing result and pay more attention to the event itself. They even allow one to name or ask about the specific time when the event itself actually occurs: *When do you think he {had ~?has ~ will have} finished the project?* Similarly, *What had happened was that, shortly before, at three o'clock, his fate had been sealed* is normal for Henry James, whereas it would be awkward for anyone to say *?At three o'clock, his fate has been sealed*. In the past and future, the perfect is less concerned with the resulting state and more with the location of one situation relative to another. In this respect the future perfect and past perfect could be termed 'relative tenses' (see below).

Perfects are commonly expressed by periphrastic morphology. Perfects develop historically by agglutination of particles like 'already' (the perfect adverb *par excellence*), or from verbs meaning 'finish' or 'arrive' or the like, or from constructions with auxiliaries and participles or verbal nouns expressing result or possession.

As a new perfect develops historically, it will begin by being used in the most exemplary situations. Lithuanian is developing a participial perfect. To use this new perfect, the predicate has to be a liminal one leading to a tangible, enduring result (Ambrazas *et al.* (1971:148–51)). In Lezgian, the perfect in *-nwa* often has a sense of counter-to-expectation immediacy (*kwez telegramma ata-nwa* 'for you a telegram has come!'). It is also used with positional predicates, when what is important is the resulting static position more than the event that has led to the new position: *acuq'-nawa* 'having sat', that is, 'in a seated position'; *ksa-nwa* 'asleep' (Haspelmath (1993:144)).

The fourth aspectual operator, *perfective aspect* (= PFV), imposes boundaries on situations at the contextual occasion. A perfective presupposes a situation consisting of three phases: a prior situation in which there is no activity or no state holds, then a phase of change and transition, and an ensuing situation after which no more change is to be expected and the static situation that results should remain in force for the foreseeable future. There is a limit on the interval of change; in this sense a perfective event is bounded, liminal.

The perfective operator interacts with the lexical aspect of the predicates to which it applies. Predicates that are intrinsically liminal (predicates with meanings like 'walk to', 'read through', 'disperse', 'catch sight of') occur naturally

in the perfective without further ado. States and processes, left to their own devices, would rather not occur in the perfective. If the predicate is a pure process predicate (one lacking a goal), bounding can mean just placing a limit on its duration. A perfective of plain ‘work’ or ‘walk’, if understood as an activity and not locomotion to some destination, is only ‘work a bit’ or ‘walk for a while’. Making a perfective of a cyclic (iterative) process means focussing on a single token of the serial process, in the way that, to use an English example, *I saw him look at Boko, and quiver*, the last event *quiver* is one (*semelfactive*) token of the cyclic process of quivering. English does not have perfective morphology, but the context imposes a liminal reading on the cyclic verb. Russian would use explicit perfective morphology here, in this instance the suffix *-nu-*: *drožat*<sup>1FV</sup> ‘quiver, tremble repeatedly’ vs *drognuť*<sup>PFV</sup> ‘quiver, tremble once’. When liminal (or perfective) aspect is forced on a stative predicate, it makes it a liminal state – that is, a change of state. As Goodwin (1880:24) stated long ago with respect to the Greek aorist (a liminal aspect, similar to perfectives in other languages), ‘the aorist of verbs that denote a state or condition generally expresses the entrance into that state or condition’. Goodwin’s examples contrast the present, as in *basileuō* ‘I am king’, *ploutō* ‘I am rich’, with the aorist, as in *ebasileusa* ‘I became king’, *eploutēsa* ‘I became rich’. Similarly, when in Maori the perfective aspect marker *ka* can be applied to the so-called ‘neuter’ predicates, like *mate* ‘to be dead, extinguished’ or *mutu* ‘to be finished, brought to an end’, it indicates the ‘entrance into the state’:

- (4)    ka    mutu            te kai  
           PFV be.finished the.food  
           ‘the food got finished’<sup>PFV</sup>

Because the perfective presents a bounded event, temporal adverbs are understood to refer to specific occasions. For example, *He emigrated before the war* implies that emigration, a relatively punctual event, occurred at some specific time that falls somewhere within the broad time interval *before the war*.

Perfectives have a characteristic function in texts: the perfective is the aspect of narrative. A perfective reports a departure from the prior situation whose result can potentially endure. The final, resultative phase of the perfective becomes the background condition – the initial phase – for the next event. In general, then, a string of perfectives normally gives a narrative – a sequence of change and stasis, change and stasis.

If a language has a perfective – a morphological operator that expresses events that are limited – then it must be distinguished from some other way of presenting actions. Generally the category opposed to the perfective is termed *imperfective*. In Greek, the liminal category in the past tense is termed *aorist* (= AOR), and it is opposed to *imperfect* (= IF). Some other traditions use one or both of these terms. In a sense all an imperfective does is indicate that a

situation is *not* perfective – that it is not liminal – but there are differences in how languages interpret which contexts fail to be bounded and perfective. Included are one or more of the following specific contexts: (i) the progressive – a process actually in progress at some contextual occasion; (ii) analogously, a state that holds at some contextual occasion; (iii) an iterative process – one that repeats; (iv) a delimited or *durative* sense, used with processes that extend for some period of time but cease (‘walk for two hours’). These are specific and identifiable contexts. Not all uses can be so clearly defined. Sometimes, (v) the imperfective seems merely to establish the existence of a state or activity as opposed to its absence (*Many of our kindergartners read; The Danube flows into the Black Sea; The roses twist around the lattice*) or to provide description (*She sat motionless and empty-handed*). Note that these situations (*read; flows into; twist around; sat motionless*) are not ‘activities in progress’, to judge by the fact that English is not obliged to use its progressive, but they would typically be imperfective in a language that opposes perfective and imperfective.

Sometimes the motivation for choosing between two aspects is quite subtle and has to do with different views of what objectively might seem to be the same event. In Greek, one finds that ‘the imperfect is sometimes found in simple narration, where the aorist would be expected’ (Goodwin (1880:7)), such as the second event of giving in: *This he said, and lifting off his broadsword, / silver-hilted, in its sheath, upon / The well-cut baldric, made a gift [dōke<sup>AOR</sup>] of it. / and Aías gave [didou<sup>IF</sup>] his loin-guard, sewn in purple (The Iliad VII.303–5: Homer (1974))*. The two events seem quite similar, and the change from aorist to imperfect surprising. But perhaps there is a difference after all. The aorist here (*dōke<sup>AOR</sup>*) reports the ‘simple momentary occurrence of an action in past time’ (Goodwin (1880:24)). After the first event has occurred, a second act of giving in this reciprocal ritual is expected. The imperfect (*didou<sup>IF</sup>*) puts the emphasis on the content of giving, roughly ‘what Aías gave in return was . . .’ This subtle difference seems to be an instance of shifting from narrative (aorist) to description (imperfect). The broader point here is that, when there is an opposition of perfective and imperfective, there may be uses of the imperfective that are difficult to assign to one of the easily recognizable contexts.

There are differences among languages in the range of usage of perfective and imperfective (Dahl (1985)). In Lezgian (Haspelmath (1993)), the aorist, or perfective, which is marked by the suffix *-na*, is used for liminal events in the past, when it puts events in sequence:

- (5)    ada sa    q̄arpuz q’ence’ikaj            xkud-na  
       it    one melon from.under.tendrill take-AOR  
       . . . k’irer ak’ur-na   . . . kulariz       q<sup>h</sup>fe-na  
           fangs stick-AOR       into.bushes return-AOR  
       it took<sup>AOR</sup> one melon out from under the tendrill, . . . stuck<sup>AOR</sup> its  
       fangs in, . . . returned<sup>AOR</sup> into the bushes’

In contrast, the imperfective, formed with a suffix *-z(a)wa* (past tense *-z(a)wa-j*), is used for: (i) activities in progress (6); (ii) stative situations holding at some time (7); (iii) often for iterative activities or habits (8), the imperfective now being ‘in fact preferred to the Future in this function’; and (iv) to provide *description* of a process (9).

- (6) jab gu-zwa-ni  
 ear give-IFV.PRS QUESTION  
 ‘are you listening<sup>IFV.PRS?</sup>?’
- (7) zawaj uğri q’az že-zwa-č  
 I thief catch can-IFV-NEG  
 ‘I cannot<sup>IFV</sup> catch the thief’
- (8) inra har jisuz bustanar ca-zwa  
 here every year gardens sow-IFV  
 ‘every year [they] plant<sup>IFV</sup> gardens here’
- (9) abur sekindiz fi-zwa-j  
 they quietly walk-IFV-PST  
 ‘they walked<sup>IFV.PST</sup> [were walking?] quietly’

But, as in (10), in Lezgian it is the aorist, not the imperfective, that is used for durative contexts – for states and activities that go on for a specified interval of time and then cease.

- (10) sa gerenda abur q’wed-ni kis řa-na  
 some while they two also silent be-AOR  
 ‘for a while they both were silent<sup>AOR</sup>’

Russian uses an imperfective in all contexts where Lezgian would do so, and quite likely more. The general system of Russian is the following. Ordinary verbs without prefixes report states or processes and are generally imperfective: *vjazat’* ‘tie, bind’, *řat’* ‘squeeze’, *myt’* ‘wash’. To these bare verbs, one can add prefixes, which impose spatial or abstract limits on the activity. Into the bargain, they make the derived verb perfective. Thus the prefix *pod-* ‘under’ gives *podvjazat’* ‘tie up from underneath’, *podřat’* ‘tuck under’, *podmyt’* ‘wash underneath’; *ot-* ‘away, off’ gives perfectives *otvjazat’* ‘untie’, *otřat’* ‘wring out’, *otmyt’* ‘wash off’. Once the prefix is added, the resulting verbs are lexically liminal, or telic: they have a telos, or goal. Used in this form, these prefixed telic verbs – *podvjazat’*, *otřat’*, *otmyt’* – will be perfective.

What makes the Russian aspect system distinctive is the possibility of applying a derivational suffix to these prefixed verbs that are liminal (telic) and deriving imperfectives, which maintain the sense that the activity could have a possible limit: *podvjazyvaf* ‘engage in the process (repeatedly, or now at this moment, or as a general characteristic) that could lead to tying up something



from underneath', *otžimat'* 'to engage in the process of wringing out that might lead to definitive and final removal of moisture'. These derived imperfectives indicate that an activity *might* have a limit but, at the same time, that the event does not actually reach this limit on this contextual occasion. Thus, the perfective in (11) means that there was a single act in the past that led to the result that there was no more cloth-wringing to be done (at that time, in that world):

- (11) On otžal skatert'  
 He wring.out.PST.PFV tablecloth  
 'he wrung out<sup>PFV</sup> [engaged in the activity of cloth-wringing, and indeed definitively wrung out] the tablecloth'

The imperfective *otžimal'<sup>IFV</sup>* in (12) describes a situation that fails to lead to a definitive conclusion. For example, one and the same imperfective verb form *otžimal'<sup>IFV</sup>* could be used for any of the following situations: (i) an event in progress at the contextual occasion (*Kak raz, kogda ja vošel<sup>PV</sup>, on otžimal'<sup>IFV</sup> bel'e* 'Just exactly when I came in<sup>PV</sup>, he was wringing out<sup>IFV</sup> the laundry'); (ii) a repeated event (*On otžimal'<sup>IFV</sup> trjapku každye tri minuty* 'He wrung out<sup>IFV</sup> the rag every three minutes'); (iii) an event carried out for a period of time without completion (*Dvadcať minut oni otžimali'<sup>IFV</sup> ètu ogromnuju skatert'* 'For twenty minutes they kept wringing out<sup>IFV</sup> that enormous tablecloth'); and (iv) to describe the manner of a known event (*Skatert' on otžimal'<sup>IFV</sup> neobyknovenno tščatel'no* 'The tablecloth he wrung out<sup>IFV</sup> with unusual care').

- (12) On otžimal skatert'  
 He wring.out.PST.IFV tablecloth  
 'he wrung out<sup>IFV</sup> [engaged in the activity of cloth-wringing, but did not finish wringing out] the tablecloth'

Another example of the latter sense of the imperfective is (13), where the focal information is *how* Boris Leonidovič Pasternak participated in this liminal event:

- (13) Boris Leonidovič umiral v soznanii  
 Boris Leonidovich die.PST.IFV in consciousness  
 'Boris Leonidovič died<sup>IFV</sup> in consciousness' = 'Boris Leonidovič was conscious when he died'

These contexts in (i) through (iv) above are united by the fact that, in one way or another, the process of cloth-wringing has not led to the possible result that all of the moisture is wrung out of a cloth on a specific occasion, as the perfective *on otžal<sup>PFV</sup> skatert'* 'he wrung out the tablecloth' would indicate. What is unusual about Russian aspect is exactly these secondary imperfectives, which signal frustrated liminality: they are liminal at the lexical level – the

prefix points to the existence of a *possible* limit – but the imperfectivizing suffix indicates that the event fails to reach that limit in the vicinity of the contextual occasion. It is presumably for this reason that Russian uses the imperfective, not the perfective, to express a delimited duration of the activity (as in context (iii) above: the activity has gone on that *could have* led to a definitive result, but it did not).

Palauan is surprisingly similar. If someone is reading a book, the past imperfective *milnguui* means ‘the action is described as having continued for some period of time, but no claim is made that it was completed’, while using the perfective *chiliuii* would mean there is ‘no more of the book to read’ (Josephs (1975:254)). Accordingly, if a past activity occurs over an interval from seven to eight o’clock, the imperfective is used, since using the perfective would lead to the curious idea that ‘the moment of completion lasted a whole hour’ (1975:262).

In both Russian and Palauan, then, the perfective implies not only that an activity or state stops, but that it has reached some intrinsic limit. If an activity continues for a specified interval of time but does not reach that limit – if ‘he read the book for two hours’, engaging in an activity but not reaching the limit – both languages use the imperfective. As it happens, Russian and Palauan are typologically unusual in this respect.<sup>6</sup> Most languages use the liminal aspect for such situations. Lezgian, as just noted, uses its aorist (perfective) for these contexts in which an activity stops (10). Mandarin is similar. In Mandarin, the postverbal particle *le* is a perfective marker. *Le* is used in contexts in which something is measured and bounded, whether the quantity of an affected argument (14) or the duration of the activity (15):<sup>7</sup>

- (14) tāmen fā-le wu-shí-ge qǐngtē  
 they issue-PFV fifty invitation  
 ‘they sent out<sup>PFV</sup> fifty invitations’

C. Li and Thompson (1981: 190)

- (15) wo zài nàli zhù-le liǎng-ge yuè  
 I at there live-PFV two month  
 ‘I lived<sup>PFV</sup> there for two months’

C. Li and Thompson 1981: 186

It is not necessary that the activity be brought to any goal or intrinsic limit, only that the activity be delimited or measured. In similar contexts, Greek normally uses the aorist, its liminal aspect:

<sup>6</sup> Dahl (1984) and Bybee and Dahl (1989:88) report the imperfective being used in this context in only a quarter of the sample languages with imperfective.

<sup>7</sup> See discussion in Smith (1991:344–8).

- (16) *ebasileuse deka etē*  
 reign.AOR ten years  
 'he reigned<sup>AOR</sup> ten years'

The aorist indicates that these ten years are 'now viewed as a single event', and could be glossed as 'he had a reign of ten years'. There is no question here of reaching an intrinsic limit, just limitation in time. Using the imperfect here would emphasize continuation against the assumption to the contrary: *ebasileue<sup>IF</sup> deka etē* 'he continued to reign<sup>IF</sup> ten years' (Goodwin (1880:24–5)).

Thus, in idealized form, a perfective insists that all activity or all change in a situation is confined to the period included in a specific contextual occasion. The imperfective fails to be perfective in some way. Obviously, unchanging states and activity in progress will count as imperfective. There are differences across languages in how the more specific contexts – iterative or durative – are treated.

Aspect shades into tense. A clear differentiation of tense and aspect requires at least three forms. In a system opposing only two forms, it can be difficult (and perhaps not important after a point) to determine whether the system is more one of tense or one of aspect. The question has long been debated with respect to Arabic (Binnick (1991)). Probably a binary system should be taken as more aspectual than temporal, and we should say: perfective, which implies past, is opposed to imperfective, which implies present.

A perfective requires a temporal perspective that encompasses the phase of change in order to evaluate the situation as finished (completed, terminated), and for this reason is basically incompatible with an event that actually occurs during the present time. Still, one sometimes finds the morphology of perfective combined with the morphology of present tense, if some meaning can be assigned to the combination. Nugunu (Bantu, Cameroon, see below) distinguishes perfective and imperfective in all of its seven tenses, one of which is the present. The present perfective reports an imminent event (*a d̄mba* 'he is about to leave'). In Palauan, there is a present perfective, which is likewise used for imminent events. In Nomaande, another Bantu language of Cameroon with a similarly rich tense system, the present perfective reports a habit, or really a potential event – something a person 'will do' whenever an opportunity arises (Wilkendorf (1991:122)). The event itself is not actually in progress during the here-and-now of speech, but the potential for the event exists now in the present. In Lezgian the aorist can be used with both tenses, neutral and past. The neutral tense of the aorist is understood to be intrinsically past (17). Adding the past tense suffix *-j* to the aorist puts the event in the *remote* past; it is a situation or resulting state that used to hold long ago but that has ceased by a contextual occasion in the past (18).

- (17) za sa čar-ni kxe-na . . .  
 I one letter and write-AOR  
 'I wrote<sup>AOR.NTL</sup> one letter and . . .'
- (18) shift q'we wacra ada waxtwaxtunda čarar kxe-na-j  
 first two months she time-time letters write-AOR-PST  
 'in the first two months she wrote<sup>AOR.PST</sup> letters time and again  
 [but ceased]'

These examples confirm that liminality, or perfective aspect, ordinarily points to a time other than the actual here-and-now of speech, and that perfective has specialized functions when it, exceptionally, does form a present tense.

Diachronically, imperfectives develop out of certain characteristic sources. One possibility is that, as a language develops overt perfective morphology, the imperfective will be the residual absence of morphology, as in Mokilese (Austronesian). In Mokilese there are three aspects: perfective, imperfective, and progressive (Harrison (1976)). Perfectives are marked with one of a set of suffixes (*dolih-di* 'pick off, pluck', *dolih-da* 'gather up', *dolih-la* 'pick all'). A perfective indicates completed action (19). A reduplicated form is used specifically for actions in progress (20).

- (19) ngoah repahkih-di ih aio  
 I search-PFV him yesterday  
 'I searched for<sup>PFV</sup> [and found] him yesterday'
- (20) ngoah rap-raphaki ih aio  
 I PGR-search him yesterday  
 'I was searching<sup>PGR</sup> for him yesterday'

The third aspect is just the plain verbal stem that is neither suffixed (perfective) nor reduplicated (progressive). This neutral, or imperfective, aspect is compatible with a range of situations (21).

- (21) ngoah raphaki ih aio  
 I search.IFV him yesterday  
 'I {searched for ~ tried to search for ~ was searching for}<sup>IFV</sup>  
 him yesterday'

Another source of imperfectives is iteratives or progressives. Such a change is not instantaneous. An interesting case is Chamorro, in which there is a contrast between the 'neutral' aspect (the stem form) and a reduplicated form. With a process, reduplication normally indicates activity in progress, while the unreduplicated form typically is understood to refer to events in the past (22):

- (22) {maigu' ~ mämaigu'} i ga'lagu  
 sleep.NTL sleep.PGR the.dog  
 'the dog {slept<sup>NTL</sup> ~ is sleeping<sup>PGR</sup>}'

But reduplication can also be used for repeated actions (23), suggesting that this form may be on its way to becoming a general imperfective.

- (23) i pigua' pupulu yan ufuk ni  
 the.betelnut leaf and lime and  
 {mana'fandänña' ~ mana'fandädanña'}  
 get.combined.NTL get.combined.PGR  
 pues {manganages ~ mangángangas}  
 then get.chewed.NTL get.chewed.PGR  
 '... the betelnut, the leaf, and the lime, which are combined and  
 then chewed'

Yet it is not obligatory in this sense, and in fact is avoided with explicit markers of iteration like *käda birada* 'every time', when it would be redundant; in this respect the development is still partial.

Even if a language already has an imperfective, in the sense of an aspect reporting a range of aliminal activities, it is still possible to develop a progressive that emphasizes ongoing activity. In Basque, there is a newer analytic imperfective that is formed with an auxiliary and the inessive case of a verbal noun. It has completely displaced the older synthetic form for most verbs. With the small number of verbs that still contrast the two forms, the newer analytic form is said to be more specifically progressive than the older synthetic form (Haase (1994)). A new progressive can compete with and eventually displace the older imperfective, as the *iyor* progressive has been doing with the *ir* imperfective in Turkish (Lewis (1967); Thieroff and Ballweg (1994:36–8)). The possibility of changing gradually from progressive to a more general imperfective indicates that there is no sharp boundary between these categories.

Aspectual concepts are manipulated in yet another way in Iroquoian languages. In Iroquoian languages such as Oneida,<sup>8</sup> there are maximally four categories. One is the modal category of imperative:

- (24) k-atekhuniø  
 1SG.AGT-eat.meal-IPV  
 'may I eat a meal<sup>IPV</sup>'

The remaining three, more strictly aspectual, categories are both lexical and contextual. Many verbs are lexically stative and occur only in the stative aspect:

<sup>8</sup> Forms, cited in explicit morphemic transcription without various phonological reductions, are based on Lounsbury (1953: esp. 39, 85–9, 96) and Michelson and Nicholas (1981), with helpful interpretation provided by Marianne Mithun, whose forthcoming grammar of Mohawk will contain a full description of a similar Iroquoian system.

- (25) yo-aʔkalaʔw -u  
 NTR.PAT-dark -STV  
 'it was dark<sup>STV</sup>'

Intransitive event verbs, which report change, occur in all three aspects. When the *stative* aspect (= 'STV') is applied to event verbs, it imposes the sense of a state.<sup>9</sup> The imposed state can be the result of a liminal act, much like an English perfect (the second verb, 'frozen over', of (26)), or the static fact that a process is ongoing at some specific time, much like an English progressive (the fourth verb, 'wait', in (26)):

- (26) nΛ y-aʔ-atkatho-ʔ s-yo-wislatu-ʔ  
 now TRANSLOC-PST-look-PRF ITT-NTR.PAT-freeze-STV  
 neʔ tsiʔnaheʔ tho hla-iʔtl-heʔ hlo-atnuhtuʔtu-u  
 then while there MSC.AGT-sit-IFV MSC.PAT-wait-STV  
 a-hla-itsyayena-ʔ  
 IRR-MSA.AGT-catch.fish-PFV  
 'now he noticed<sup>PST.PFV</sup> it had frozen over<sup>STV</sup> again then while he  
 was sitting<sup>IFV</sup> there waiting<sup>STV</sup> to catch fish<sup>IPR.PFV</sup>'

The second aspectual category of event verbs is the imperfective, used for iterative habits that hold at all times (27) and for activities in progress on a specific occasion (28):

- (27) k-atekhuʔni-he  
 1SG.AGT-eat\_meal-IFV  
 'I eat a meal<sup>IFV</sup> / I'm eating a meal<sup>IFV</sup>'
- (28) hla-anitsyatolat-s  
 MSC.AGT-fish.hunt-IFV  
 'he is/was fishing<sup>IFV</sup>'

The other aspectual category of event verbs is perfective:

- (29) waʔ-k-atekhuʔni-ʔ  
 PST-1SG.AGT-eat.meal-PFV  
 'I ate a meal<sup>PST.PFV</sup>'
- (30) Λ-k-atekhuʔni-ʔ  
 FUT-1SG.AGT-eat.meal-PFV  
 'I will eat a meal<sup>FUT.PFV</sup>'

<sup>9</sup> On the sense of stative aspect in Oneida, see Chafe (1980). Aspect also interacts with argument marking in the verb (Mithun (1991)). Lexically stative verbs can take either agentive (= 'AGT') or patient marking (= 'PAT') in the pronominal prefix, according to whether the state reported by the verb is intrinsic ('be dry', 'be thick', with the agentive prefix) or contingent ('be dangerous', 'be damp', with the patient prefix). Event verbs take an agentive pronominal prefix in the imperfective and perfective but switch to patient marking in the stative aspect.

Table 5.1 *Use of imperfectives in some languages*

	stative	iterative	progressive	durative	punctual
English	NTL	NTL	PGR	NTL	NTL
Chamorro	NTL	NTL ~ PGR	PGR	NTL	NTL
Oneida	STV	IFV	IFV ~ STV	PST.PFV	PST.PFV
Mandarin	NTL	NTL	PGR	PFV	PFV
Lezgian	NTL	NTL	NTL	AOR	AOR
Greek	IF	IF	IF	IF ~ AOR	AOR
Russian	IFV	IFV	IFV	IFV	PFV

- (31) a-k-atekhuni-?  
 IRR-1SG.AGT-eat.meal-PFV  
 ‘for me to eat a meal’<sup>IRR.PFV</sup>

As in the examples above, the perfective is not used alone, but must be combined with an additional temporal–modal prefix: past (as in (29) or the first verb in (26)), future (30), or an all-purpose irrealis (as in (31) or the last verb in (26) ‘catch fish’). The combination of perfective and past is suited for sequential narrative (the first four events of (32)):

- (32)  
 y-a?-hla-anitahsht-e? . . . wa?-hlo-ita?w-e?  
 TRANSLOC-PST-MSC.AGT-tail.immerse-PFV PST-MSC.PAT-sleep-PFV  
 . . . t-a-hla-atihatho-? . . . y-a?-hla-  
 CISLOC-PST-MSC.AGT-jerk-PFV TRANSLOC-PST-MSC.AGT-  
 atkatho-? ni-s-hla-itahsut-e?  
 look-PFVNEG-ITT-MSC.AGT-tail.attach-STV  
 ‘[the bear] immersed his tail<sup>PST.PFV</sup> . . . fell asleep<sup>PST.PFV</sup> . . . he jerked<sup>PST.PFV</sup>  
 . . . he noticed<sup>PST.PFV</sup> . . . he has lost his tail<sup>STV</sup>’

The affinity of the perfective in Oneida with past, future, and irrealis – for time-worlds other than the here-and-now – is reminiscent of perfectives in other languages.

Some of the systems discussed here that make use of a progressive and/or imperfective category are summarized in schematic form in table 5.1. The table, constructed on the assumption that contexts can be identified universally across languages, ignores some of the more idiosyncratic uses, like the imperfective used for description. The punctual context is cited as a control category, being the context that, by definition, is not expressed by an imperfective.

As can be seen from the tabular display, there is no single pattern of organizing the uses of aspects termed imperfective or perfective. In some languages, there is a specific perfective aspect used for liminal events, while a default category – imperfective or neutral – is used for other situations. In some cases, the form signalling aliminal aspect – ‘imperfective’ – has some more specific meaning such as progressive or iterative.

Although the four operators progressive, iterative, perfect (and stative), and perfective seem to be the most frequent aspectual operators, others are occasionally found (Bybee *et al.* (1994)). One possibility is to mark the phases of an event. Kako (Bantu in southeast Cameroon) has perfective and imperfective in three tenses, and in addition uses three ‘facultative’ aspectual particles that combine with the imperfective and characterize phases of the action: the initial phase or inception *mé*, the internal or ‘durative’ phase *ndi*, and the final or ‘cessative’ phase *sì* (Ernst (1991)).

In the most general sense, aspect is concerned with the relationship between situations – states of the world – and time. Aspect is simultaneously lexical and contextual. Contextual aspect is concerned with how the notions of stativity, activity, and change relate to the contextual occasion, a time internal to the reported events from which events are evaluated. The progressive and perfect (in idealized terms) characterize how the situation reported by a predicate relates to the ‘now’ of a contextual occasion. The progressive asserts that an activity is actually ongoing at the contextual occasion, but at the same time suggests that that activity could easily *not* be going on (that it could have been cancelled or might soon be cancelled); the activity is valid at the ‘now’ of the contextual occasion, but only in a relatively limited extension of now. As one projects subsequent time intervals in the future, it is increasingly possible that the activity will cease. The perfect implies that the situation under discussion extends further away from now than one might think, stretching into the past over possible times at which the earlier event might have been submerged in further changes. Progressive and perfect, then, in a somewhat mirror-image fashion, comment on how a situation holding at a contextual now relates to contiguous times. A different kind of aspect, perfective (liminal) aspect, evaluates whether situations are bounded at a contextual occasion. Perfective aspect, at the least, indicates a state or activity is bounded with respect to its extension in time; in some languages (Palauan, Russian), the perfective means the state or activity is bounded in terms of *possible* activity. A perfective differentiates the not-now from the now. Perfectives cannot report events in progress at the here-and-now of speech, but present-tense perfectives do exist with specialized meaning in some languages.

The cardinal properties of perfective, perfect, progressive, and iterative are schematized in Table 5.2.



Table 5.2 *Cardinal aspectual operators*

<i>perfect</i>	Situation presented as a state extending back in time from the contextual occasion (commonly the here-and-now of speech) and projected to continue in the future; natural with liminal predicates; serves as the condition for other states or changes around the contextual occasion
<i>progressive</i>	Process ongoing at contextual occasion (commonly the here-and-now of speech) that is projected to continue in the immediate future, but could easily change or cease; natural with process predicates (not states); often in conflict with (or even interrupted by) other situations.
<i>perfective</i>	Situation bounded around contextual occasion (not the here-and-now of speech), after which time no more activity is projected and the resulting state will continue; natural with liminal processes; means inception with stative predicates; sequences the given event with respect to other events.
<i>iterative</i>	State consisting of subevents alternating in polarity over the contextual occasion (often the here-and-now of speech), a pattern that is projected to continue; natural with processes or liminal processes; either the whole state or the individual subevents can interact with other events.

## 2 Tense

[T]here are three times, the present of things past, the present of things present, and the present of things future . . . The present of things past is in memory; the present of things present is in intuition; and the present of things future is in expectation  
(Augustine (1960:xi))

If we are to trust Augustine, the past and the future can only be known and accessed from the present. And so, tense in language starts from the here-and-now of speech and constructs a linkage to a second time – here termed the contextual occasion. One can go to a time earlier than the time of speech, for which the morphological category would be *past* tense (= PST) or *preterite*, or to a *future* time later than the time of speech (= FUT), or one can remain in the neighbourhood of the speech time, the *present* tense (= PRS).

The contextual occasion from which the situation itself is viewed may be localized by means of temporal adverbs. If *John was reading before noon*, the phrase *before noon* establishes an approximate time interval during which the contextual occasion falls, and, as an indirect consequence, it establishes when the activity of reading was in progress. Temporal adverbs can identify relatively punctual times (*at noon*) or intervals; intervals can be closed (*between three and four o'clock; in 1934*) or open on one side or the other (*before noon; after supper*). Some time adverbs are deictic. Adverbs like *now* or *yesterday* refer typically to the speech event and are explicitly deictic. Often deixis is implicit: *in summer* can easily be read as ‘in this summer near the speech time, or, in narrative, as ‘in that summer near the contextual occasion’.

Languages differ in the number of tense distinctions they express in morphology. Lithuanian distinguishes three tenses, past *dirbau* ‘I worked (was working)’, present *dirbu* ‘I work (am working)’, future *dirbsiu* ‘I will work (will be working)’. Many languages make two-way distinctions. Yidiŋ (Dixon (1977)) opposes a past tense to a neutral, nonpast. The past is used both for events in progress at a past time (the first clause of (33)) and past liminal events (the second clause of (33)):

- (33) bana: yuŋa:n gaŋaraŋgu bala baɖa:l  
 water cross.PST alligator shin bite.PST  
 ‘he was crossing<sup>PST</sup> in the water when an alligator bit<sup>PST</sup> one shin off’
- (34) waŋi:ra mayi bugaŋ?  
 what.kind fruit eat.NTL  
 ‘what kind of fruit are you eating<sup>NTL</sup>?’
- (35) biri:nɖa biɖi guŋɖiŋ  
 sea back return.NTL  
 ‘I’ll return<sup>NTL</sup> by sea’

The general, or neutral, form is nonpast; it can be used for events actually in progress at the speech time (34) or liminal events that lie in the future (35). Alternatively, a language may oppose future (often more broadly, irrealis) to nonfuture (or realis). In Mapudungun (also known as Auracanian: Andean, Argentina and Chile), an unmarked neutral form of the verb can be understood as referring to either past or present activity; time can be specified with adverbs (36). Future events are marked with an overt affix (37) (Golluscio (2000:246)):

- (36) elu -fi-ñ ko {wiya ~ fewla}  
 give-NON-PARTITIVE-IND.ISG water yesterday now  
 ‘I {gave ~ give}<sup>NTL</sup> him water {yesterday ~ now}’
- (37) elu-a-fi-ñ ko  
 give-FUT-NON-PARTITIVE-IND.ISG water  
 ‘I will give<sup>FUT</sup> him water’

Lakhota is similar. ‘In simple, declarative sentences present and past are not distinguished’ and are not marked by any overt morphology (Boas and Deloria (1941:156)). Future events are expressed by an overt postverbal clitic *kta* ~ *kte*.

Some languages make no morphological distinctions of tense, on a strict construction of the term. To take one of many possible examples, Polynesian languages like Maori use particles proclitic to the verb to indicate various relations of situations to time and circumstances.<sup>10</sup> The three aspectual particles

<sup>10</sup> The basic paradigm and glosses (but not the terminology) from Williams (1971:xxxviii). For a more contemporary and elaborated discussion, see W. Bauer (1993:441 for (39), 420 for (41).

(leaving aside modal particles) are compatible with different times, especially if explicit time adverbials like *inapoo nei* ‘last night’ or *aapoopoo* ‘tomorrow’ are used. The progressive, spelled out by two particles, the first proclitic and the second enclitic to the verb, can refer to any time:

- (38) e karanga ana ia  
 PGR1 call PGR2 (s)he  
 ‘(s)he was / is / will be calling<sup>PGR</sup>’

Similarly, the perfect *kua* can refer to the state newly resulting from an event that holds in the past or the present or the future:

- (39) kua karanga ia  
 PF call (s)he  
 ‘(s)he had called / has called / will have called<sup>PF</sup>’

The time at which the state holds can be the contextual occasion of the narrative:

- (40) ka koki mai a Kupe kua moohio ia kua mate a Hoturapa  
 PFV return here Kupe PF know s(he) PF dead Hoturapa  
 ‘when Kupe returned<sup>PFV</sup>, he realized<sup>PF</sup> that Hoturapa had died<sup>PF</sup>’

The perfective *ka* is variable in its temporal reference. It can be used to refer to events in the future or in the past:

- (41) ka karanga is  
 PFV call (s)he  
 ‘s(he) called / began to call / will call / will begin to call<sup>PFV</sup>’

If the contextual occasion is in effect present, *ka* reports a universal, potential action.

- (42) i te koanga ka horo te tupu o te puuhaa  
 in.the.spring PFV fast the.growth the.puha  
 ‘in the spring, the growth of the puha plant [*sonchus oleraceus*]  
 is fast<sup>PFV</sup>’

It has often been observed that the future tense is not concerned just with time; it is modal as well. Any statement about the future is an assessment of modality – of the possibility of an event happening at some time later than the speech time. It frequently happens that the future tense will also be used for events that are less than actual in some other way. That is the case with the ‘future’ in Lakhota, which is also used to express obligation, since a prediction about the future can easily be understood as an obligation.

There are other aspectual and modal particles, among them the elusive marker *i* which is said to be an ‘indefinite past’, used, perhaps, to assert facts rather than to place events in narrative sequence (W. Bauer (1993:442, 423, 426)).

The future is the time that is not yet known: 'future things do not yet exist; . . . however, they can be predicted from present things, which already exist and are seen' (Augustine (1960:xi.18)). The future can only be anticipated, projected. The future always allows for branching alternatives: at any time there are at least two futures that are compatible with that situation. Linguistic time has been branching all along. From every time alternatives are projected in the future and then curtailed at later times. In this respect there is an asymmetry between earlier and later.

There is another respect, however, in which the past and future are parallel. Both can be accessed by speaker and addressee only from the starting point of the here-and-now. As a consequence, with both the past and future there is an intervening time interval between the time of speech and the contextual occasion, and some languages indicate awareness of the intervening interval. In Takelma, a single realis form 'does duty for the preterite (including the narrative past), the present, and the immediate future', while the verbal form that E. Sapir (1912:157) calls the 'future' is said to be 'employed to refer to future time distinctly set off from the present'. That is, with the Takelma future, the here-and-now of speech and the future time are separate, disconnected. In various languages, the past tense suggests that a situation that once held is no longer actual. In Kayardild (Tangkic, South Wellesley Islands off the north coast of Australia), what might be termed the past is restricted to situations 'that have been left off, that are no longer performed, or whose effects haven't persisted' (N. Evans (1995a:260)):

- (43) *dankawalada jani-jarra kunawunawura*  
 many.people search-PST children  
 'many people searched for<sup>PST</sup> [but couldn't find] the children'

In Nez Perce the 'recent past' is used for events within a day or so of the speech time and/or 'to describe an incomplete action' or 'to describe an action completed and subsequent retention or regaining of the original state' (Aoki (1970:113)). In these instances the past is used for situations that are disconnected from the present. The path from the here-and-now to the past situation spans an interval in which the situation is not in force: it was incomplete or cancelled or the results were reversed.

In this way, tense not only locates an event on the time line, as past or future, but it can attend to the whole history between now and not-now, including the intervening time. Some languages make distinctions of metrical tense that measure the length of the time interval between the here-and-now of speech and the reported situation (Dahl (1984)). In the Wishram-Wasco dialect of Chinook, four metrical tense distinctions, expressed by prefixes, are made in the past time: immediate (*i(g)-*), recent (*na(l)-*), far (*ni(g)-*), remote (*ga(l)-*) (Silverstein (1974)). Often there is symmetry or near-symmetry between past and future.

In Ngunu (Bantu, Central Cameroon), for example, there are three grades of remoteness in both the past and future. These six metrical tenses are opposed to the present tense. The seven tenses can be either perfective or imperfective. Given a frame with a perfective verb such as *a — dómhá (~ dómhá)* ‘he leave<sup>PV</sup>’, one of six tense markers can be inserted: three referring to the past – *mba* ‘long ago, or at least earlier than the preceding day’, *á* ‘the preceding day’, *báa* ‘earlier the same day as the speech event’ – and three to the future – *gaá* ‘later the same day’, *ná* ‘tomorrow (more certain)’, *nga* ‘someday later (less certain)’ (Orwig (1991:150)). Analogous distinctions are available in the imperfective. ChiBemba (also Bantu) makes four nearly symmetrical distinctions in past and future (Givón (1972)). Metrical tense in Bantu and elsewhere is concerned with the approximate length of the interval that intervenes between the here-and-now of speech and the reported situation. In this way metrical tense demonstrates that tense involves not just locating events in time, but involves constructing a path from the present to the contextual occasion and the event.

In the simplest case, the path of tense leads from the here-and-now of speech to a contextual occasion in the neighbourhood of the reported situation. Matters can become more complicated, however, in various respects.

It was noted above that the perfect locates one situation with respect to a contextual occasion. In particular, perfects in the past and future locate a situation internally, in relation to the contextual occasion; for example, in the past perfect of *shortly before, at three o’clock, his fate had been sealed*, there is a time in the narrative when the person is reflecting on his fate, and the event itself lies further in the past – *shortly before, at three o’clock*. In this sense, past and future perfects could be termed *relative* tense, or *taxis*. Such tenses locate an event as past or future or present in relation to a contextual occasion that itself is located in the past or future. Viewed in this way, the past perfect is a past-in-the-past, the future perfect is a past-in-the-future tense. As noted, these forms allow specific statements of the time when the event occurs, and do not have a strong implicature of result, in both respects unlike the present perfect; their function is less to state continuing relevance than to state relative tense. Occasionally one finds a future-in-the past (English *would* being an example: *Elizabeth Hawthorne would come to feel that life was best lived in eternal pale repose*) or even a future-in-the-future (Comrie (1985)).

When a situation is expressed by a verb that is syntactically subordinated to another, there is commonly some specific indication of how the contextual occasion of the subordinate situation relates to the contextual occasion of the matrix clause. Classical Mongolian has an imperfective converb *-ju* that ‘expresses an action performed simultaneously with the main action’. Applied to verb roots like *kele-* ‘say’ and *yabu-* ‘go’, it yields converbs used for subordinate clauses like *kele-ju* ‘while saying’, *yabu-ju* ‘while going’. That imperfective converb is opposed to a perfective converb *-ged* that ‘expresses an action completed

before the main action starts', as in *kele-ged* 'after saying', *yabu-γad* 'after having gone' (Poppe (1964:96–7)). In Tübatulabal, subordinate verbs distinguish action that is anterior (= ANT (44)) as opposed to simultaneous (= SIM (45)):<sup>11</sup>

- (44) kó:imí ánaḡ-í:yá'awáḡ iḡgím tá:twál  
 woman cry-ANT came man  
 'when the woman had stopped crying<sup>ANT</sup>, the man came'
- (45) kó:imí ánaḡ-áḡ iḡgím tá:twál  
 woman cry-SIM1 came man  
 'while the woman was crying<sup>SIM1</sup>, the man came'

In fact, Tübatulabal distinguishes a second kind of simultaneous action, in which the punctual event of the matrix clause interrupts the subordinate event (46).

- (46) kó:imí tíka-káḡ apá'agín tá:twál  
 woman eat-SIM2 hit man  
 'the man hit the woman when woman was eating<sup>SIM2</sup> [and as a result her eating was interrupted]'

The contrast of two tenses, both expressing simultaneous action, demonstrates that the relationship between situations in time involves more than just location in time.

Matters can be quite complex in finite clauses. In European languages with well-developed tense systems, it makes a difference how the subordinate clause relates syntactically to the matrix clause. Relative clauses and ordinary temporal clauses with conjunctions ('when', 'until', 'at the same time as') usually look directly to the speech event for their temporal orientation.<sup>12</sup> Thus in *Ramona came in while Beezus was reading*, the ongoing process of reading is past tense because it is prior to the here-and-now of speech, not because it is earlier than the arrival.

Indirect speech – a context in which the main event is a verb of speech (or analogous to a verb of speech, such as a verb of knowledge, or perception, or belief, and so on) – is a horse of a different, and quite interesting, colour. When the matrix verb is a verb of speech, in this extended sense, there are two layers of speakers and two layers of speech times: the internal speaker (below, Ramona), whose words are reported, and the external speaker, who is responsible for the whole report. In situations of layered speech, the external speaker can choose to use *direct speech* and yield the floor totally to the internal speaker: *Ramona*

<sup>11</sup> Voegelin (1935a:126–7). The forms cited here are the switch-reference forms, used when the subjects of the matrix clause and the subordinate clause differ.

<sup>12</sup> Complexities examined by (among others) Declerck (1991).

*had to punish Howie, so she said: 'I am never going to play Brick Factory with you again.'* In this case the pronouns and tense will be those of the internal speaker. Or the speaker can choose not to yield the floor completely but can present the embedded speech in *indirect speech*, with third-person pronouns rather than first- or second-person pronouns: *Ramona had to punish Howie, so she said she was never going to play Brick Factory with him again.* In indirect speech, there are two speakers, the internal speaker whose words are paraphrased, and the external speaker, who absorbs and then reports the words of the internal speaker, and two here-and-nows of speech (see Cohn (1978) on the considerable variation in types of indirect speech). Because there are two layers of speech, there can be some tension over how to locate the reported situation in time. Languages have different preferences.

Russian normally determines tense locally, relative to the time of the *internal* speech event. Suppose, for example, that the external speaker reports that an internal speaker is aware of a situation of 'children playing', and chooses to express that information as a finite embedded clause. If the activity is simultaneous with the act of thinking, a present is used (*igrajut<sup>PRS</sup>*); if the activity was earlier, a past is used (*igrali<sup>PST</sup>*); and if the activity of playing will come later – if the internal speaker imagines playing in the future – the periphrastic future is used (*budut igra<sup>FUT</sup>*). It does not matter what tense the verb of speech is. The tense of the subordinate verb is determined with respect to the contextual occasion of the matrix verb, regardless of whether the verb of speech is past (47) or present (48) or future (49):

(47) On dumal, čto deti {igrali ~ igrajut ~ budut igrat'}  
 he think.PST that children play.PST play.PRS play.FUT  
 'he thought<sup>PST</sup> that the children {had been playing<sup>PST</sup> ~ were  
 playing<sup>PRS</sup> ~ would play<sup>FUT</sup>}'

(48) On dumaet, čto deti {igrali ~ igrajut ~ budut igrat'}  
 he think.PRS that children play.PST play.PRS play.FUT  
 'he thinks<sup>PRS</sup> that the children {were playing<sup>PST</sup> ~ are playing<sup>PRS</sup>  
 ~ will play<sup>FUT</sup>}'

(49)  
 On budet dumat', čto deti {igrali ~ igrajut ~ budut igrat'}  
 he think.FUT that children play.PST play.PRS play.FUT  
 'he will think<sup>FUT</sup> that the children {were playing<sup>PST</sup> ~ are playing<sup>PRS</sup>  
 ~ will play<sup>FUT</sup>}'

Thus the tense of verbs in Russian in clauses of indirect speech (or thought or imagination) is generally determined relative to the time of the internal speech event.

It is worth mentioning that, under special conditions, another strategy is available in Russian. If the conjunction is *kak* ‘how’ and the matrix verb reports the observation of a process, either present or past tense is possible in the embedded verb:

- (50) On nabljudal, kak deti {igrali ~ igrajut}  
 he observe.PST how children play.PST play.PRS  
 ‘he observed<sup>PST</sup> the children playing {<sup>PST</sup> ~ <sup>PRS</sup>}’

In this context, using the present tense focusses on the moment of observation, from the point of view of the internal speaker: here is a picture of what the internal speaker observed in and around a certain time. The past pushes the whole occasion into the past: the time of observation and the situation of playing are buried in the past.

English, in the formal register, invokes a strategy reminiscent of the latter strategy of Russian.<sup>13</sup> Consider a context with a matrix verb with a past-tense form, such as *he said that* or *he knew that*. A past tense used in the embedded clause, as in *He said/knew the children were playing*, reports a situation that is simultaneous with the internal event of speech or knowledge; the activity of playing overlaps the event of his speech or state of knowledge. A pluperfect in the embedded clause reports a situation that held prior to the time of the speech/knowledge; in *He said/knew the children had been playing*, playing went on over some time interval before the time of internal speech/knowledge. And a future-in-the-past, as in *He said/knew the children would be playing*, reports an activity that is imagined to occur after the time of the verb of speech/knowledge. The pattern is termed variously *sequence of tenses* (used here), *backshifting*, or *transposition*. Sequencing of tenses happens with matrix verbs that are past in form or are past in reference. Thus sequencing is used with: the pluperfect *had said that / had known that . . .*, or *should never have said that / should have known . . .* or the counterfactual subjunctive *were he to know/say that . . .*, or a non-finite verb with implicit past reference (*he regrets saying / knowing that . . .*), or even a historical present referring to the past (*Occasionally, Darwin admits he had somewhat carelessly spoken of variation*). In contrast, with a matrix verb in the future tense, the time of the embedded situation is normally evaluated relative to the time of internal speech event: *He will learn that the children were playing* – the playing occurred before his learning; *He will learn that the children are playing in the street* – the playing occurs at the time of his learning.

When the sequence of tense is invoked, there is in a sense an extra mark of past tense in comparison to what such sentences would have if they were expressed

<sup>13</sup> It is not clear how widespread this latter strategy is. Georgian has been cited (Hewitt and Crisp (1986)).



as direct speech.<sup>14</sup> That fact suggests an interpretation (approximately that of Declerck (1991)). Augustine taught us that all tense involves linking from the here-and-now to the contextual occasion. Accordingly, in layered speech, there is a double linkage: from the external speech event to the internal speech event, and from there to the reported event. The extra past tense used in the sequence of tenses marks the intermediate step of the linkage; it marks the fact that, when the external speech event is already past, the internal speech event is past relative to the external speech time. This is the source of the past-tense marking for simultaneous states (*she said she was sick*), of the double past-tense marking of the pluperfect (*he said that she had arrived*), and of the future-in-the-past (*she knew he would arrive*).

The sequence of tense is often avoided in informal English and occasionally in formal English. When sequence of tense is not invoked, the external speaker chooses to determine tense in relation to the time of the internal speech event, in a fashion analogous to the primary strategy of Russian. The world of the external speaker and the internal speaker are not distinguished. One reason for not distinguishing is if the reported situation still holds in the here-and-now of the external speaker (*He said he is available to meet on Tuesdays* – the statement of accessibility held at the time of the internal speech and still holds now). Another reason is if the internal speech reports a universal truth which is viewed the same way by both speakers. For example, a modern biographer, writing of Nathaniel Hawthorne's difficulty in finding time to write his fiction while he was farming in the Utopian community of Brook Farm, states that: *Hawthorne had discovered that farming is not done in a few hours but from sunup to sundown*. What Hawthorne discovered is a general truth, one that both biographer and Hawthorne might express in the same terms. Thus, failing to invoke the sequence of tense blurs the worlds of the two speakers and merges the way they express what they say or know or see.

In contrast, invoking the sequence of tense keeps the times and worlds of the external speaker and the internal speaker apart. Sequence of tense limits the reported situation to the past time-world of the internal speech event. The embedded event can only be accessed through the process of linking and translating from internal speaker to external speaker through the intermediary of the

<sup>14</sup> The phenomenon of sequence of tense has elicited various interpretations (Smith (1978); papers in Coulmas (1986); papers in Gvozdanović and Janssen (1991); Janssen and van der Wurff (1996)). Comrie (1986a) argues against the view that a sequenced past is an 'absolute' past keyed directly to the here-and-now of speech. Binnick (1991: 82–98, 339–92) details the problems with two of the more popular approaches, those that involve tinkering with the Reichenbachian system and those that derive sequenced tense by rule from the 'true' tense of direct speech. Declerck (1991), who also argues against deriving sequence of tense by rule, views sequence of tense as a linking between the reported situation and the here-and-now (external) speech time *through* the intermediary of the internal speech event, which motivates the extra past tense marking.

internal speech event. In *Hawthorne had also discovered that he could* (\*can) *not let his friends break their backs over a heap of manure without him*, there are two steps: from the biographer and her readers to the past world of Hawthorne and, within the past world generally, to Hawthorne's individual reaction to his experiences on Brook Farm. What Hawthorne discovered was something about *his* role at Brook Farm; it was a fact bound to that specific time and world, not a general truth. Hence the biographer uses the past-tense *could* (reflecting sequencing) rather than present-tense *can*.

The contrast of sequenced tense with unsequenced tense does not mirror directly what is actually true in the present, or what the external speaker believes to be true. For example, a contemporary history of biology uses an embedded present in telling us that *Breeders and naturalists believed until well into the first quarter of the twentieth century that there are two kinds of variation*. That is, a proposition the author, a modern biologist, does not subscribe to, but it is a proposition that would be *formulated* in the same way by those benighted breeders and by any contemporary enlightened biologist. Within a page the same history tells us that *Darwin found that no two individuals were entirely identical when examined carefully*. That is proposition to which the author does subscribe. Using the past embeds Darwin's discovery in the time of Darwin's life and the sequence of his discoveries; the event of the discovery is presented as a fact of Darwin's time.

Thus, tense in clauses reporting the content of speech (knowledge, belief, observation, etc.) can be marked in either of two ways: either in relation to the internal speech event, if the content of speech (or knowledge, belief, etc.) would be stated in the same terms by external and internal speaker, or, alternatively, by linkage from the internal speech event in the past to the external speech event, if the act of speech (or knowledge or belief) and the content are limited to the past time-world. Russian and English differ markedly in which strategy they prefer for marking tense in indirect speech.<sup>15</sup>

In languages that have an unambiguous past tense, sequential narrative is usually carried out in the past. But when the time at which an episode occurred has been established as past, the speaker can choose to take for granted the linkage from the here-and-now of speech to the contextual occasion in the past and instead carry on the narrative in the present tense, using the device of the *historical present*. The speaker pretends to be present and to witness the events without any temporal distance, thereby presenting events as immediate or vivid.

<sup>15</sup> Attic Greek used a distinction of two moods, indicative and optative, in indirect speech in a similar fashion. Goodwin comments (1880:152): 'the Optative [is] used when the writer wishes to incorporate the quotation *entirely* into his own sentence, and the Indicative, when he wishes to quote it in the original words as far as the construction of his own sentence allows'. That is, the optative marks the process of translation, and the indicative yields the floor to the internal speaker, eliminating the distinction of two speakers.

To an extent, the question of when the speaker chooses to invoke the historical present, and for how long is a matter of style and individual preference. Still, the shift to historical present tends to occur in describing events that are boundaries in some other respect, such as shifts of location or shift from narrative to reported speech. For example (Wolfson (1982:43)), the following episode begins with past tenses: *I was at the shopping center the other day so I met, I met Gary there . . .* The speaker then switches to the present to report Gary's challenge, which is the pivotal event of the beginning of the narrative: *and he says, 'Come on down, I want to play some pool with you.'* The speaker switches back to the past tense to report the speaker's predictable response to Gary's challenge (*So I said 'All right'*) and to provide a background explanation (*I hadn't been down there for years and you know, played pool*). After this aside, the speaker uses the present to narrate the transition to the contest itself (*So we go down . . .*) and continues to use the present to describe the drama of the competition as one could observe it if one were there in the pool hall with the narrator: *. . . and he takes this stick out of the case and puts it together and he goes through all the motions like these big pool hustlers.*

The 'historical present' – in the sense of this transposition of narrative perspective to the present – can be used in a wide range of genres or contexts: oral narrative, history, epic, reportage (Fleischman (1990)). The device is employed with different frequency and stylistic connotations in different genres and traditions (Fleischman 1991). In English the device is in fact sometimes used in historical writing to report on timeless individuals whose activities are observable as if in the present (*Occasionally, Darwin admits he had somewhat carelessly spoken of variation* – as can be observed now in his writings), whereas the past tense treats individuals as bound to their historical time (*Darwin did not believe in 'spontaneous variation'* – a judgement about his beliefs at a past time). On the whole, however, in English, using the present to narrate the past has strong connotations of orality. The device appears to be used more freely in Russian (for example, in writing about history), with less extreme stylistic connotations.

The diachronic paths of development of tense are now familiar (Bybee and Dahl (1989); Bybee *et al.* (1994)). If an event is known to be completed (perfective) or to result in a state (perfect), it is an event that, as a rule, has occurred in the past. Hence past tense develops from aspectual markings, from perfectives or perfects. Future tenses develop from certain specific verbs (Palmer (1986:216–18); Bybee and Dahl (1989)): verbs with the modal content of intention and volition (English *will*, Serbian *hoću* 'I want' > *ću* 'I'll'), modality of obligation (Latin to Romance futures using forms of *habēre* 'to have'), or aspectual content of movement and change (English *going to* > *gonna*). Whatever an agent intends to do or feels obligated to do or moves in order to do is something that is not yet a reality, but it is something that the agent desires or feels obligated or moves to bring about. These verbs all project a transition from non-existence of

Table 5.3 *Cardinal temporal operators*

<i>present</i>	Situation holds over an interval including the moment of speech, and potentially the immediately preceding and the immediately following time; situation can be known directly and coexists with other situations; natural with states and activities but not liminal predicates
<i>past</i>	Situation holds over an interval prior to the here-and-now of speech, and by implicature no longer at the here-and-now of speech; situation is known with certainty and is assumed to be responsible for the here-and-now; most natural with liminal predicates
<i>future</i>	Situation holds over an interval later than the here-and-now of speech, and (ordinarily) not yet at the here-and-now of speech; the situation can only be projected and anticipated from the here-and-now; natural with liminal predicates
<i>distal / remote / metrical</i>	Situation holds at a time that is separated from the here-and-now by some (long or measured) interval of time in which the world is qualitatively different from the here-and-now

a situation to existence of a situation in the future, and can easily be generalized to future situations generally.

A schematic summary of the basic tense operators (present, past, future) is given in table 5.3.

Both tense and aspect have to do with situations in time, and both are in a sense deictic. Conceivably we should think of the two together as a general category of tense–aspect, or temporality. On that view, aspect locates events (and measures their progress or change or results or liminality) in relation to an internal time – that is, a contextual occasion in the vicinity of the event itself. Tense locates an event with respect to the here-and-now of speech by tracing out a path from the now of speech to the contextual occasion. In some contexts (for example, indirect speech), the path can be complex.

### 3 Mood and modality

The real is composed of the potential and actual *together*

(C. S. Peirce, qtd in Matthiessen (1947:138))

Modality is about alternatives – how we come to know and speak about the world, how the world came to be as it is, whether it might be other than it is, what needs to be done to the world to make it what we want. The alternatives are sorted out and evaluated by some sort of authority, often the speaker, or, if not the speaker, some other participant or even another situation. Modality, then, is consideration of alternative realities mediated by an authority.

When, for example, the narrator says to his addressees *Call me Ishmael*, he hints at two alternative histories. First, he indicates that his addressees do not yet call him by that name and, if he did not intervene with his request, his addressees would continue not to call him by that name. That is one of the versions of reality, one history: ‘ $\neg\sigma$  until now, expect  $\neg\sigma$  to continue’. (Here ‘ $\sigma$ ’ is a situation, ‘ $\neg\sigma$ ’ its negative counterpart.<sup>16</sup>) Second, against the background of this history, which should continue by inertia, the narrator proposes to have us substitute an alternative history and change the future. The narrator in effect says, true, you have had no reason to call me Ishmael up to this time – that is, ‘ $\neg\sigma$  until now’ – but please, by all means, call me Ishmael – ‘from this point forward, let there be  $\sigma$  instead of the inertial  $\neg\sigma$ ’. In doing this, the speaker acts as an authority – as someone or something that can juxtapose and evaluate alternative versions of reality and influence the relationship between them. Further, the speaker attempts to persuade (invite, obligate, cajole) the addressee to act as a secondary authority who will then take responsibility for influencing the relationship between two alternative histories.

Although the imperative is an extreme form of modality, the same elements – alternative histories, mediation by an authority – can be found everywhere, if only in weaker or degenerate form. The ideas of authority and alternatives are present even in seemingly innocuous assertions in the indicative (realis) mood. Consider, for instance, Darwin’s report of sighting whales – ‘monsters’, as he calls them – off the coast of Tierra del Fuego: *On one occasion I saw two of these monsters, probably male and female, slowly swimming one after the other, within less than a stone’s throw of the shore*. Even such an indisputable assertion engages in weighing two alternative versions of reality. Darwin in effect is saying to his addressee, ‘you might expect  $\neg\sigma$  – that whales would *not* come close to the shore – but no, I wish to inform you that the truth is rather  $\sigma$  – whales can be seen close to shore (and your expectation is thoroughly misplaced, for they come even as close as a mere stone’s throw!)’. Even an assertion, then, weighs two histories: the asserted reality and the alternative, still imaginable even as the speaker excludes it.

There are many, many ways in which a situation can be less than certain and real, and hence many flavours of modality are active in language. Perhaps three realms of modality can be distinguished: epistemology, obligation, and contingency.

The first realm of modality, *epistemology*, has to do with knowledge about events and the world. We are perhaps accustomed to thinking of the person who speaks as an unquestioned authority, as the source of the knowledge or beliefs that the speaker puts forth. But the role of the speaker is more complicated.

<sup>16</sup> In a sense, negation is a pure operator of modality – of alternatives – so much so that it merits its own treatment: see J. R. Payne (1985).

The speaker has a dual role, of being the addressee of sources of information (sensory perception, the speech of another speaker) and then turning around and acting as speaker. Although language often ignores the speaker's activity in acquiring knowledge, devices in language sometimes point to the existence of such a process of epistemology. Questions are the most explicit operator in the realm of epistemology. In a question, after all, the speaker concedes lack of complete authority and asks the addressee to act as an authority and correct the deficit. Interrogatives are a very special linguistic operation (or set of operations), which merit a discussion of their own (see chapter I.5). At the opposite end of the epistemological spectrum from questions are declarative indicative sentences. As we just observed, even a confident assertion of one's knowledge – like Darwin's assertion about the monsters swimming close to shore – has some degree of epistemological modality.

In between the epistemological uncertainty of questions and the near certainty of assertions, the speaker can indicate some attention to epistemology, or what is often termed evidentiality: that is, some concern with how knowledge is acquired and how certain it is.<sup>17</sup> For example, Takelma (Oregon, isolate?) can discuss the death of a man at the hands of a bear by using the stem of the realis mood (51) or by using the 'inferential' suffix with a different form of the verbal stem (52):

(51) menà yap'a t'omō -k'wa  
 bear man kill.RLS -3OBJ  
 'the bear killed the man'

(52) menà yap'a dōm-k'wa-k'  
 bear man kill-3OBJ-INFR  
 'it seems that the bear killed the man (the bear must have / evidently has / killed the man)'

The inferential is used 'to imply that it is definitely not known from unmistakable evidence that the event really took place, or that it is inferred from certain facts (such as the finding of the man's corpse or the presence of a bear's footprints in the neighborhood of the house), or that the statement is not made on the [speaker's] own authority' (Sapir (1912:158)). Sapir's characterization is instructive, for it brings out the notion of authority of knowledge. The inferential construction exactly indicates that the speaker's authority is attenuated, uncertain.

Within the general realm of epistemological modality, a frequent concern is to mark that the information being reported by the primary speaker has been acquired through the speech of another speaker. In Tübatulabal, for example,

<sup>17</sup> Cross-linguistic investigations of evidentiality can be found in Chafe and Nichols (1986).



Or the speaker may express a wish (*optative*) that the world be changed from its current or likely state. In using the optative, the speaker does not impose responsibility for the change on the addressee, but rather states a wish that the world will change spontaneously: *And God said, 'Let there be light', and there was light.*

Languages often have a class of verbs which, in their lexical meaning, report the fact that a command is being imposed. The class of *directives* includes verbs meaning 'order', 'permit', 'prohibit', 'persuade', 'dissuade', or potentially almost any verb of speech used to report not a fact or an intelligence but the attempt to impose an obligation to change the world ('tell John to leave', 'wave to John to come closer'). The verb itself, since it reports a fact, could easily be in the realis mood, but the content of what it reports is analogous to an imperative; whatever is ordered is not yet actual. Hence the clause embedded under a directive verb is often not an ordinary finite realis verb, but an infinitive or irrealis mood. The grammatical subject of the directive verb is an internal speaker, corresponding to the speaker of an imperative. The object of a directive verb – the person receiving orders – is analogous to the addressee of an imperative, who is instructed by the primary authority to act as a secondary authority to change the world.

*Volitive* verbs (*I want, I will*) are directives turned back on the self – the same person who acts as primary speaker ('I have a wish about the world') also takes responsibility for the world ('and I will act accordingly'). *Purpose (final)* clauses combine intentional (self-directed) modality and also contingency. Doing something in order to achieve a result presumes a discrepancy between the current reality and the future reality anticipated when the result of the final situation is achieved. The new situation follows only under the condition that some event is fulfilled. For example, if *Jack and Jill went up the hill / To fetch a pail of water*, the final event of fetching is dependent on the going, and the going is in the hands of the authorities, Jack and Jill.

Just as directives are factual reports of imperatives, there are verbs akin to optatives – predicates expressing the speaker's wishes or apprehensions, such as 'resent', 'regret', 'appreciate the fact that', 'fear', 'hope', 'be distressed to hear that'. Such verbs tend to be stative, and they have a prominent argument which is often less than a full-fledged grammatical subject. That argument names an internal speaker or authority: whoever fears a situation is an authority evaluating and responding to alternative scenarios, in a fashion analogous to the external speaker who expresses the wish of an optative. The situation reported by such verbs involves a tension between two alternative histories. The two histories differ in character depending on the predicate. *Regret* or *fear* presuppose the likelihood of the situation ('I acknowledge that  $\sigma$  could be real') while it expresses a counterfactual hope for the opposite polarity ('... but wish instead that  $\neg\sigma$ '). A predicate such as *be relieved* presupposes a certain situation, but



acknowledges that the world might have been otherwise, at the present or in the future, again with a hope for the opposite ('I was afraid that  $\neg\sigma$ , but it turns out instead, happily, that  $\sigma$ '). Such *evaluative* (or *attitudinal*) predicates are reports of facts, and while the predicates themselves appear in the realis mood, the content of the wish or the fear or the anxiety is not completely actual. That often calls for a mood other than the indicative (realis).

Obligation is a kind of directive modality. The modality of obligation – often termed *deontic* modality, from the Greek participle *deon* 'that which is bound, tied' – involves both authority and alternative realities: '*Well, you may fall in love with whomsoever you please, but you mustn't fall in love with my niece*', said the old man. Behind obligation is an operation analogous to an imperative or optative: 'creating an obligation should be understood . . . in terms of authoritative acts of "so be it"' (Lyons (1977:835)). Lyons's compact formulation points to ways in which the general notion of obligation is analogous to an imperative. In the imperative, the speaker precipitously declares 'so-be-it'; the obligation comes out of the blue and is imposed on the addressee. In lexical verbs that express obligation – verbs such as *ought*, *must*, *should*, *behoove* – the obligation is normally a static obligation, always applicable when a relevant occasion arises. And although there is no explicit, individual speaker to declare 'so-be-it', the sense of a source – of an authority – is still there. The actual speaker, instead of imposing the 'so-be-it', speaks on behalf of a higher speaker or, it might be better to say, on behalf of all speakers. Authority becomes impersonal, generalized. The 'so-be-it' character of obligation points to the tension between two alternative histories: left to its own devices, the addressee of obligation would be inclined to allow  $\neg\sigma$ , at least in some worlds, but the speaker, invoking general principles, reminds the addressee that  $\sigma$  holds in all worlds. Thus deontic modality, or obligation, involves both transfer of responsibility from one authority to another and alternative histories.

Related to obligation is permission (English *may*, now *can*). Permission, like obligation, involves an implicit, generalized authority, and responsibility for action is granted to a proxy authority. Permission likewise has two histories: one might imagine, by inertia, that  $\neg\sigma$  in all worlds, but instead, let there be one accessible world in which  $\sigma$  holds. Closely related to permission is *ability*. In the modality of ability, there is merger of two roles: whether or not the agent can bring about the situation  $\sigma$  depends on properties of that same individual. School teachers a generation or two ago used to warn pupils to differentiate *can* and *may*, reserving *can* for ability, *may* for permission; the fact that we were so warned indicates that permission (*may*) is not far removed from possibility (*can*).

With permission and obligation, the primary authority becomes impersonal, but there is still an addressee of the obligation, someone who is charged

with bringing about the 'so-be-it'. If the addressee of obligation also becomes impersonal – if the responsibility for 'so-be-it' is taken away from any individual and ascribed to the world, then permission and obligation shift to characterizing the possibility or necessity of some situation in the abstract. Thus '*Perhaps it's Mrs Touchett's niece – the independent young lady*', Lord Warburton suggested. '*I think she must be, from the way she handles the dog*' does not characterize an obligation on any individual (unlike *must* in *you mustn't fall in love with my niece*), but *epistemic modality*, the degree of certainty of the event as a whole. Epistemic modality makes use of modal concepts seen elsewhere. The necessity or possibility of a whole event is like deontic necessity or possibility, and it is not uncommon for predicates to do double duty and express both deontic and epistemic modality (as does English *must*). Epistemic modality differs from deontic modality in the nature of authority: instead of the generalized authority (of a moral code, of all speakers) in deontic modality, in epistemic modality the authority is the state of the world at the time and the nature of the evidence available to the speaker; that sense of authority was evident in Lord Warburton's *I think she must be, from the way* . . . Epistemic modality shades into epistemology.<sup>18</sup>

The second realm of modality, then, involves a broad spectrum of 'so-be-its': an authority, whether individual or universal, declares that an addressee should effect a state in the world; the desired state – the 'so-be-it' world – is a future world different from the world seen now or from the expected range of possibilities.

The third realm of modality is modality of causation and contingency.

One could think of contingency as the most degenerate form of modality. There is no individual speaker, or even generalized speaker or moral code, who has authority over the world. Responsibility for one situation in the world is assigned to another situation. Contingency is modality reduced to its least individual, and the notion of 'authority' becomes its most metaphorical: one situation is responsible for the existence of another situation.

The explicit form of the modality of contingency is the conditional construction (Palmer (1986:188–99)). Explicit conditionals distinguish two situations: the contingency (Greek *protasis*) and the consequence (Greek *apodosis*). Because defining causation and contingency is notoriously daunting,<sup>19</sup> it may be sufficient to note simply that a conditional construction asserts that one

<sup>18</sup> Lyons (1977:793) draws the following distinction: 'whereas epistemology is concerned with the nature and source of knowledge, epistemic logic deals with the logical structure of statements which assert or imply that a particular proposition, or a set of propositions, is known or believed'. For linguistic purposes, perhaps 'epistemology' would do as a term covering all considerations of how speakers acquire and manipulate knowledge.

<sup>19</sup> Discussed in various papers in Traugott *et al.* (1986), Jackson (1991).

situation – the contingency, or  $\sigma_i$  – is in some sense ‘prior to’, or is the authority for, the consequence, or  $\sigma_j$ . Further, the inference is invited in folk reasoning that if the contingency  $\sigma_i$  were removed, then the consequent situation  $\sigma_j$  would disappear as well. Contingency opposes two alternative histories: ‘entertain the thought that  $\sigma_i$  is true in a world and then so is  $\sigma_j$ , but if it were to happen the  $\sigma_i$  were not true, one should expect  $\neg\sigma_j$ ’.

Conditionals vary along many axes and come in many flavours. Languages vary in the extent to which they mark conditional structures at all: no marking (Chinese) or marking by conjunctions (Classical Arabic), or marking by combinations of tense or mood, or marking by conjunctions and particles of various etymologies (Ferguson, ter Meeules, Reilly, and Traugott (1986); Comrie (1986b)). Conditional constructions presume that the condition is in some way tentative, uncertain, hypothetical; after all, ‘the Greek has no form implying that a condition *is* or *was* fulfilled, and it is hardly conceivable that any language should find such a form necessary or useful’ (Goodwin (1965 [1889]:140)). (Arguably, realis past narrative is simply a record of conditions and consequences that *are* fulfilled – but narrative does not require an explicit conditional construction.) There seem to be three ways in which a contingency can be less than certain, and hence three cardinal patterns of explicit conditional constructions.<sup>20</sup> Each has a characteristic, though not exclusive, time orientation that is associated with it. (i) In *general*, or iterative, conditionals, one situation is known to occur off and on, and when it does, we expect the consequent situation to occur as well (‘if it happens that  $\sigma_i$ , expect  $\sigma_j$ , but otherwise expect  $\neg\sigma_j$ ’). Example: *Whenever it is a damp, drizzly November in my soul, I account it high time to get to sea as soon as I can*. General conditions are states that are often assumed to be universally valid, hence they have an affinity with the present, but they can also be displaced to the past or future. (ii) In *counterfactual* conditions, the condition is known to be not actual, yet it is considered worth discussing as an alternative reality: ‘it is a fact that  $\neg\sigma_i$  and therefore (most probably) it is also true that  $\neg\sigma_j$ , but let us think of a world in which  $\sigma_i$  is rather true, and in that world we would expect  $\sigma_j$ ’. An example is: *Had we but world enough, and time / This coyness, lady, were no crime* – because in fact we do not have infinite world and time, your hesitations *are* a crime, says the lyrical persona of the poet Andrew Marvell to the object of his affections. The past is the time that is known with the greatest certainty, and, accordingly, counterfactuals are at home in the past. It is common for languages to correlate past tense and counterfactual modality. (iii) Potential conditions are those whose fate is uncertain: ‘it may well be that  $\neg\sigma_i$  will come to pass, in which case expect  $\neg\sigma_j$ , but if

<sup>20</sup> Greenberg (1986) works with a richer matrix of nine cells – three tenses (of the protasis) multiplied by three degrees of hypotheticality.

by chance  $\sigma_i$  arises, then expect  $\sigma_j$ '. Example: *If you will worship me, it shall all be yours* – the devil still hopes his temptation will be efficacious. Potential conditions have a strong affinity with the future.<sup>21</sup>

Languages differ in how they encode the three cardinal possibilities.

Russian tends toward using the same verb forms in both clauses. General (iterative) conditions are marked by imperfective aspect in both clauses. Counterfactuals use the subjunctive mood in both clauses, and potential conditionals use (typically) some sort of future form, either the periphrastic imperfective future or the perfective.

Takelma prefers to mark 'general conditions that apply to past time, or that have application without reference to time-limit' with realis mood in both protasis and apodosis, both 'verbs being, if possible, frequentative or continuative'.<sup>22</sup> That is, aspect is used to mark general conditions. In the two other cardinal patterns, the protasis adopts the same less-than-realis mood, the *conditional* (= CND) (both (54) and (55)). The mood of the apodosis indicates the degree of uncertainty. The *potential* mood (= PNT) is used in counterfactuals (54), the future in potential conditions (55).

(54) gi ge yú-k'i? eit'e? bō yaná? hagà  
 I there be-CND 1SG then go-3SG.PNT thus  
 'If I had been there, then in that event he would have gone'

(55) āk' yanà-k'i? gi hono? yaná-t'ē  
 he go-CND I too go-1SG.FUT  
 'if he goes, I too will go'

With respect to the marking of condition and apodosis, Chamorro seems in one respect the opposite of Takelma. Chamorro uses the realis mood in the protasis but the irrealis in the apodosis, in both counterfactual and potential conditions; that difference is marked only by an additional particle *mohon* 'as if' in the counterfactual. Realis mood, sometimes with the marked reduplicated aspect, is used in general conditions.

Usage in Attic Greek is mind-numbingly complex (Goodwin (1880:90–1)). The basic cases are these. General conditions, in the past, take optative in the protasis plus imperfect in the apodosis (56) or, in the present time, the subjunctive in the protasis plus present in the apodosis (57):

<sup>21</sup> The list of cardinal patterns does not include epistemic conditions, where the uncertainty is in the speaker's knowledge about events: *if Jack fetched the water; [you can be sure that] Jill was pleased*. Epistemic conditionals seem not to elicit distinct combinations of moods, but are parasitic on other conditional structures.

<sup>22</sup> Sapir (1912:esp. 197–8; transcription modified slightly). Most 'tense-moods' are indicated by subtle differences in subject inflection. The conditional is periphrastic.

- (56) ei tis touto prassoī kalōs eikhen  
 if one this do.OPT good hold.IF  
 ‘if/when anyone did<sup>OPT</sup> this, it was<sup>IF</sup> good’
- (57) ean tis touto prassēi kalōs ekhei  
 if one this do.SBJ good hold.PRS  
 ‘if/when anyone does<sup>SBJ</sup> this, it is<sup>PRS</sup> good’

In potential conditions, the condition is subjunctive and the apodosis is future (58):

- (58) ean prassēi touto kalōs heksei  
 if do.SBJ this good hold.FUT  
 ‘if he does<sup>SBJ</sup> this, it will be<sup>FUT</sup> good’

A familiar complication is that, if the condition is viewed ‘less distinctly and vividly’, the future is used in the condition as well as in the apodosis (59).

- (59) ean praksei touto kalōs heksei  
 if do.FUT this good hold.FUT  
 ‘if he does<sup>FUT</sup> this, it will be<sup>FUT</sup> good’

In both general and potential conditions, then, the protasis expresses some degree of uncertainty by means of a less-than-realis mood (optative, subjunctive, future), while the apodosis simply uses the indicative in the appropriate tense: past for past general conditions, present for present general conditions, and future for potential conditions.

Counterfactual conditions would ordinarily seem to be the height of uncertainty – after all, the situation is just hypothetical; though it can be imagined, it is known not to be real. Yet counterfactual conditions in Greek use the realis mood, commonly the aorist, in both the condition and the apodosis. The counterfactual character of the condition is marked only by the particle *an* in the apodosis:

- (60) ei eprakse kalōs touto an eskhen  
 if do.AOR good this hold.AOR  
 ‘if he had done<sup>AOR</sup> this, it would have been<sup>AOR</sup> good’

In Palauan, general conditions seem not to be distinct from temporal (‘when-ever’) constructions (Josephs (1975)). Other conditions have points of similarity with Greek and Takelma. The protasis is expressed in the same irrealis mood in both counterfactual and potential conditionals – in this respect like Takelma – and the apodosis in the realis – in this respect like Greek. The difference in the degree of uncertainty is indicated by tense of the apodosis: the nonpast, or *neutral*, tense is used for potential conditionals (61) and the past tense for counterfactuals (62).

(61)

a lę-bęskak a udoud a dęmak e ak mo ę a Guam  
 if 3SG.IRR-give.NTL money father then I go.RLS.NTL to.Guam  
 ‘if father would give<sup>IPR.NTL</sup> me money, I would go<sup>RLS.NTL</sup> to Guam’

(62)

a lę-bilskak a udoud a dęmak e ak mlo ę a Guam  
 if 3SG.IRR-give.PST money father then I go.RLS.PST to\_Guam  
 ‘if father had given<sup>IPR.PST</sup> me money, I would have gone<sup>RLS.PST</sup> to Guam’

Kayardild (N Evans (1995a:ch. 7)), which has an extremely rich system of marking moods, consistently differentiates the protasis from the apodosis. The protasis of counterfactuals uses what is termed ‘past’, a category which implies cancellation of the past reality; in this way it is compatible with situations known not to be true. In counterfactuals, the apodosis has the most general unrealis mood, the potential:

(63) ngada kurr-jarra bukajina diinkina ngada raa-ju  
 I see-PST seahawk sit I spear-PNT  
 ‘if I’d have seen<sup>PST</sup> a sea-hawk landing, I’d have speared<sup>PNT</sup> it’

Potential conditions use the conditional in the protasis, the conditional being a distinct mood that appears in subordinate clauses exactly to ‘express a state or action that precedes another action’ (Evans 1995a:261). The apodosis has a mood oriented to the future, such as the potential.

(64) ngada yakuringarrba ra-yarrb ngada wuu-ju ngumbanju  
 I fish spear-CND I givePNT you  
 ‘if I spear<sup>CND</sup> a fish, I’ll give<sup>PNT</sup> it to you’

Iterative conditions likewise use the conditional in the protasis, but use the realis mood in the apodosis, as in (65), which is to be construed iteratively as men stealing sandbanks on more than one occasion.

(65)

jathaa dangkaa ngakankinaba wungi-jarrb dulmarra dangkaa juliya barrki-j  
 other man sandbank steal-CND country man bone chop-RLS  
 ‘when another man stole<sup>CND</sup> (someone’s) sandbank, then the boss of  
 that country chopped<sup>RLS</sup> bones’

Three observations can be made about this considerable variation among languages. First, general conditions are often treated as aspectual and expressed in the same way as iterative events. Second, in the relations between protasis and apodosis, there can be harmony of mood and tense between the clauses (Russian), but more often the condition and consequence are marked differently. Usually it is the protasis that receives some special mark of its uncertain

status (Palauan, Takelma, Kayardild, Greek – except in counterfactuals). But not always: in Chamorro it is the apodosis that is marked as irrealis (also Greek counterfactuals). Third, counterfactuals are usually distinguished from other conditions, but the marking they use is not necessarily less actual than in the potential or general types – which, after all, are also not completely actual. Past tense is often used to mark counterfactuals (Greek, Palauan, Kayardild).

Despite the richness and broad range of notions of modality, it is possible that grammatical systems of mood – modality crystallized as morphology – are relatively simple. A distinction of at least imperative as opposed to realis, or indicative, mood is nearly universal. Curiously, the imperative, though it is semantically extremely rich and in that sense ‘marked’, is not uncommonly the barest stem form of a verb. It might also be mentioned that the infinitive used to be considered a grammatical mood opposed to the indicative and marked moods (imperative, subjunctive). Indeed, the infinitive is used in many of the same syntactic contexts as subjunctives (or similar ones), subordinated to intentional verbs or directives: *he told me to go ~ that I should go*.

After the unmarked mood – indicative or realis – and the imperative, it is not uncommon to distinguish another mood. It tends not to be used for any single realm of modality, but is an all-purpose mood used to express a range of less-than-completely real modality when the degree of irreality rises to some threshold. There is no single accepted name; traditions differ, and usage differs in different languages. The term *subjunctive* points to the fact this mood will commonly appear in embedded structures. *Conditional* points to one major function of marked modality, that of indicating contingency in explicit conditional structures. *Potential* covers a broad range of especially future possibilities. When there is no established term in some tradition, *irrealis* is useful.

This other mood – an irrealis mood distinct from the imperative and the indicative – will commonly be used in a range of contexts that in one way or another attenuate the certainty of the reported situation. The Spanish subjunctive, for example, is used in a broad range of contexts, including embedded clauses.<sup>23</sup> Setting aside its use in independent clauses, relative clauses, final clauses, and conditions, we can observe that this mood is used in complements of the following five verb types.

(i) Volitive or optative verbs (*querer* ‘want’, *desear* ‘desire’) or directives (*permitir* ‘permit’, *rogar* ‘beg, plead’, *prohibir* ‘prohibit’). Such verbs imply a discrepancy between the current history, in which the situation does not hold

<sup>23</sup> Examples from Bello (1972: sections 452–7); Díaz-Valenzuela (1942); Borrego and Asencio (1986:33–7, 83–103). The exposition here follows Bolinger (1974) in distinguishing between verbs that ‘convey “intelligence”’, which have only one polarity, as opposed to verbs portraying an ‘attitudinal stance’, which entertain both polarities (see also Palmer (1986:140–6, 178, 219)).

( $\neg\sigma$ ), and an alternative history under the authority of the internal speaker, in which the situation ( $\sigma$ ) should positively come to hold:

(66)

{Deseo ~ Permiso ~ Te prohibo} que {\*estudias ~ estudies} el derecho  
 I.want I.permit to.you I.forbid that study.IND study.SBJ the.law  
 ‘I {want ~ permit ~ forbid you} that you study<sup>{\*IND ~ SBJ}</sup> law’

(ii) Deontic predicates:

(67) Es necesario que yo {\*voy ~ vaya} a casa  
 be necessary that I go.IND go.SBJ home  
 ‘It’s necessary that I go<sup>\*IND ~ SBJ</sup> home’

(iii) Evaluative predicates, which imply that the reaction of the internal authority would be different if the situation had the opposite polarity:

(68) Me quejo de que mi hijo {estudia ~ estudie} poco  
 me.trouble that my.child study.IND study.SBJ little  
 ‘I am concerned that my child studies<sup>{IND ~ SBJ}</sup> little’

Here the indicative refers to a fact (that the child studies little), the subjunctive a possibility or potential studying (were it to happen that the child studied little).

(iv) Verbs of denial – certain verbs of mental activity (*dudar* ‘doubt’ and *negar* ‘deny’) that report that a secondary speaker is inclined not to believe the positive polarity, while still acknowledging that the opposite might hold:

(69) Dudo que {\*continúan ~ continúen} las negociaciones  
 I.doubt that continue.IND continue.SBJ the.negotiations  
 ‘I doubt that the negotiations are continuing<sup>{\*IND ~ SBJ}</sup>’

(v) At the opposite extreme, the subjunctive is not used in complements of positive verbs of speech (knowledge, belief, etc.):

(70) Sé que tus intereses {prosperan ~ \*prosperen}  
 I.know that your affairs prosper.IND prosper.SBJ  
 ‘I know that your affairs are prospering<sup>{IND ~ \*SBJ}</sup>’

When negated, however, verbs of this type become like verbs of doubt and allow the subjunctive (71) as well as the indicative:

(71) Lucas no cree que {existen ~ existan} los extraterrestres  
 Lucas not believe that exist.IND exist.SBJ aliens  
 ‘Lucas doesn’t believe that aliens exist<sup>{IND ~ SBJ}</sup>’

Negating a verb of speech opens up the options, allowing both positive and negative polarities of the situation to be entertained, and the subjunctive is usual, though not obligatory. When both moods are possible with negated matrix verbs



such as *no creer* (71), the indicative presents the negative reaction of an internal authority to a certain situation  $\sigma$  (here, the existence of aliens) without paying attention to an alternative: ‘given  $\sigma$ , L. rejects belief in  $\sigma$ ’ or ‘L. believes  $\neg\sigma$ ’. The subjunctive means that the internal speaker ‘doubts’ – that is, entertains alternative polarities of  $\sigma$ : ‘L. suspects  $\neg\sigma$  while he allows that  $\sigma$  is conceivable’.

The Spanish subjunctive, then, is used in clauses embedded under a wide range of matrix verbs from different semantic classes, sometimes in variation with the indicative, sometimes without variation. Though heterogeneous, verbs taking the subjunctive have something in common: they entertain both polarities of the situation. In contrast, contexts conditioning the indicative consider only a single polarity. It is characteristic that one mood (subjunctive in Spanish) is exactly used for a wide range of contexts, as long as the context reaches a language-specific threshold of attenuation of certainty.

Systems with a larger number of moods can be analysed in similar terms.

Takelma has a rich system of moods. In addition to the distinction of realis and future, Takelma distinguishes an imperative and a remote imperative (the distinction is analogous to that between present and future, discussed above, where the remote imperative and future are used for situations ‘distinctly set off’ from the here-and-now), the inferential (discussed above), and the potential (used in the apodosis of counterfactual conditionals and deontic modality). The conditional (used specifically in the protasis of conditions) is yet another, periphrastic, mood.

Kayardild has an extremely rich set of verbal affixes expressing modality and temporality (N. Evans (1995a:252–66)). Among the concepts expressed are the following.

(i) The imperative – a direct order – and (ii) the hortative – an invitation involving the speaker and the addressee – are familiar.

(iii) Realis is used broadly for real situations – in the present time and in past time.

(iv) Past, as mentioned above, is a restricted past, used for activities and results that have been cancelled; the emphasis on cancellation – ‘gone is the situation which once was and which might have continued’ – is temporal and modal at the same time.

(v) The potential (positive *-thu ~ ju*, negative *-nangku*) is the broadest irrealis mood. It can be used for future events (events predicted by the speaker as authority), as in *bukawa-thu* ‘will die’; ability, as in *ngudi-nangku* ‘not be able to throw over’; obligation, as in *kamburi-ju* ‘should speak’; volitive, as in *kamburi-ju* ‘want to speak’; and in purpose clauses.

There are still other, more restricted, moods. (vi) The conditional, mentioned above, is used in the protasis of conditions. (vii) There is even a mood expressing failed imminent action (‘a crocodile almost bit me’), and (viii) a mood expressing apprehension over possible events:

Table 5.4 Cardinal modal operators

<i>interrogative</i>	Conceding lack of knowledge, speaker asks addressee to act as authority and correct lack of knowledge
<i>evidentiality</i>	Speaker indicates incompleteness of authority over knowledge
<i>jussive (imperative/hortative/optative)</i>	Speaker, as authority, asks addressee to act as a proxy authority and change the world from its inertial path
<i>deontic</i>	A general authority asks a proxy authority to act in one way (on all occasions, on some occasions) rather than in the opposite way.
<i>attitudinal</i>	An authority expresses a response to a (possible) state of the world that stands out from the usual states of the world
<i>epistemic</i>	The speaker as authority asserts the validity (under all conditions or under some) of the situation, on the basis of an implicit condition
<i>contingency</i>	One situation is the authority for another; without the condition, the consequence would not ordinarily be expected
<i>indicative</i>	Failure of any more specific modality opposing alternative realities: the speaker insists the addressee believe that the world is the way the speaker says it is, rather than the opposite

- (72) nyingka bayii-nyarra kulkijiiwanharr  
 you get.bitten-APR shark  
 '[watch out] you might get bitten<sup>APR</sup> by a shark'

The 'apprehensive' mood of (72) expresses 'the undesirability of an event, and the need to avert it', or to put it in other words: 'the current world, which the speaker wishes would continue, is now  $\neg\sigma$  (you are not currently bitten by a shark), yet there is a possibility of  $\sigma$  (shark-biting) arising in some not-so-distant world, which an authority – the speaker – hopes will not come to pass'. (i) The desiderative mood gives the effect of mild obligation: 'it would be a good idea for . . .'. A desiderative situation is one that is desired by some authority. In comparison to the potential, the desiderative is 'more general' in its authority; and 'even where it is actually the speaker who is the source of the desire, the pragmatic effect of choosing the desiderative is to suggest it is a more generally held view'. By contrasting different degrees of authority, Evans's formulation confirms that deontic modality involves generalizing authority from the individual speaker to a general principle upheld by the community of speakers.

Some important modal operators are summarized in table 5.4.

There seem to be three realms of modality. One realm, epistemology, involves the degree of certainty of knowledge. With operations of this sort, it is a question of whether the speaker acts as the ultimate authority over knowledge. In a declarative indicative assertion the speaker claims authority over knowledge and categorically excludes the alternative history, but some moods indicate

that the speaker does not: *interrogative, quotative, evidential*. Then the speaker opposes the possibility of knowledge about some situation  $\sigma$  to indeterminacy of knowledge ('it is not clear whether  $\sigma$ ') or doubt about the validity of the situation itself ('possibly  $\neg\sigma$ ').

A second realm is that of *jussive* modality, of 'so-be-it' modality, of obligation and possibility. A situation does not hold now, or might be thought not to hold in all worlds, but an authority wills that it should be so, or that a secondary, a proxy, authority (the addressee of modality) should make the situation come to pass. Jussive modality includes, or shades into, deontic and attitudinal modality.

The third realm, contingency, examines the conditions under which a situation has one polarity or the other as a function of some other situation. Counterfactual conditions entertain one polarity as interesting and conceivable, even while conceding that the world is not so. In contrast to these three realms of positive modality, indicative (realis) modality insists on one polarity and excludes considering alternatives.

#### 4 Aspect, tense, and modality, in text and in general

More than a century ago, it was said of Greek that 'the aorist differs from the imperfect by denoting the momentary occurrence of an action or state' and that 'the aorist is the tense most common in narration, the imperfect in description' (Goodwin (1880:24)). This longstanding insight can be extended to other aspectual systems distinguishing perfective and imperfective aspect or similar categories (see Hopper (1979), who distinguishes the foregrounding function of the perfective from the backgrounding function of the imperfective; Kamp and Rohrer (1983); Fleischman (1990:137), who introduces further distinctions). On a broader scale, one could go further and distinguish two general functions of language, each with its own characteristic verbal categories.<sup>24</sup> In *narrative* (foregrounding, history), situations are presented as a sequence of significant changes. Realis mood, liminal aspect, and past tense are the characteristic categories of narrative. In *discourse* (description, evaluation, backgrounding), the speaker contextualizes, explains motivations and causation, speaks from the heart and seeks to persuade the addressee. Discourse uses presents and perfects and imperfects and irrealis modality.

As an illustration, we might look at a tale from an Old Russian chronicle describing the fate of a tenth-century prince of Kiev named Oleg, given below in English translation with grammatical glosses. At the outset the tale is framed

<sup>24</sup> Benveniste (1959), who terms the distinction 'histoire' as opposed to 'discours'; Weinrich (1964). For a summary of views of narrative informed by the analysis of literary (fictional) texts, see Prince (1993) and the references therein.

by an imperfect describing a general state: *And Oleg lived<sup>IF</sup> keeping peace with all lands*. As part of the background, the narrative reports, using a pluperfect, that at some earlier time *He had asked<sup>PST.PF</sup> sorcerers* for a prediction; he wanted to hear the answer to the question, *From what is<sup>PRS</sup> my death?*, expressed as direct speech in the present tense. This is classic discourse.

When, in response to this question, Oleg was told that his favourite horse would bring about his death, he responded with a directive to change the world from the history it was predicted to have: *he gave<sup>AOR</sup> the order to feed the horse but not to bring the horse to him*. Some years later, Oleg returns victorious from fighting Byzantium, he inquires about the horse. He learns that it died while he was away and responds with a mocking laugh: *He has died<sup>PRS.PF</sup>, but I am<sup>PRS</sup> alive*. His speech is commentary inserted to make sense of the flow of events. It is expressed by means of a present perfect and present used in parallel; these are appropriate categories for discourse – for reporting states, facts, descriptions, editorial observations.

Through his mockery, of course, he commits a fatal error, which leads to the culmination of the narrative. He decides to ride out to see the bones of this prophetic horse: *and he dismounted<sup>AOR</sup> and nudged<sup>AOR</sup> with his foot the forehead of the horse's skull and, crawling out, a serpent pecked<sup>AOR</sup> him on the foot and from that he fell-ill<sup>AOR</sup> and died<sup>AOR</sup>*. All of this sequential, foregrounded narrative is expressed by aorists, the liminal aspect of Old Russian. The tale ends with a discursive statement about current relevance: *they buried<sup>AOR</sup> him on the hill where his grave is<sup>PRS</sup> to this day*.

The tale illustrates repeatedly the expected correlations between morphological categories and language functions: liminal aspect (the aorist) is used for sequential narrative, other categories – perfect and pluperfect, imperfect, present – for discourse. And yet, though this correlation between the morphology and text function usually holds, it may be that the opposition between narrative (foregrounding) and discourse (backgrounding) is not all there is to the dynamic of text.

Predicates, as they are used in texts, report histories of situations, or ultimately histories of situations in relation to possible situations, from some perspective. At each point in a text, when a new event is reported, it allows the addressee to project future histories that could develop from the current event. These projected futures are remembered and carried along as the text progresses. Later events respond to the futures projected earlier.

In this tale in particular, the sorcerer's prophecy projected one very specific future, producing a tension between two alternatives: will Oleg die because of his horse, as foretold by the sorcerer, or will he escape death, as he would prefer? The whole dynamic of the text derives from the tension between these alternative possibilities. Later events derive their meaning only insofar as they respond to these projected futures.

Oleg responds to the future foretold by the sorcerer by isolating the horse. In doing so, he attempts to nullify the future that was projected earlier in the prophecy and to project a new future more to his liking, one in which he would not die the death that has been fated for him. His act, then, responds to the inherited possibilities and, at the same time, creates new expectations. When he learns the horse has died, Oleg believes that the horse's death cancels the earlier prophecy and makes it safe for him to see the remains of his beloved horse. Again his actions respond to futures projected from an earlier event. The sorcerer and Oleg, who are authorities internal to the tale, both project futures, which differ and conflict. As addressees of the tale, we are aware of the conflicting futures, and of the conventions of the genre of cautionary tale.

As it turns out, Oleg ultimately dies, thereby confirming the future predicted earlier by the sorcerer and revealing the futility, and hubris, of anyone attempting to escape the future that was projected for him. His death is indeed a liminal event placed in sequence after other liminal events, as one expects in narrative, but it is much more than that. His death – the *dénouement* of this cautionary tale – derives its force from the way in which it responds to prior futures: the most recent future projected by man is not confirmed, the future projected earlier by fate is confirmed. Thus, events in a narrative text do more than just report a property or a change of a property. Every event invites projections about futures from that point on, and every event responds to the past possibilities that are projected from earlier events, which are carried along as the narrative advances. Both liminal aspect (perfective) and aliminal aspect (imperfective) can participate in this dynamic of responding to prior possibilities and projecting futures. The difference between them is that liminal events, by reporting change, typically reduce the range of possibilities, while aliminal events are consistent with multiple situations; they lead one to expect further developments.

Text, then, does not reduce to an alternation of narrative – plot-advancing, foregrounding events expressed by a liminal aspect in the past tense – and discourse – plot-retarding commentary and background expressed by other tense–aspect forms, though this alternation is certainly an important component of the dynamic. There is a modal component as well, whereby, at each point, the current predication is compared to the prior expectations, and, at each point, the current predication allows one to project and anticipate possible futures. Text is both temporal–aspectual and modal.

## 5 Suggestions for further reading

Since the 1980s there has been an explosion of literature treating these categories, especially aspect, in two partially distinct but intersecting traditions.

A tradition of natural language philosophy and related linguistic literature, building on the schematic observations of Reichenbach (1947) and Vendler's

formulation (1957) of Aristotelian lexical semantics, has attempted to model the semantics of aspect in a truth-functional fashion. The papers in Tedeschi and Zaenen (1981) deal specifically with lexical aspect in the spirit of Vendler. Dowty (1979) formalized the modal character of the English progressive: the current situation reported by the progressive is to be evaluated over an interval that extends beyond the current time into a set of branching futures. Recent treatments in this tradition are Herweg (1991), McGilvray (1991), Verkuyl (1993).

Another tradition has taken as its point of departure the morphologically encoded categories of specific languages and their meaning and pragmatics (not limited to truth-function). There is a layer of sophisticated textbook treatments: aspect in Comrie (1976); Comrie (1985) for tense; and chapters of Lyons (1977) and Palmer (1986) for mood. Dahl (1985) gives definitions of prototypical categories and rigorously defined contexts for the usage of aspectual categories in a cross-linguistic perspective. Bybee and Dahl (1989) and Bybee *et al.*, (1994) outline the typical diachronic trajectories in the development of tense and aspect reported here. The use of tense and aspect in narrative is explored in depth (and with sophistication) in Fleischman (1991). Mood has received less attention, the studies in Bybee and Fleischman (1995) being exceptions.

Various studies describe the systems of particular languages, and it is now usual to find a discussion of these categories in grammars of individual languages. Sketches of specific languages can be found in Smith (1997) (English, French, Russian, Chinese, Navajo), Thieroff and Ballweg (1994) as well as Thieroff (1995) (the languages in Europe proper and on the periphery of Europe), and Anderson and Comrie (1991) (eight languages of the Cameroon in West Africa). Slavic and Finnic data are examined in papers in Thelin (1990). Berman and Slobin (1994) treats the acquisition of narrative in a half-dozen languages.

The boundaries between the two traditions have become blurred, and something of a common lore, perhaps even a consensus, has emerged. Binnick (1991) offers a balanced summary of both traditions (as well as older traditions). Declerck (1991) presents an original analysis of tense in English that appears to do it all.