PRAGMATICS AND VERBAL ASPECT[1]

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Abstract

This paper considers some possible implications of relevance theory (Sperber and Wilson, 1986) for the study of verbal aspect. Section 1 provides the background for a consideration of the well-known Vendlerian ('situation type') classification of verbal predicates in relation to the perfective-imperfective opposition of Serbo-Croat and the simple-progressive distinction of English. Section 2 presents a characterisation of state verbs versus event verbs, and process verbs versus accomplishment VPs. I argue that a pragmatic explanation in relevance theoretic terms seems more plausible for some issues usually assumed to fall strictly in the domain of semantics. In section 3, an attempt is made to show that the English progressive and the perfective of Serbo-Croat are both partly to be defined in terms of a semantic constraint on explicit content, and that this characterisation makes it possible to explain a number of uses of these categories which cannot be accounted for solely on the basis of the features of 'completion' and 'change'.[2]

1 Introduction

The following introductory account is confined to a consideration of the main characteristics of two long-standing traditions in analysing verbal aspect. The first is usually associated with the study of Slavonic languages and is normally called the perfective-imperfective distinction. The second is the classification of verbs according to the situation types they denote. It was originally developed within the realm of philosophy (by authors like Ryle (1949), Kenny (1963), Vendler (1967), Mourelatos (1981)), and was taken over by those specifically concerned with the study of language (Dowty (1979), Lyons (1977), C.S. Smith (1983; 1986), and others). My purpose here is to provide examples of aspectual phenomena in order to highlight and explain the common sense intuitions behind the two approaches, and to indicate some relevant problems.

1.1 Perfectivity and imperfectivity. The perfective-imperfective distinction and the classification of verbs according to the situation types they denote have a crucial point in common. As a rule, both are characterised in terms of the

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[2] A similar analysis of the aspect in English and Polish is proposed by Gorayska (1985).

notion of time. Perfectivity is defined either as involving absence of duration or (de)limited duration (in terms such as 'wholeness' or 'completeness' (traditional grammarians), 'presence of temporal contour' (Hockett (1958)), 'boundedness' (Allen (1964)), 'discreteness' (Morris (1984)). Definitions of imperfectivity fall into two groups. According to some authors, the imperfective is to be defined as the unmarked member of the distinction, it is to be characterised as unspecified with respect to the defining feature of the perfective. Others find purely negative definitions of the imperfective aspect inadequate. Thus, Comrie (1976: 24) proposes 'explicit reference to the internal temporal structure of a situation, viewing the situation from within' as the defining meaning of imperfectivity, as shown in the Serbo-Croat and English examples below.

(1) a. Jovan ide u skolu.
b. John is going to school.
c. John goes to school.

(2) Jovan je djak.
John is a pupil.

Process verbs in the so-called habitual use, exemplified by (1a) as translated in (1c), and state verbs like 'be' in (2) do not meet Comrie's definition, since they are not understood as making reference to anything one would want to call 'internal temporal structure of the situation'. Comrie's solution for this problem is to assume that imperfectivity is 'subdivided into a number of distinct categories, and yet others where there is some category that corresponds to part only of the meaning of imperfectivity' (p.24-5), while maintaining the claim that 'these various subdivisions do in fact join together to form a single unified concept' (p.26). Thus, the imperfective is said to be typically subdivided into habitual and continuous, and the latter is further subdivided into nonprogressive and progressive (with the subdivisions varying across languages). But, unless this unified concept in which such intuitively disparate notions cluster together is further specified and the nature of the connections that obtain between the members consitutive of that concept are explicated, this solution amounts to no more than a convenient stipulation. To the best of my knowledge, no such account exists.

Definitions of perfectivity in terms of boundedness, completeness and the like, seem to capture something crucial about the meaning of perfective verbs in a rather straightforward way. In contrast to this is the view that perfective verbs describe situations as punctual, i.e. as lacking duration altogether, (an idea originally due to the neogrammarians Delbrück and Brugmann and taken over by quite a few authors including de Saussure). Such definitions are to be dismissed on the grounds of examples like (3):

(3) Preplivali su reku za deset minuta.
They swam across the river in ten minutes.

The verb 'preplivati' ('swim across') is perfective, and yet the utterance will probably not be taken to mean that the swimming across the river took place ten minutes after some point in time, as one would expect, if the perfective is correctly defined in terms of lack of duration. What (3) says, is that the

swimming across the river took ten minutes. This definition of perfectivity seems too narrow, rather than completely wrong, because it does cover some perfective verbs such as 'stici' ('arrive'):

(4) Stigli su za deset minuta.
They arrived in ten minutes.

(4) wouldn't normally be taken to mean that the arriving lasted ten minutes, but that the arrival occurred ten minutes after some point in time. This interpretation is presumably due to the lack of duration associated with situations described by verbs like 'arrive', 'blink', 'die', etc.

So, the characterisations of the imperfective aspect crucially rest on (a) the notions of lack of completion, and duration, and, (b), for some verbs (and uses), on reference to the internal structure of the situation. The perfective aspect apparently invariably involves (a) completion, i.e. (de)limited duration, and, (b) with only some verbs, lack of duration. The classification of verbs according to situation type, which I now turn to, apparently does better justice to the intuitions behind the definitions of the perfective and imperfective aspects.

1.2 Situation types. As has been said already, the notion of time has a central place in the definitions of situation types. According to the classification four types of situations are usually distinguished: states, processes (also called activities), accomplishments and achievements.[3] As Vendler (1967:97-8) puts it, 'the use of a verb may [also] suggest the particular way in which that verb presupposes and involves the notion of time.' Although Vendler admits that other factors are involved as well, he claims that '...one feels that the time element remains crucial', and that situation types are to be defined in terms of '... the time schemata presupposed by various verbs, ...'. These time schemata are sometimes assumed in the literature to be universal and differently realised in individual languages (C.S. Smith, 1983; 1986).

1.2.1. States are characteristically defined as situations which do not change in time, which are stable and therefore do not indicate, either explicitly or implicitly, the beginning or the end of the situation. Each of the verbs 'know', 'believe', 'love' etc. in the examples in (5) conveys the idea that the predicate which it is part of ('know mathematics', 'believe in ghosts', 'love cakes') is true of the subject referent, without suggesting that the situation takes place in time, being consequently conceived as transient.

(5) a. Jane knows mathematics.
b. Mary believes in ghosts.
c. John loves cakes.

States differ from the other three situation types in that they do not involve change. Processes, accomplishments and achievements all make reference to change, but differ with respect to endpoints and duration.

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[3] I will use the term 'event' to cover 'processes', 'accomplishments' and 'achievements' (the situation types which involve change), in contrast to 'states' (which don't involve change).

1.2.2. Processes are situations made up of subevents, successive phases which constitute their internal structure. To say that a situation consists of successive phases is to say that it takes place in time. This is why processes are transient. Process verbs are felt to have beginnings and endings, although they do not make explicit reference to endpoints.

(6) a. Jane worked hard for hours yesterday.
b. Mary ploughed in the field all morning.
c. John ran until he got tired.'

The sentences in (6) are taken to refer to the situations of working, ploughing and running as terminated. What they say is that the subject referent was engaged in the activity described by the verb at some time in the past and that that activity came to an end. But in none of the examples in (6) is there a suggestion that the situation described involves some endpoint to be reached. In this respect process verbs differ from accomplishment VPs.

1.2.3. Accomplishments are situations which have an outcome, a result, and which are conceived as taking place over a period of time. In English, they are usually expressed by verb phrases which include a noun phrase with a singular countable noun.

The contrast between process verbs and accomplishment VPs is illustrated by the slight difficulty in providing an interpretation for (7) below.

(7) (?) John ran a mile until he got tired.

(7) is acceptable on the interpretation that the subject kept running distances of one mile until he got tired, but the utterance cannot be understood as conveying the idea that John started running a mile and stopped before having covered the whole distance. It is not possible for the speaker to assert without contradicting himself that the subject did cover a certain distance and that he didn't do it. But no such contradiction arises in (6c), where no idea of end result or outcome is expressed.

The second distinctive property of accomplishment VPs is that they denote situations conceptualised as taking time to take place.

(8) John ran a mile in five minutes.

The adverbial in (8) indicates the time it took John to run a mile. In particular, it is important to observe that five minutes is not the interval of time within which the event took place, but the exact duration of the event. (A reading on which 'John's running of a mile' took less than five minutes is also available.) In this respect accomplishments differ from achievements.

1.2.4. Achievements are situations which are like accomplishents except that they don't take place over a stretch of time.

(9) John recognised Mary in five minutes.

What (9) says is that five minutes after some point in time John recognised Mary. In particular, (9) does not say that the event of recognising lasted five

minutes. Only in (9), but not on the intended interpretation of (8), can the adverbial 'in five minutes' be parapharased as 'after five minutes'. How does all this relate to the perfective-imperfective distinction of Serbo-Croat? How much correspondence is there between the treatment of aspectual distinctions in terms of the perfective-imperfective distinction and situation types?

1.3 The perfective-imperfective distinction and situation types. What has been said so far suggests that the overlap is complete. Definitions of imperfectivity which insist on the lack of endpoints (i.e. boundedness, temporal contour, or whatever is assumed to be the defining feature of the perfective) encompass state verbs and process verbs, while those which take internal temporal structure comprise process verbs, but not state verbs. Both accomplishment and achievement predicates are subsumed under the label perfective if perfectivity is defined by the presence of endpoints (or by other near synonyms), but only achievement predicates meet those definitions which take the lack of duration as its essential feature. So, it would seem that the difference between the two approaches is purely terminological, and that the situation type analyses have the advantage of being more explicit in distinguishing four categories where the other tradition finds only two. However, it has been emphasised times out of number in studies on aspect in Slavonic languages that perfectivity and imperfectivity are terms used to describe phenomena peculiar to these languages. But, if two classifications of aspectual categories, one of which is arguably language particular while the other one is putatively universal, are to be defined in terms of the same notions, the language specific character of the former classification remains unaccounted for. In other words, the definitions of the perfective and imperfective aspects fail to capture the difference between the perfective and imperfective verbs of Slavonic languages and the instantiations of states, processes and events (i.e. accomplishments and achievements) in languages such as English or French. The mistaken assumption underlying so many writings on aspect in Slavonic languages is well illustrated by the following passage from de Saussure's *Cours*:

> Les langues slaves distinguent régulièrement deux aspects du verbe: le perfectif représente l'action dans sa totalité comme un point en dehors de tout devenir; l'imperfectif la montre en train de se faire et sur la ligne du temps. Ces catégories font difficulté pour un français parce que sa langue les ignore: si elles étaient prédéterminées, il n'en serait pas ainsi (p.161-2).

The lack of the perfective-imperfective distinction as an aspectual category in a given language has often been taken as indicative of the lack of the lexical meaning characterising one or the other member of the distinction. What has been said so far shows quite clearly that this view is not warranted. Whether de Saussure himself subscribed to it or not is an issue of no great interest. The observation to be made here is that it is not necessary to interpret the above passage as expressing only this untenable position, because de Saussure speaks about the perfective and imperfective aspects as an example of valeur as instantiated in grammar, i.e. as an illustration of how languages differ in the ways their grammars shape the functional identity of certain liguistic entities (in this case verbs) such that the latter are not functionally equivalent to the

corresponding entities of other languages. But this claim does not entail that there is anything peculiar to the lexical meaning of perfective and imperfective verbs, as opposed to those of the so-called non-aspectual languages. What distinguishes the aspectually marked verbs of Slavonic languages from mere assignment to a situation type are the ways in which the perfective and the imperfective constrain utterance interpretation. Let me exemplify and clarify this point.

1.3.1. In certain uses imperfective verbs of Serbo-Croat correspond to the simple form of achievement verbs of English:

(10) a. John blinks.
b. Jovan trepće [imperf.].
c. (?) Jovan trepne [perf.].

(11) a. Mary coughs.
b. Meri kašlje [imperf.].
c. (?) Meri kihne [perf.].

The utterances (10a) and (11a) are normally understood as saying something about the kind of persons John and Mary are. They are not descriptions of individual instances of 'blinking' and 'coughing' (cf. Goldsmith and Woisetschlaeger, 1982). By contrast, (10c) and (11c), the Serbo-Croat translations of (10a) and (11a) with perfective verbs, are interpreted as referring to individual occurrences of a 'blink' and of a 'cough', respectively. This is reflected in the utterances' being felt to be incomplete. Both (10c) and (11c) call for further contextual information concerning the occasions on which the events took place. Questions like 'When?', 'Why?' and 'What happened next?' immediately come to one's mind upon hearing (10c) or (11c) out of (the appropriate) context.

1.3.2. Process verbs of English in the Simple Past tense are sometimes ambiguous between an activity reading and an accomplishment reading. The same is true of imperfective verbs of Slavonic languages. The similarity between the meanings of accomplishment VPs and perfective aspect, makes it reasonable to expect that when the accomplishment reading is the intended one, the perfective verb will be used in the Serbo-Croat translation of the sentence in English. But this prediction is not fully born out.

(12) a. Did John read 'War and Peace'?
b. Da li je Jovan čitao [imperf.] 'Rat i mir'?
c. Da li je Jovan pročitao [perf.] 'Rat i mir'?

The sentence in (12c) unambiguously translates the question in (12a) as asking about 'John's having read the whole book', and yet (12b), which allows for both a completive (perfective-like) and a non-completive (imperfective-like) interpretation, will be the preferred translation if the speaker is believed to be interested merely in the fact of 'John's having read the novel', without any additional overtones (cf. Comrie, 1976:113). The translation (12c) with the perfective will not be appropriate in this case, because it suggests the relevance of other information concerning the event, such as the time by which the subject

was supposed to finish reading the book. It may also be taken to indicate that a specific copy of 'War and Peace' is being talked about, or that there are some reasons why completing the reading of the novel is particularly important.

1.3.3. The examples (1O) to (12) show that the imperfective normally occurs in some uses where most definitions of aspectual categories suggest that perfective aspect should be appropriate. The reverse situation arises as well.

(13) a. They ran when the tram stopped.
b. Trčali su [imperf.] kada se tramvaj zaustavio.
c. Potrčali su [perf.] kada se tramvaj zaustavio.

The sentence in (13b), the Serbo-Croatian translation of (13a) with the imperfective verb, has two possible interpretations:

(i) the tram stopped first, and then running began;
(ii) the tram stopped while running was in progress.

(13a) with a process verb and (13c), its translation with the perfective aspect, allow only for the first interpretation. The translation with the perfective inchoative in (13c) is the more appropriate of the two, because the imperfective verb in (13b) may invite the undesirable interpretation (ii). So, although both process verbs and imperfective aspect are characterised in terms of the lack of reference to endpoints, only the former occur in linguistic contexts in which they necessarily have an inceptive, perfective-like interpretation. As the above example shows, the inceptive interpretation is available for imperfective verbs, but it is not the only possible one.[4] In this respect imperfective verbs of Serbo-Croat are like English state verbs.

1.3.4. The similarity between the interpretations of imperfective verbs of Serbo-Croat and state verbs of English is illustrated by examples like (14):

(14) Macbeth believed in ghosts when he saw Banquo.

Unlike (13a), (14) has two interpretations: one on which Macbeth aleady believed in ghosts when he saw Banquo, and another one, according to which he began to believe in ghosts upon seeing Banquo. This is not the only interesting similarity between imperfective verbs and verbs of state. Consider, for example:

(15) a. Charles believed in ghosts when he was a child, and he still believes in them.
b. Mary lived in London last year, and she may still live there.
c. (*)(?/!) John ran for several hours this morning, and he may still be running.
d. Jovan je jutros trčao nekoliko sati, i možda još uvek trči.

[4] On the inceptive understanding, the imperfective verb in (13b) makes more salient various implicatures about the process itself, and contrasts with the perfective in this respect.

Although (15c) is (possibly) unacceptable, there seems to be nothing wrong with its translation into Serbo-Croat in (15d). Since (15a) and (15b) with stative verbs, are also acceptable, it seems obvious that the interpretation of imperfective verbs is very similar to the interpretation of English state verbs. But why do process verbs of English in the simple form receive a perfective-like interpretation in examples such as (13a)? Why is (15c) understood as a contradiction? I now propose briefly to consider one answer to these questions.

1.3.5. C.S. Smith (1983; 1986) takes the view that situation types (states, processes, accomplishments and achievements) are universal conceptual generalisations from real world situations. They are aspectual categories differently realised across languages, which focus on their different properties. The aspectual distinctions of particular languages are subsumed under the term viewpoint aspect, instantiated by categories such as the perfective-imperfective distinction in Slavonic languages and by the simple-progressive distinction in English. C.S. Smith's explanation for the problem raised by sentences like (13a) and (15c) is essentially based on her characterisation of the simple and the progressive viewpoint aspects:

> In the perspective of simple aspect, an event is presentedas a whole. The focus includes both initial and final endpoints;internal structure is ignored. This interpretation of themeaning of simple aspect is essentially the traditional notionof perfectivity; but I do not use that term here, because theaccount of simple aspect that I will propose in è3 departssomewhat from the traditional. Progressive aspect presents aninterior perspective, from which the endpoints of an event areignored. Thus the progressive indicates a moment or interval that is neither initial nor final (C.S. Smith 1983: 482).

Further on, it is claimed that 'the invariant contribution of (the simple) viewpoint aspect is the perspective of a situation as a whole', and that 'this perspective is understood differently according to situation.' Thus, 'in stative sentences, a state is taken to obtain with no indication or implication about endpoints' (p.492), as exemplified by 'Susan knew the answer'. So, (the simple) viewpoint aspect is malleable, as it were, while situation aspect remains fixed. Since process verbs, arguably, imply endpoints and the simple aspect represents the situation as a whole, (13a) and (15c) are easily explained. When the simple is used in talking about individual occurrences of processes, the completive interpretation arises in the interaction of the meaning of process and the meaning of the simple aspect. The simple aspect does not impose a completive interpretation on state verbs, presumably, because state verbs make no reference to endpoints, and because the meaning of the situation type takes precedence over the meaning of viewpoint aspect.

It will have become apparent from what has been said so far that, on this view, the simple aspect is actually significantly different from the perfective aspect in the traditional sense of the term, since the meaning of completion in the perfective cannot be overriden by situation type meaning. Perfective verbs derived from imperfective state verbs really invariably describe situations as delimited: 'znati' ('know') is an imperfective stative, 'saznati' ('learn', or more precisely, 'to change from the state of not knowing into the state of knowing')

is perfective, and, like all perfective verbs, it describes the change in its entirety, i.e. as a whole. The difference between the simple and the perfective is exemplified by the sentences in (10) and (11), and many more illustrations could be given to confirm the conclusion that whatever the meaning of the simple form may be, it is crucially different from the meaning of the perfective. On the other hand, there is very little evidence from English to support C.S. Smith's view of the meaning of the simple form. In fact, the only convincing examples of the completive meaning of process verbs in the simple aspect involve utterances where more than one event is talked about:

(16) a. They ran for the shelter when they heard the alarm.
b. In the afternoon, when he goes to school, John will meet his friends.

In (16a) the completive meaning is reflected in the lack of the interpretation on which running is simultaneous with hearing the alarm. In (16b) the situation in the when-clause also describes a complete event. However, both the simple and the progressive in (17a) and (17b) are appropriately translated by the imperfective, as in (17c).

(17) a. John washed his car from four to six this afternoon.
b. John was washing his car from four to six this afternoon.
c. Jovan je prao [imperf.] kola od četiri do šest ovog poslepodneva.

The translation with the perfective verb 'oprati' would not be acceptable, unless the sentence is taken to mean that the washing of the car took place within a subpart of the interval: 'from four to six'.

(18) (*) Jovan je oprao [perf.] kola od četiri do šest ovog poslepodneva.

That perfective verbs may be somewhat difficult to interpret with 'from...to' adverbials in sentences such as (18) is not really surprising. The adverbial of duration suggests that the situation described by the verb lasted throughout an interval of time. This is difficult to reconcile with the meaning of the perfective aspect which makes reference to the situation as a whole. A situation viewed as a whole can be spoken about as occurring between two extreme points of an interval of time only on the assumption that it takes place (possibly more than once) within some sub-interval(s) of the interval of time indicated by the adverbial.

(19) Od četiri do šest Jovan je popravio kola, oprao ih i vratio se kući
From four to six, John repaired the car, washed it, and returned home.

Sentence (19) is perfectly acceptable, as the linguistic context provides enough clues to make it clear that the intended interpretation is the one on which all the events described by perfective verbs are understood as taking place within the time span indicated by the adverbial. But, if (18) is difficult to interpret because the immediately accesssible context would suggest an interpretation which amounts to a logically impossible assertion (that a situation represented as a whole is true throughout an interval of time, while its endpoints coincide

with the endpoints of the interval indicated by the adverbial), then the view that the simple aspect describes the situation as a whole cannot be correct. If this were a tenable position, (17a) would be just as odd as (18).

An alternative to explaining the meaning of completion associated with (certain uses of) the simple viewpoint aspect is to propose a pragmatic analysis, i.e. to claim that the perfective character of the simple is due to contextual factors, that it stems from interpretation, not from the meaning of the simple form per se. As my treatment of the simple is crucially based on this assumption, a few remarks are made here, in order to dispel some initial doubts as to the feasibility of the pragmatic approach, raised by an obvious potential difficulty, illustrated in (15c) above, and repeated in (2O):

(2O) (*)(?/!)John ran for several hours this morning, and he may still be running.

The sentence in (2O) is arguably unacceptable because it expresses a contradiction. The proposition in the first clause refers to the situation of running as completed, and the proposition in the second is the downright denial of the first. It would appear that, if the pragmatic treatment of the meaning of completion were correct, (2O) ought to be acceptable in some suitably convoluted context. If it were not possible to devise a context in which the utterance would not be taken to express a contradiction, it would seem that any attempt to deal with the meaning of completion in examples like (2O) in pragmatic (i.e. inferential) terms must be doomed. However, such contexts exist, as illustrated in (21), and both the unacceptability of (2O) and the problem it poses for an analysis of the simple which does not invoke completion (i.e. endpoints) are only apparent. The objection based on the putative unacceptability of sentences such as (2O) loses its force.

(21) a. John ran for several hours this morning, and for all I know, he may still be running.
b. Lily strolled along the beach, and she may still be strolling there.

Whether the simple past tense form of process verbs like 'run' is taken to denote a complete (delimited) event or an incomplete one is clearly a matter of interpretation, not of linguistically encoded meaning. I return to the issue in more detail later. The main points to be made here are: (a) that the meaning of the simple aspect cannot be characterised in terms of completion and that the equation of the meaning of the simple with the meaning of the perfective is, consequently, not justified; (b) that a pragmatic explanation for the meaning of completion found in certain utterances with the simple aspect is possible, at least in principle.

I hope that this brief and informal consideration of verbal aspect has shown two things. Firstly, that the characterisations of aspectual categories within the two approaches examined are based on much the same intuitions about the defining meanings of the members of aspectual distinctions. Secondly, and more importantly, there seems to be a good case for claiming that the binary aspectual distinctions, like the perfective-imperfective contrast in Slavonic languages and the simple-progressive opposition of English, cannot be exhaustively defined in terms of the features of meaning usually invoked in the

definitions. The examples examined reveal the presence of residuary meanings which escape common sense intuitions and are reflected in the interaction of the verbs belonging to one or another aspectual category with the context in the process of utterance interpretation. Let me conclude this section by giving an outline of the general picture of aspectual distinctions as presented so far.

1.4. Putting it in the most general terms, the problems of verbal aspect as outlined above concern the characterisation of (a) certain universal conceptual contrasts (situation type aspect), (b) the language specific devices for expressing (some of) these contrasts (perfective-imperfective, simple-progressive), and (c) the relation between the first two. The picture of aspectual categories sketched out so far crucially draws on several key words: change, time (more specifically, duration), and delimitedness. Following are featural specifications of verb meaning (including phrasal VP predicates), according to the situation type they denote (table 1), as well as of the perfective-imperfective and the simple progressive distinctions of Serbo-Croat and English (table 2).

Table 1.

	state verbs	process verbs	accomplish-ment VPs	achievement verbs
change	0	+		
(i) complex			+(i)	
(ii) single				+(ii)
duration	+	+	+	-
delimited	-	(-)	(+)	+

Table 2.

	perfective	imperfective	simple	progressive
change	+	0	0	
(i) complex				+(i)
(ii) single				
duration	0	+	0	+
delimited	+	0	0	-

What is significance of the five '0' slots in the figures above? Why are two marks in (table 1) enclosed in brackets? The remainder of this paper can be seen as an attempt to deal with the issues raised by these questions. The '0' slots are to indicate that that some aspectual categories may be indeterminate with respect to the presence of a particular feature. Thus, neither the imperfective nor the simple encode presence or lack of delimitedness. Similarly, both the imperfective and the simple are readily used to denote stative

situations as well as dynamic ones, and are therefore unspecified with respect to the feature 'change'. The bracketed '-' sign is to indicate that process verbs are readily used to denote complete changes of state, while the '+' marking accomplishment predicates as denoting delimited events is enclosed in brackets, because quite a few accomplishment VPs may be used in talking about non-delimited events. What about state verbs? Should they be defined as those which never denote dynamic situations ('own', contain')? If so, how is the aspectual character of those verbs which may be used both as state verbs and as process verbs to be defined ('live', 'stand', etc.)? More specifically, do state verbs form a coherent class, and if they do, in what sense do they?

2 Verbs of state

2.1. In the way of introduction, consider a standard textbook characterisation of state verbs.

> The choice between 'state' and 'event' is inherent in all verbal usage in English. A state is undifferentiated and lacking defined limits. An event, on the other hand, has a beginning and an end; it can be viewed as a whole entity, and can also make up one member of a sequence or plurality of happenings... In fact, to speak more plainly, 'state' and 'event' are semantic rather than grammatical terms. Strictly, we should not talk of 'state verbs' and 'event verbs', but rather of 'state' and 'event'meanings or uses of verbs (Leech (1975:4)).

What exactly pertains to meaning and what to use, when it comes to defining state verbs? I will try to address the question in relevance theory terms, a framework which requires that the conjunction 'meaning or use' be rephrased as 'meaning and use', since the distinction between linguistically encoded and pragmatically determined aspects of utterance meaning is central to this theory. The claim is that there is a good case for drawing a line between linguistic semantics and pragmatics and that the linguistic meaning needs to be pragmatically enriched (more often and more radically than is usually assumed) if the explicitly communicated content of the utterance is to be established (cf. Carston (1988); Wilson and Sperber (1988)). Let me illustrate this point.

2.2. A systematic difference in the temporal interpretation of utterances with the simple present form of state verbs and those with process verbs provides strong intuitive support for the discrete categorisation:

(22) a. It rains a lot in London.
b. It is raining a lot in London.

(23) a. John knows mathematics.
b. (*)(?) John is knowing mathematics.

The utterance (22a) has a habitual reading, roughly: 'Characteristically, it rains a lot in London', without entailing that there is an instance of rain taking place. By contrast, (23a) requires that the subject referent have actual knowledge of mathematics at the time of communication. Where does the habitual reading

of (22a) come from? Consider (24a):

(24) a. It rained a lot in London.
b. It was raining a lot in London.

Although (24a) does not preclude a habitual understanding, on the most salient interpretation the utterance is taken to refer to some specific occurrence of rain in the past. So, the habitual reading of (22a) needs to be accounted for in some other way. I have proposed elswhere (Žegarac (1989)) an analysis based on: (a) the principle of relevance, (b) a characterisation of the meaning of the progressive with an account of the semantic markedness of the construction in the past tense and in the complement of 'shall/will', and (c) the process of pragmatic enrichment, mentioned above. Following is a summary of the analysis.

Relevance theory claims that there is only one principle governing human communication. It is the principle of relevance, according to which utterances (and other ostensive stimuli) are automatically assumed to carry a presumtpion of their own optimal relevance. Relevance is defined as a positive function of cognitive effect, and a negative function of processing effort. The greater the number of cognitive effects and the lower the amount of processing effort required for the interpretation, the more relevant the utterance will be. The presumption of optimal relevance has two parts: (i) the information conveyed by the utterance is worth processing; (ii) the utterance is formulated in such a way as not to require more processing effort than is necessary for the derivation of the intended effects.

I assume that all verbs and phrasal verbal predicates denote properties. The progressive points to the relevance of an instantiation of the property denoted by the verb, i.e. an actual, observable, (by definition, transient) event. In other words the progressive is a function from properties to events. It indicates that the property is relevant not only in virtue of its descriptive content, but also in virtue of referring to an event in the real world which semantically interprets it. One example will, hopefully, suffice to give some intuitive credibility to this view.

(25) a. The new model is running on unleaded petrol.
b. The new model runs on unleaded petrol.

Only (25a) requires that there should exist a sample of the new model, for, if there is no engine to run on unleaded petrol, there can be no event of running on it. By contrast, (25b), which doesn't (necessarily) make reference to instantiations of the property, is perfectly acceptable as soon as the engine has been designed (or even planned to be designed) in such a way that it can run on unleaded petrol. The progressive, in virtue of referring to a particular instantiation of the property, i.e. to something concrete, observable, and transient, makes more manifest the assumptions about perceptible evidence of the state of affairs described by the utterance. It is hardly surprising that a context in which such assumptions give rise to a wide range of effects should be easily accessible; certainly, more accessible when the speaker is reporting on an event taking place at the time of communication, than when relating an event which took place in the past. The semantically marked character of the past progressive in (24b) as opposed to the lack of semantic markedness in its

present tense counterpart in (22b), is explained as a function of the processing effort required in the derivation of assumptions necessary for the contextualisation of the proposition expressed by the utterance. The greater the processing effort, the more semantically marked the utterance will be.

How does this help explain the habitual understanding of utterances like (22a)? Assume that the simple form of the predicate indicates by its linguistic meaning that the property applies in some way to the subject. Suppose, furthermore, that the speaker uses (22a) ('It rains a lot in London') intending to convey some idea like: 'It is actually raining in London at the moment', i.e. to refer to an instantiation of the property being actualised at the time of communication. It follows from the proposed characterisation of the meaning of the progressive, the account of markedness and the principle of relevance, that a speaker who did so would necessarily be failing to conform with the principle of relevance. (However, it is to be noted that one can, of course, use (22a) in the circumstances described, thereby forcing the hearer to interpret the manifest climatic condition as a special case instantiating the general truth explicitly uttered.) The second part of the presumption of optimal relevance would not be met, because the use of the progressive would make the intended meaning of the utterance more explicit at no extra cost in processing effort. As the hearer automatically assumes that the speaker is conforming to the principle of relevance, he is driven pragmatically to enrich the logical form, the output of the decoding of the utterance, and to construct an interpretation on which the latter is used to refer to something other than an individuated instance of the property, i.e. to something like characteristic or habitual occurrence.

2.3. So far, I have tried to introduce some major tenets of relevance theory, and to exemplify them by giving an account of the relation between the meaning of the progressive, semantic markedness, and the habitual reading of the simple present form of event verbs. Can the same approach be extended to the analysis of state verbs? The contrast between (23a) and (23b) suggests that it can, and in a straightforward way too. Since the progressive makes reference to events by part of its meaning, state verbs could be identified as those which cannot be used in this construction. This is what Lyons seems to claim:

> Stative verbs constitute the most important subclass of verbs that do not normally occur in the progressive aspect in English. Stativity, then, is lexicalized, rather than grammaticalized in English: it is part of the aspectual character of some verbs... The incompatibility of stativity and progressivity is explicable, however, in terms of the language independent ontological distinction of static and dynamic situations (Lyons (1977:706/707).

Provided that the putative ontological distinction is really warranted, the explanation depends on the tacit assumption that every verb expresses a concept which is fully specified with respect to the situation type that it denotes. Not only does this position make it possible to explain the incompatibility of state verbs with the progressive, but it also strongly predicts it. Unfortunately, the prediction is not borne out, since only a handful of verbs of English are ungrammatical in the progressive, and certainly most of those which have the

same temporal interpretation as 'know' in (23a) take the progressive quite happily.

(26) a. Peter is being polite.
b. John is living in Muswell Hill.
c. Mary is loving the fruit salad.

The lack of an explantion for the exceptions to this, presumably defining, criterion, presents a problem for the classification, and one can try to solve it in two ways: (a) by finding other criteria which would hold more tightly, and (b) by characterising the meaning of the majority of so-called state verbs in some other way which does not absolutely preclude their use in the progressive. This second line I will try to pursue, but I propose to give some arguments against the first one first.

Lakoff (1965) gives several classificational criteria for state verbs, based on their restrictions of occurrence in the following grammatical constructions: (a) the progressive, (b) the imperative, (c) adverbials like 'deliberately', 'reluctantly', 'well', 'enthusiastically' etc., (d) the complements of the verbs 'persuade' and 'remind', (e) the 'do-something' construction, (f) 'for' phrases, and (g) use with 'instead of'. Lakoff claimed that state verbs are incompatible with any of these, as illustrated below.

(27) a. *John is knowing that.
b. *Know that I am here.
c. *John knew the answer reluctantly.
d. *I persuaded John to hear the music.
e. *He knew the answer though Bill told him not to do so.
f. *John knew that fact for his teacher's sake.
g. *I heard the music instead of looking at the painting.

Two objections to Lakoff's tests impose themselves. First, even if the tests in (27) have a diagnostic value, they do little in the way of explaining the differences in the behaviour of those verbs that satisfy them. Second, not only are there verbs that one would want to call state verbs and which are perfectly acceptable in the progressive and the imperative constructions, but the criteria (c) to (g) don't correlate only with lack of dynamicness.

These are the sort of problems that a plausible and well developed characterisation of state verbs (and situation aspect, more generally), ought to be able successfully to address. Sag (1973:85) examined Lakoff's tests and sceptically concluded: 'So many factors are involved, in fact, that an accurate account of the facts is beyond the scope of ... any ... theory hampered by its reliance on discrete categorisation.' In what follows I will try to dispel Sag's scepticism by arguing that relevance theory makes it possible (a) to show why and how state verbs are to be distinguished as a class, and (b) to accommodate the apparently problematic examples.

2.4 Process verbs and elimination rules. I would like to pursue the possibility (expounded by Sperber and Wilson (1986)) that with verbs like with other lexical items the information about meaning is stored in the three types of entries, and that this is significant for the classification of state verbs versus others. Consider (28):

(28) a. A killed B on Sunday.
b. B died on Sunday.

The lexical entries for the concepts 'killed' and 'died' contain the information that they are verbs in the past tense. The encyclopaedic entries include assumptions about the instruments used for killing, potential causes of death etc. Information about these verbal predicates is, arguably, represented in the logical entries for these concepts, associated with the elimination rules in (29) and (3O):

(29) **'Kill' elimination rule**
Input: (X - kill - Y)
Output: (X - action of a certain type - Y)

(3O) **'Die' elimination rule**
Input: (X - die - Y)
Output: (X - event of a certain type - Y)

Let me call the elimination rules in (29) and (3O) 'action rule' and 'event rule', respectively. (Both 'kill' and 'die' satisfy the condition for 'eventhood', in so far as they denote properties which involve change. It is to be noted that the term 'event' is often used more narrowly to include only delimited change, and cover accomplishment and achievement predicates to the exclusion of process ones. The term 'action' is intended to indicate agentivity.) It seems quite plausible to argue that the difference in the defining linguistic meanings of state verbs as opposed to event verbs can be expressed just in terms of the availability of elimination rules like (29) and (3O) (referred to as 'action/event rules' hereafter). Event verbs would be defined as those whose logical entries contain action/event rules. State verbs would be defined, either as unspecified with respect to action/event rules ('live', 'feel', 'stand'), or by the lack of availability of such rules in the logical entry ('contain', 'own'). The account proposed would have the advantage of maintaining the intuitively appealing binary distinction between event verbs and the rest (with the further distinction between those verbs which are merely unspecified with respect to the action/event rule, and others which preclude it), without the requirement that all verbs be characterised positively, by the necessary presence or absence of features like 'stativity'. This is precisely the sort of account which I believe to be correct. On this approach, the non-dynamic meaning of by far the greatest majority of the so-called state verbs could be seen as pertaining solely to the encyclopaedic entry, and not the logical entry which contains information about the necessary content of the concept. The assumptions about the lack of dynamism, etc., associated with verbs like 'live', 'wait', expect', 'feel' and many others, are stored as highly manifest in the encyclopaedic entries for these concepts. They are part of the conceptualised meaning of the verb, but not a necessary part of it. They are available as assumptions in the context against which other facets of the meaning are interpreted. Since their place is in the context, they can be, more or less easily, cancelled out, as in the progressive, when the properties they denote are talked about as instantiated in the form of events. In other words the progressive induces the action/event rule in the logical entry for the concept. However, if this proposal is to deserve further consideration, a number of problem examples pointed out by Sag (1973) need

to be accounted for.

2.5 Relevance theory and tests for state verbs. Sag (1973) gave a series of examples showing that Lakoff's tests are inadequate and put forward his sceptical conclusion. I will argue that given (a) the characterisation of state verbs proposed above, (b) my analysis of the progressive and, crucially, (c) the framework of relevance theory, the problems for a discrete catego-risation, receive a natural explanation.

Let me mention semantic markedness again, this time in relation to the progressive of state verbs. I argued that semantic markedness is to be explained in terms of the amount of processing effort required in the construction of assumptions necessary for the contextualisation of the utterance. The same account holds for the progressive of state verbs.

(31) a. John doesn't feel well.
b. John isn't feeling well.

(32) a. The baby resembles her mother.
b. The baby is resembling her mother more and more.
c. ?? The baby is resembling her mother.

(33) a. Antoinette understands Russian.
b. Antoinette is understanding Russian better and better.
c. ?? Antoinette is understanding Russian.

All the information regarding the kind of situation that predicates with 'feel', 'resemble' and 'understand' can be used to denote is stored in the encyclopaedic entries for the corresponding concepts. All three are readily used in predicating properties like 'feel well', 'resemble one's mother' or 'understand Russian' as relatively stable non-dynamic conditions of their subject referents ((31a), (32a) and (33a)), and all three can be conceived of as instantiated in the form of events. The meaning of the progressive is to be defined in terms of reference to instantiation(s) of the property denoted by the predicate, and the predicates in (31) to (33) take the progressive. However, 'feel well' does so more readily than the predicates 'resemble one's mother' and 'understand Russian', acceptable only in (32b) and (33b), respectively, with explicit indications of change ('more and more', 'better and better'), but not in (32c) and (33c), which seem marginal at best. In terms of relevance theory, the difference in the degree of semantic markedness between the progressive form of 'feel', on the one hand, and 'resemble' and 'understand Russian' on the other, would be seen, not as a difference in the degree of 'stativity' or 'dynamicness' inherent in the meanings of these verbs, but as a difference in the accessibility of contexts in which talking about 'feeling', 'resembling' and 'understanding' as instantiated in the form of events achieves adequate contextual effects. Thus, (32c) and (33c) are marginal because they require (or at least may require) too much processing effort on the part of the hearer to construct the assumptions necessary for the contextualisation of the utterance. The adverbials 'more and more' in (32b) and 'better and better' in (33b) function as contextual clues. They make it possible for the hearer to access the right contextual assumptions at lower processing cost. Similarly, 'always' in (34), and 'something' in (35), facilitate the accessing of assumptions required for arriving at the intended interpretation.

(34) Mary always knew the right answer, which I couldn't ever do.

(35) Mary knew the right answer, which was something I couldn't ever do.

The words 'always' and 'something' respectively, make it more manifest to the hearer that the predicate 'know the right answer' is used here loosely to represent something like 'produce evidence of knowing the right answer'. An explanation can also be given for (36) to (39) in which 'all' is noticeably better than 'what'.

(36) All/?What Harry did to get himself shot was resemble a Nazi.

(37) All/?What Margo did to win a trip to Miami was know who fought the battle of Fallen Timbers.

(38) All/?What Mary did to get herself arrested was owe the cop some money.

(39) All/?What you have to do to get busted is have a lid in your glove compartment.

The contribution of the quantifier 'all' to the interpretation of utterances of the type 'All X did ...' is that it gives rise to the implicature: 'X didn't do much ...'. If the speaker intends to convey simply the idea: 'The only thing that X did ...', there are more economical ways of doing so: 'What X did ...', or 'X did Y and ...', 'Z happened to X because he did Y' etc. But, why would these be more economical than the more explicit 'All X did ...'? In relevance theory terms, they would be more economical precisely in virtue of being less explicit. The use of a redundant item (redundant in that it explicitly expresses some meaning which would be taken as part of the explicit content of the utterance even in the absence of that item) increases processing effort. Implicatures like 'X didn't do much ...' are derived in the process of the maximisation of the relevance of the information conveyed by the explicature. The extra amount of effort involved in processing the more explicit utterance is offset if it gives access to some relevant assumption(s). So, when the hearer has processed: 'All John did to get shot', he will have formed the hypothesis: 'John didn't do much to get shot' as an implicature, i.e. as an assumption which the speaker may have intended to communicate by using a more explicit form than was necessary to express the proposition conveyed by his utterance. The use of a non-agentive verb in the continuation: 'was resemble a Nazi', only strengthens the implicature communicated by the first part of the utterance, in virtue of implicating that 'John did patently nothing to bring about the state of affairs described in the first conjunct'.

Consider the present perfect and the verb seem in (4O) and (41), respectively:

(4O) a. *The baby is resembling her mother at the moment.
b. ?The baby's been resembling her mother for a month now.

(41) a. *Mary is wanting something.
b. Mary seems to be wanting something.

The present perfect and the verb 'seem' point to certain characteristics of events. The first relates the past and the present, while the second one highlights the role of perceptible evidence of the state of affairs described in the complement clause in virtue of its lexical meaning. Since the progesssive points to instantiations of properties, i.e. to events in the real world, it gives rise to the overtone of limited extension in time and indicates the availability of perceptible evidence of the event. Thus, both the present perfect and the verb 'seem' may make it easier for the hearer to process the progressive for contextual effects.[5] The same kind of explanation holds for the examples (42) and (43).

(42) a. Nowadays the kids are wanting us to bring them toys.
b. *The kids are wanting us to bring them toys at the moment.

(43) a. John is owing a lot of money to the company these days.
b. *John is owing a lot of money to the company at the moment.

In the absence of contextual indications to the contrary, the progressive construction in the present tense is taken to refer to an instantiation of the property denoted by the predicate as simultaneous with the present conceived more or less loosely (i) as some relevant period of time including the time of communication, or (ii) as the time of communication proper. The adverbial 'nowadays', which explicitly refers to the former, hardly poses any constraints on the temporal interpretation of the utterance. It points to the broader idea of the present as the temporal context against which the utterance is to be processed for relevance, without thereby excluding the possibility that the property denoted by the predicate is being instantiated at the time of communication, but also without requiring that it be so. It is, therefore, quite natural that some predicates may denote properties instantiations of which are easier to interpret as relevant when talked about loosely and construed as obtaining at the present in the broader sense indicated by 'nowadays', than when they are described as anchored to the time of communication proper. Consider (42b), for instance. The verb 'want' is normally taken to denote a disposition rather than an event. The effect of the progressive will be to highlight the relevance of the observable manifestations of the property, limited extension in time, etc. It is easier to contextualise the utterance pointing to the relevance of observable manifestations of 'the children's wanting toys' over some more inclusive period of time, as indicated by 'nowadays', than the corresponding utterance with 'at the moment'. The reason may be that (42b) doesn't give rise to any contextual effects which wouldn't be communicated more economically by the utterance with the simple: 'The children want us to bring them toys at the moment.' By using 'nowadays' the speaker may try to draw attention to the kids' behaviour over some period of time (the present in the broader, loose sense) as in (42a), and weakly communicate a range of assumptions: 'It is difficult to fulfil one's children's wishes', 'Children are very persistent in asking for what they want', 'Children are a nuisance', etc.

[5] There is considerable variation in native speakers' judgements about the acceptability of these and other examples discuseed here. I take Sag's (1973) judgement for granted.

However, an account on which all of these arise as assumptions which the hearer derives in search of a context in which reference to instantiations of 'wanting' is relevant, predicts that (42b) should be appropriate in some suitably convoluted context, though not an easily accessible one. The same kind of explanation accounts for the utterances in (43).

Not only state verbs, but also more generally, future time adverbials with the progressive construction in the present tense require the expenditure of considerable processing effort. In these examples the speaker is instructing the hearer to relate an instance of a certain property to the present, while explicitly locating its occurrence in the future. The future time adverbial indicates that the event is predicated of present time only loosely, and, in English, the conflict is resolved by implicatures about the future occurrence of the event being predictable at the time of communication: 'the event is arranged already', 'there are indications that its occurrence is on the way', and others. As Goldsmith and Woisetschlaeger (1982) point out, the possibility of using the progressive present with future time adverbials like 'tomorrow' is rather exceptional, and lacking in Spanish, which also makes a distinction otherwise very close to the simple-progressive one of English. So, if a state verb, i.e. a verb which does not necessarily denote a type of event, takes the progressive present with future time adverbials (like 'tomorrow'), requiring more processing effort than the use with any present time adverbials (such as 'nowadays' or 'at the moment'), it will predictably be acceptable with these as well. The progressive present of 'hear' in (44a) may easily be taken to indicate that the future instance of 'hear what our opponents have to say' is already arranged.

(44) a. Tomorrow I am hearing what our opponents have to say.
b. At the moment I am hearing what our opponents have to say.
c. Nowadays I am hearing what our opponents have to say.

(45) a. Nowadays few conservatives are expecting Thatcher to win the next elections.
b. At the moment few people are expecting the conservatives to win the next elections.
c. *Tomorrow John is expecting Thatcher to win the elections in 1992.

It is to be noted that 'hearing what one's opponents have to say' is quite compatible with the idea of prearrangement. The use of the present tense form is justified precisely because it gives rise to this assumption, which, if the speaker had used the 'will + be -ing' construction would be lost, unless the whole utterance were made more complex, and the implicated assumption conveyed by (44a) were made explicitly, thus demanding greater expenditure of processing effort. But other verbs, like 'expect' in (45c) are very difficult to interpret in this use. What could (45c) be taken to mean? That on the following day there will occur an instance of John's entertaining certain expectations regarding the elections in 1992, and that this event is somehow prearranged and already on the way. That is very difficult to envision. I assume that (45c) would be better in the context of John's behaviour regarding the election being consciously planned, with the utterance being used loosely, say as: 'Tomorrow, it's John's turn to pretend that he is expecting Thatcher to win the next election.' It should also be noted that (45c) cannot be used

felicitously merely with the import of 'Tomorrow John will be expecting ...', for it would invariably run against the principle of relevance. Informally speaking, the principle of relevance requires two things: (a) that the utterance be relevant enough to be worth the processing effort required, and (b) that the hearer should not be put to a greater expenditure of processing effort than necessary. Since, in this case, the use of the 'will + be -ing' construction would invariably require less effort than the progressive present form, (45c) would still not be consistent with the principle of relevance (more precisely, with the second part of the presumption of optimal relevance).

I would like to mention another two points regarding the divergent behaviour of state verbs. The first one concerns the unacceptability of the verb 'be' in those reduced relatives in which its '-ing' form is not interpretable as an elliptical progressive, as the contrast between (46b) and (47b) illustrates:

(46) a. *Anyone who is being a communist will be shot.
b. *Anyone being a communist will be shot.

(47) a. Anyone who is being stubborn will have his teddy bear taken away.
b. Anyone being stubborn will have his teddy bear taken away.

All the other state verbs readily occur in reduced relatives like (47b). So, 'be' differs from other state verbs in this respect. An explanation which seems quite plusible to me is that the verb 'be' is unacceptable in reduced relatives like (46b) because it does not make a contribution to the propositional content of the utterance. One might as well say: 'Any/Every communist will be shot'. What about those verbs which are ungrammatical in the progressive?

(48) a. *The box which is containing five chocolates is on the table.
b. The box containing five chocolates is on the table.
c. *The box is containing five chocolates.

(49) *John is having a good book.

On the approach proposed here, the progressive of verbs like 'know', 'contain' 'own' and some others, which are truly ungrammatical in this construction, is explained as precluded by a rule which marks these verbs positively as 'stative'or 'non-dynamic'.

I have proposed an account on which (a) that the majority of the so-called state verbs should be seen as unspecified with respect to eventhood, as their aspectual character is underdetermined by their conceptual content, (b) that the eventhood of an event verb is plausibly treated as part of the necessary content of the concept denoted by that verb, in terms of a meaning postulate/inference rule, and (c) that there are also a few verbs which are marked as stative by rule. But how is the feature of delimitedness, associated only with event predicates, to be dealt with? The issue was hinted at towards the end of the first section. I now turn to it in again.

2.6 Event verbs and delimitedness

2.6.1. Process verbs readily receive a completive (delimited) understanding in utterances such as (16b), repeated as (50), and in others as well:

(50) In the afternoon, when he goes to school, John will meet his friends.

The form 'goes' in the 'when-clause' is not taken to denote an ongoing process, but a complete (delimited) event, the change from 'John's being at home' to 'John's having left for school' (with the implication that he will get there). Consider the contrasts in (51) and (52):

(51) a. Mary cried (for hours) when she broke the flower pot.
b. Mary was annoyed when she broke the flower pot.

(52) a. John hit the policeman and ran.
b. John heard the alarm and ran for miles trying to find the shelter.

The verb 'cry' in (51a) is ambiguous, as indicated by the adverbial in brackets. On one reading, the verb is inchoative, it describes the onset of the process. On the other reading, enhanced by the adverbial 'for hours', it is just the process that is being described. The latter reading of (51a) is typical of state predicates in sentences like (51b). The examples in (52) aslo illustrate the aspectual ambiguity of process verbs. On the preferred interpretation, (52a) is fairly accurately paraphrased as 'John hit the policeman and started running', while the predicate 'ran for miles' in (52b) clearly denotes an ongoing process (in the past), but the moment of hearing the alarm is not necessarily construed as the onset of running. Examples like these strongly suggest that verbs standardly included in the class of process verbs, are, in fact, unspecified with respect to delimitedness. In other words, the presence of the action/event rule in the logical entry for a verb, automatically triggers, as it were, the availability of two conceptual formats; all change can be represented either (a) as delimited (i.e. discrete, complete, etc.) or (b) as non-delimited (i.e. non-discrete, incomplete, etc.).5 Languages differ with respect to how systematically their verb systems reflect this universal conceptual distinction. Slavonic languages do it very regularly, English less so, since the linguistic meaning of process verbs of English does not specify how the concepts they denote are marked for the feature of delimitedness. The bracketed '-' sign in table 1 could have been left out. The intuition that 'run' and 'cry' denote non-delimited situations (rather than onsets of situations) is based on the interpretation of these infinitives in the immediately accessible context. If one thinks of the verb 'run', the first idea that comes to mind is one of process or continuous activity. This is to say that the high degree of manifestness) of the process reading is to be explained in pragmatic terms. It may seem that the situation with transitive verbs taking singular count NPs as direct object is somewhat different. The presence of a singular count noun as the direct object is normally assumed necessarily to induce delimitedness. Such VPs are referred to as predicates of the accomplishment type.

Accomplishment VPs, already mentioned in section 1, seem clearly to fall into two groups. The first one includes those predicates which seem, in fact unspecified with respect to delimitedness, like process verbs. The second group includes those which are, apparently, unambiguously delimited.

(53) a. Mary played the sonata.
b. Mary was very nervous. She played the sonata for a while, but had to stop when she was half way through.

(54) a. They built the bridge.
b. *They built the bridge for three years.

2.6.2. The simple form of the predicate 'play the sonata' strongly invites a completive (delimited) interpretation. The verb 'play' may denote either discrete or continuous change, while the NP 'the sonata', refers to a delimited object. What sort of knowledge about change in a discrete object may be relevant? First, it may be relevant that a certain process applies to an entity to some degree. Second, it may be relevant that the process affects the entity as a whole.

Why does one tend to assign the latter interpretation to predicates like 'play the sonata'? The answer lies with people's disposition automatically to maximise the relevance of ostensive stimuli, including utterances. Crucially, the information that a process affects an entity as a whole entails that it affects its parts. In other words, 'Mary has played (the whole) sonata' entails 'Mary was playing the sonata', but not the other way round. What follows from this is that, other things being equal, information about a process applying to an object as a whole, will be more relevant. Clearly, 'Mary (has) played the sonata' is a more economical way of communicating that 'Mary was engaged in the activity of playing the sonata, and that she also played the whole piece', than some more elaborate utterance, such as this one, would be. Of course, in some contexts the information that 'Mary played only part of the sonata', may be more relevant, in which case the predicate 'play the sonata' receives a non-delimited reading, as in (53b), or the speaker may want to point out assumptions about the ongoing activity itself as relevant, in which case the progressive is the obvious form to use, as in (55a).

(55) a. Mary was playing the sonata. The lights went out.
b. Mary played the sonata. The lights went out.

The first utterance in (55b) would normally be taken to suggest that 'Mary played the whole sonata'. The event in the second utterance is typically construed as subsequent to the event in the first one. When a sequence of delimited events is being related, the assumption that the order in which they are talked about corresponds to the order in which they occur, will characteristically be the most manifest one when the utterance is processed in the immediately accessible context. Once the hearer has assumed that the speaker is talking about a temporally ordered sequence of states of affairs, the assumption that the temporal ordering of these states of affairs corresponds to the order in which their mental representations are constructed, will be the most manifest one in many contexts. Two possible exceptions are those cases in which (a) there are indications in the context that the temporal order doesn't matter, or (b) there are highly manifest (and even explicit) indications that the order in which the events are talked about is not the one in which they occurred.

(56) A: Did you have a busy day?
B: Yes, I fed the cats, worked on my paper, made pancakes, played football, went to the launderette, and wrote a couple of letters.

(57) John lost his balance and fell. He slipped on a banana skin.

The speaker B in (56) is giving a list of his activities on a particular day. On the one hand, nothing much follows from the fact that B first did one thing rather than another. On the other hand, A's question does not suggest that the order of the events in time is relevant. It is a matter of common knowledge that losing one's balance precedes one's falling down. When the two events are talked about in the same sentence, as in (57), they will be understood as part of one and the same occasion on which 'John first lost his balance and then fell'. The second sentence in (57) is about the event which is, in the light of our encyclopaedic knowledge, normally taken as causing loss of balance, and falling down. But why is the ordering of events in time more constrained in conjoined clauses than in individual sentences? Consider (58).

(58) ??John lost his balance, fell down, and slipped on a banana skin.

Blakemore (1987) argued that the processing of conjoined propositions is different from those expressed by individual sentences in that a conjoined proposition signals that the propositions which it is made up of have contextual effects in virtue of being conjoined, whereas a proposition expressed by an independent sentence is independently processed against the context. 'John slipped on a banana skin' is perfectly acceptable in (57), where it is taken as an explanation for John's losing his balance and falling down. In order to contextualise the conjoined proposition expressed by (58), the hearer must first establish the temporal relation between the states of affairs described by the conjuncts, as it is part of the propositional content of the utterance. For example, 'John fell and the dog bit him' and 'The dog bit John and he fell' will obviously be taken to describe different states of affairs. The order of occurrence of the events in (58) strongly suggested by the order in which the events are talked about, runs counter to the one favoured in the light of common knowledge about the causal and temporal relations between events such as 'slipping', 'losing one's balance' and 'falling down'. In other words, the difficulty in interpreting (58) is due to conflicting processing instructions. The problem does not arise in (57) because the proposition 'John slipped on a banana skin' is here contextualised independently of the preceding two, although these are used as contextual assumptions. What about the possible temporal relations between the events in (59)?

(59) Mary played the sonata. The lights went out.

On one possible interpretation the first sentence in (59) is about Mary's playing the sonata as part of the programme, and the event of the lights' going out is construed as preceding Mary's performance. On another reading, the lights go out after Mary has finished playing the sonata. But, crucially for my point, an interpretation of temporal inclusion of the event in the second sentence within the time span of the event in the first one is also possible, as shown in (60).

(60) Mary played the sonata for a while. When she was half-way through the lights went out, and she had to stop.

What the example in (60) shows is that the delimited (completive) meaning of accomplishment predicates like 'play the sonata' is, not linguistically encoded, but is only the more salient (manifest) of the two aspectual meanings available

for all so-called process verbs. But, how are those accomplishment predicates which, apparently, unambiguously denote delimited events to be accounted for?

2.6.3. A number of accomplishment VPs ('build a bridge', 'write a letter', 'make a cake' etc.) are putatively incompatible with 'for X units of time' adverbials regardless of the context, and fail other tests for non-delimitedness as well. One good illustration was given in (54b). Here are some more examples.

(61) a. (*)(?)John painted a picture for an hour.
b. (*)(?)John built a house for three years.
c. (*)(?)Mary made a cake for an hour.
d. (*)(?)Jane wrote a letter for ages, but didn't finish it.

What all the predicates in (61) have in common is that in each of them the change denoted by the verb brings about the existence of the object NP referent. I believe this to be quite significant.

(62) a. Mary played the sonata.
b. Mary was playing the sonata.

(63) a. John built the house.
b. John was building the house.

Both (62a) and (62b) are interpreted as entailing that 'there is/was a sonata', but only (63a), and not (63b), entails that 'there is/was a house'. This is quite important . As the process of utterance interpretation involves the assignment of referents to referring expressions, a hearer maximising the relevance of the utterance will be driven to assume that for every referring expression with descriptive content ('house', 'cake', 'letter') there is a referent which fully satisfies the description. In the examples (62a) and (62b) the (non-)delimitedness of the change denoted by the verb does not interfere with the interpretation of referential expressions in the object NP. However, in (63), the object NP 'a house' is freely construed as referring to an existing house only if the change denoted by the predicate is understood as delimited (i.e. complete). The point is that, if a non-delimited reading were available for the predicate 'build the house', (63a) would potentially express two propositions with different truth-conditions depending, not only on whether the event is construed as delimited, but also on whether the referring expression 'a house' is assumed to pick out a referent which fully satisfies the conditions for being called 'a house'. Maximising the relevance of the utterance drives the hearer to choose the interpretation on which the conditions for assigning referents to referring expressions are fully met. With predicates like those in (61) this will be possible only if the event is construed as delimited. As it seems patently impossible to find a context in which utterances like those in (61) and (63a) would be fully acceptable with a non-delimited reading, it would seem that delimitedness in these predicates is to be attributed to their linguistic meaning, that it is semantically, rather than pragmatically determined. Before dismissing this conclusion, let me point out some examples which highlight the significance of the interpretation of referring expressions.

(64) a. *John built a house for three years, but never finished it.
b. (*)(?)John built the house for three years, but never finished it.

Assuming that the definite article functions as 'an indication that the conceptual representation to be assigned is accessible at no unjustifiable processing cost' (Kempson, forthcoming), an obvious explanation for the slight, but, according to some native speakers, clearly noticeable, difference in the acceptability of (64a) and (64b) suggests itself. As the definite article indicates that the referent is readily accessible, in those utterances in which the very existence of the referent is contingent upon the change denoted by the verb, the use of the definite article in the object NP will reduce the sense of the object referent's being contingent upon the change, and the non-delimited reading should be at least somewhat less odd. This seems to be true. If (64b) is bad, (64a) is certainly worse, and the utterances in (61) seem worse than those (64a). Consider now more evidence to the effect that these accomplishent predicates are not really semantically marked as denoting delimited events.

First of all, the position of the adverbial 'for x units of time' seems to make a critical difference for the availability of a non-delimited reading in accomplishment predicates which would normally preclude it.

(65) (?)For three whole years he built the house, but couldn't finish it.

In (64), by the time the hearer starts processing the adverbial, he may already have derived a delimited reading of the VP. In (65), however, the adverbial is processed first, and the hearer anticipates a non-delimited reading of the predicate. In addition to this, the word 'whole' in (65) indicates that it is the period of time in its entirety which is relevant, and the progressive is thus rendered a somewhat less manifestly appropriate form, as it would give rise to implications about the process itself.

Secondly, native speakers' judgements about the acceptability of the utterances in (61) as they stand vary to some extent. Dowty (1979) uses a '?' rather that a '*' for (61a). So, given (a) what has been said about the significance of the availability of referents for object NPs, (b) the availability of forms which would unambiguously indicate non-delimitedness (the progressive, expressions like 'spend X units of time -ing', etc.), (c) felicitous examples like (65), and (d) variation in people's judgements about dubious utterances such as those in (61), it seems reasonable to attribute the meaning of delimitedness in the accomplishment predicates to a processing pattern determined by (a) and (b), that is, to deal with it in terms of pragmatics, rather than semantics.

3 The progressive and the perfective as semantic constraints on explicit content

The features of delimitedness, change and duration circumscribe a range of conceptual contrasts, illustrated in section 1 (table 1 and table 2). I argued that, given the characterisation of the aspectual categories in terms of these features, there emerges a lack of predictable correspondence between the aspectual categories of English and Serbo-Croat in a number of uses, and that

it is to be accounted for in terms of the interaction of the meanings of predicate expressions with the context.

3.1. The progressive indicates that the meaning of the predicate expression is determined not only by its sense, but also by reference. Hence the progressive, by part of its meaning, constrains the explicit content of the utterance. This was illustrated by the contrast between (25a) and (25b). Let me consider another example:

(66) The same sentence ['I am hot'] would be being used to make a different statement, if uttered by someone else.

What is the contribution of the progressive 'would be being used' to the interpretation of (66) (adapted from Kempson, 1975:36)? By virtue of its meaning, the progressive acts as an indication to the hearer that some information about the event instantiating the property is easily accessible from the context and relevant. In reasoning about possible states of affairs, the hearer may not be in a position to access direct evidence of the event taking place. Nor will the progressive in (66) give rise to the overtones standardly associated with some uses of the construction. However, there is some information about 'an instance of using the same sentence' which may be highly relevant; namely, that one and the same event which instantiates 'someone else's uttering the sentence' also instantiates 'that person's using the sentence to make a different statement'. Of course, this piece of relevant information is inferable from the context independently from the progressive. The author could have used the simple: 'The same sentence would be used to make a different statement, if uttered by someone else'. But the progressive makes the intended interpretation more accessible, thus reducing the amount of effort necessary for the interpretation. The effort involved in processing the progressive passive is offset, because the construction makes the derivation of the co-referential relation, as it were, between 'using' and 'uttering' easier. Having given some, hopefully, convincing evidence in support of the view that the progressive encodes a constraint on explicit content, in addition to its well recognised aspectual meaning of non-delimitedness, I now turn to the perfective aspect of Serbo-Croat, which, arguably, encodes the same constraint as the progressive (while denoting delimited events by its aspectual meaning).

3.2. The use of the imperfective in Serbo-Croat in examples for which a purely aspectual characterisation of verb meaning predicts the use of the perfective was illustrated by (10) to (12). Consider (12), repeated in (67):

(67) a. Did John read 'War and Peace'?
b. Da li je Jovan čitao [imperf.] 'Rat i mir'?
c. Da li je Jovan pročitao [perf.] 'Rat i mir'?

(67c) with the perfective is felt to be inappropriate as asking merely about John's having read the book, because it gives rise to some presumably unintended overtones about the time by which the reading of the book should have been completed, the implication that a specific copy of 'War and Peace' is being talked about, and the like. More generally, the perfective contrasts with the imperfective by indicating the relevance of specific assumptions about

the circumstances in which the event took place. Consider now the use of the English simple and of the Serbo-Croat imperfective in sports commentaries.

(68) a. Black passes the ball to Fernandez...Fernandez shoots!
b. Black dodaje [imperf.] loptu Fernandezu...
Fernandez šutira [imperf.] !
c. ?Black doda [perf.] loptu Fernandezu...
Fernandez šutne [perf.] !

The simple present in commentaries gives the impression of a quick sequence of events. On the characterisation of the simple present in sports commentaries given in Quirk et al.(1985:180) under the heading 'instantaneous present', this use occurs 'where the verb refers to a single action begun and completed approximately at the moment of speech'. As this characterisation is very similar to a traditional definition of the perfective aspect, one would expect that the Serbo-Croart counterpart of the 'instantaneous present' in (68a) should be the present of perfective verbs. But this is not the case. The appropriate translation of (68a) is (68b) with the imperfective, and not (68c) with the perfective. (68c) is somewhat unusual in that it gives rise to the same kinds of questions as the perfective verbs in (10) to (12), i.e. various questions about the circumstances in which the real world event (which semantically interprets the property denoted by the predicate) takes place, the sort of assumptions essentially irrelevant (and difficult for the listener to construct) in sports commentaries. Thus, the perfective aspect seems inappropriate for the same reason as the progressive in (69):

(69) ?Black is passing the ball to Fernandez...
Fernandez is shooting.

Adimittedly, there are contexts in which (69) would be appropriate (commenting while watching the video-recording of the match, for example, where the progressive highlights the relevance of the players' observable behaviour), but, in a live radio broadcast it is the fact that the event occurs, rather than the representation of the event itself, which is relevant, and the simple is the more appropriate form. The point made about the inappropriateness of the progressive and the perfective in sports commentaries also holds for the so-called historical present. Here too, the progressive and the perfective are unusual.

(70) a. He opens the door, enters the room, looks out of the window, and sits down at the table.
b. On otvara vrata [imperf.], ulazi [imperf.] u sobu, gleda [imperf.] kroz prozor, i seda [imperf.] za sto.
c. On otvori [perf.] vrata, udje [perf.] u sobu, pogleda [perf.] kroz prozor, i sedne [perf.] za sto.

Both (70b) and (70c) are possible translations of (70a). However, the imperfective, in (70b), is the more commonly used form in narration. The perfective, in (70c), seems to focus on the context in which the events occur. In order to demonstrate more convincingly that the affinity of the imperfective for use in narration is due to the processing constraint associated with the perfective a detailed account of the use of the present tense in narration would

be necessary. Such an account cannot be given here. The point I have tried to make is that a number of facts about the use of the perfective and the imperfective aspects in the so-called historical present are at least consistent with, and therefore lend support to, the assumption that the perfective encodes a constraint on explicit content. Let me briefly consider some cases in which the characterisation of the situation type of the verb incorrectly predicts the use of the imperfective.

3.3. The verb 'run' is normally said to denote a process, i.e. to involve change, without involving endpoints. Therefore, one would expect that it should be translated into Serbo-Croat by an imperfective verb, not a by a perfective one. And yet, as the discussion of the examples in (13) (repeated as (71)) shows, this is not always the case.

(71) a. They ran when the tram stopped.
b. Trčali su [imperf.] kada se tramvaj zaustavio.
c. Potrčali su [perf.] kada se tramvaj zaustavio.

On the most easily accessible interpretation, (71a) is taken to be about a particular event in the past. The when-clause gives some relevant contextual information. So, there is no need to avoid the implications deriving from the constraint associated with the perfective. Given that the verb 'run', like all process verbs, may be used in describing both delimited and non-delimited events (see section 2), and that its simple past tense form in (71a) is correctly interpreted as describing the onset of the process, the transaltion with the perfective, (71c), is more economical than the one with the imperfective (71b), because it saves the hearer the processing effort necessary for arriving at the intended interpretation. Consider the two transaltions of (14) ((72a) below):

(72) a. Macbeth believed in ghosts when he saw Banquo.
b. Magbet je poverovao [perf.] u duhove kada je video Bankoa.
c. Magbet je verovao [imperf.] u duhove kada je video Bankoa.

The understanding of (72a) on which 'Macbeth's seeing Banquo' immediately precedes and causes 'his believing in ghosts' is more explicitly coveyed by the perfective in (72b) ('poverovati', roughly: 'begin to believe'), than by the imperfective in (72c). The former is understood as laying emphasis on the causal connection. The latter also allows for a reading on which the event in the when-clause (immediately) precedes and causes 'Macbeth's believing in ghosts', but gives rise to, or at least makes more manifest, assumptions about the lasting effects of the experience. This cursory consideration of the examples (71) and (72) supports the point made in section 2, that as soon as the verbal predicate is taken to denote an event, two conceptual formats for representing the event become available. The event can be represented as delimited or non-delimited.

4 Conclusion

A number of issues concerning aspect were raised in section 1. The consideration of three of these issues in the remainder of the paper was aimed

at indicating the lines along which a more complete account of the meanings and uses of aspectual categories could be developed. Essentially, I argued (a) that the distinctions defining the situation types are plausibly captured in terms of rules in the logical entries for verbs (and verbal predicates, in general); (b) that the delimited meaning of accomplishment VPs is determined by the way the principle of relevance constrains the process of interpretation, and not compositionally, as is usually assumed (cf. Dowty (1979)); and (c) that the use of aspectual categories of English and Serbo-Croat is crucially constrained by the operation of a constraint on explicit content encoded by the progressive and the perfective. A number of questions touched upon in section 1, were not taken up again. The most important of these is probably the relation between complexity of change and duration. Since there is an overlap bewteen the two (see table 1), it would be of considerable interest to examine the conection in some deatil. As pointed out earlier (section 1.2), the notion of time has often been assumed to underlie the distinctions between the situation types. My inclination would be to take the representation of change as primary, and to look at the temporal distinctions as derivative. I leave it on this note.

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