

The Imperfective Past

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The aim of this paper is to provide a syntactic account of the Catalan imperfective past tense ("pretèrit imperfect"). The departure point is the distinction between states and events as the basic entities of a semantic theory of aspect, and the claim that any sentence in the imperfective past denotes a state. Supporting evidence comes mainly from the possibilities of co-occurrence with temporal modifiers. Since all verbs can occur in this form, whether they denote states or events, the final state interpretation of the sentence must be a result of the combination of the aspectual information of the predicate and the aspectual and temporal contribution of the imperfective past morphology. The behaviour of different temporal modifiers with various types of states seem to argue that such combination takes place in the syntax. We propose an account based on (a) selection of aspectual features by the imperfective morpheme, and (b) a phrasal projection of the category aspect.

1. Introduction

This paper is an attempt to provide a syntactic account of the Catalan imperfective past tense ("pretèrit imperfect"). In the first part we argue that any sentence in the imperfective past denotes a state. Evidence for this is provided mainly by the possibilities of co-occurrence with temporal modifiers, although other arguments are given. Since all verbs can occur in this form, whether they denote states or events, the final state interpretation of the sentence must be a result of the combination of the aspectual information of the predicate and the aspectual and temporal contribution of the imperfective past morphology. The behaviour of different temporal modifiers with various types of states seems to argue that such combination takes place in the syntax. In the second part of this paper we propose an account based on (a) selection of

aspectual features by the imperfective morpheme, and (b) a phrasal projection of the category aspect.

2. Preliminaries: an Operator-Based Theory of Tense and Aspect

Our theoretical framework is that of Herweg (1991a, 1991b). The most relevant idea in the theory of aspect and tense outlined in Herweg (1991a) is that states and events are different conceptual entities: while events are individuals which belong to particular event-types and have a definite time of occurrence, states are homogeneous properties of times, the set of times at which the state holds. The relation between a state and the times at which it holds is indefinite.

States and events are defined as follows:

I. (states) $\lambda t (S(t))$

II. (events) $\lambda e (E(e))$

Thus I says that a state-type S is the property of times t , whereas II states that an event-type E is a predicate about individual events e .

There are ways of converting states into events and events into states:

a) To convert a state into an event, we need to consider phases of the state. The phase of a state is a maximum period at which the state holds. With the application of the operator PO ("pofective", see Herweg (1991a) for the origin of this term) occurrences of phases become an event-type that Herweg calls pofective event type: "For a given state S , the set $\lambda e (PO(S)(e))$ is the type of events which are occurrences of phases, i.e. the maximum quantities of that state" (Herweg 1991a:383).

b) To convert an event into a state, we establish a relation PROG between an event and its progressive state, that is, the set of times t which are temporally included in $\tau(e)$, the time of the event: $\text{PROG}(e, t) =_{\text{def}} t \text{ subset of } \tau(e)$. Thus for a given event e there is a progressive state $\lambda t(\text{PROG}(e, t))$. (cf. Herweg 1991a: 394)

This theory takes an operator-based approach to tense and temporal adverbials as well. As English does not seem to show differences in the application of these operators to state vs. event predicates (e.g. past states and past events all bear a unique past tense morpheme *-ed*), they are defined generally for both types of predicates. The past tense operator, for example, is applied to event and state predicates alike, and the category of the predicate is preserved. In its definition there is a variable ranging over predicate types, cf. Herweg (1991a:397).

III. (past tense) $\lambda T \lambda w (T(w) \text{ and Past}(e^*, \tau(w)))$

T is a predicate variable for both event-type predicates and state predicates. w is an individual variable ranging over events and periods of time.

If w stands for an event, $\tau(w)$ is the time of occurrence of the event. If w stands for a state, $\tau(w)$ is the period of time that the state w characterizes.

Informally, the definition says that for any predicate type and any individual predicate of that type, the time of the individual predicate is anterior (to be determined deictically or contextually) with respect to the event of utterance e^* .

Unlike English, Catalan and other Romance languages have two past tense morphemes. In section 3 of this paper we claim that the imperfective past denotes the property of a past period of time while the perfective past denotes the occurrence of an event in the past. These facts fit in Herweg's theory, since each past tense morpheme of Catalan is an instantiation of the variables in the definition of the past operator.

3. The Imperfective Past Is the Past of States

In this section we look at the meaning(s) of the imperfective past tense, pointing out the contrasts with the perfective past tense. Subsequently we propose a number of arguments supporting the idea that the imperfective past is the past of states.

3.1. *The Meaning of the Imperfective Past*

The imperfective past expresses on-going past events, states that hold in the past and past habits.¹

3.1.1. *The Past of Events: On-going vs. Culminated.* The imperfective denotes events in progress in the past. The perfective past denotes events that took place (culminated) in the past. This is illustrated by sentences (1) and (2).

- (1) Quan la directora entrà a l'aula, la professora
when the principal entered-3sg-PERF to the-classroom the teacher
repartia eis exàmens.
handed-out-3sg-IMPERF the tests
'When the principal entered the room, the teacher was handing out the tests.'

¹ This form may take other, mostly modal values, e.g. for polite requests, in conditional clauses, and others (see for instance Badia i Margarit 1962: 419-421). Due to space considerations, I will not concern myself with them in this paper, but I assume that it can be shown that these values derive from the nature of the imperfective as the expression of past states. Essentially the argument is that the imperfective does not individuate events, i.e. does not assert the past existence of events. The modal values are derived from this lack of assertion.

- (2) Quan la directora entrà a l'aula, la professora
 when the principal entered-3sg-PERF to the-classroom the teacher
 va repartir els exàmens.
 handed-out-3sg-PERF the tests
 'When the principal entered the room, the teacher handed out the tests.'

Sentence (1) means that an event of handing out exams is taking place but has not culminated when the principal enters the room, i.e. it had started before the event in the *quan*-clause. Sentence (2) means that the exam-handing-out event takes place at or after the entry of the principal. The only difference lies in the morphology of the verb *repartir* ('to hand out').

3.1.2. *The Past of a State.* In the imperfective past state predicates denote a property of a past period of time. With a perfective past tense the sentence denotes the occurrence in the past of a phase of a state (a perfective event, so to speak).

- (3) Quan va entrar la directora, tots els alumnes sabien les bones notícies.
 when entered-3sg-PERF the principal all the students knew-3pl-IMPERF the good news
 'When the principal came in, all the students (already) knew the good news.'
- (4) Quan va entrar la directora, tots els alumnes van saber les bones notícies.
 when entered-3sg-PERF the principal all the students knew-3pl-PERF the good news
 'When the principal came in, all the students came to know the good news.'

Notice that a state predicate occurring in the perfective past often receives an inchoative interpretation. This takes place with states that are not quantizable in phases. One phase that most states permit is the reference to the moment at which they start, hence the inchoative reading. There are in Catalan and also Spanish state verbs with the meaning alternation according to the past tense form. Their English translation requires one word for each meaning. See, for instance, the sentences in (4):

- (4*) a. Jo la vaig conèixer quan ens vas presentar.
 I her knew-1sg-PERF when us introduced-2sg
 'I met her when you introduced us.'
- b. Jo (ja) la coneixia quan ens vas presentar.
 I already her knew-1sg-IMPERF when us introduced-2sg
 'I (already) knew her when you introduced us.'

3.1.3. *The Past of a Habit.* The Catalan imperfective past is used to denote habits in the past. Habits are extended periods of time characterized by the occurrence of a certain event, i.e. states. Habitual sentences describe tendencies of individuals. De Swart (1991:11) draws a parallel between habitual sentences, in the domain of events, and generic sentences, in the domain of individuals.² The truth-conditions of both types of sentences are vague: apart from the notion of quantity (an indefinite quantity of events, of individuals), modality is involved, as there is no objective measure of what constitutes a habit, or a generic individual. In Catalan the imperfective past is used to express past habits:

- (5) Abans d'operar, la doctora es rentava les mans a consciència.
 before of-operate the doctor herself washed-3sg-IMPERF the hands thoroughly
 'Before performing surgery, the doctor used to wash/ washed her hands thoroughly.'

Quantification over events is also achieved by frequency adverbials and adverbials of iteration (see de Swart (1991) for French and English). English examples of frequency adverbs are *always*, *often*, and *mostly*. Adverbials of iteration are *twice*, *three times*, etc. In Catalan (just like in French) the imperfective past cannot occur with iteration adverbials (6a), at least not with a simple iterative reading. It does occur, however, with frequency adverbials (6b).

² De Swart's use of the term "generic" does not follow the tendency in the literature to use the term for quantification over events (see, for example, Kratzer 1989).

- (6) a. *La doctora es rentava les mans dues vegades. (iterative, non-habitual reading)
 b. La doctora es rentava les mans sovint.

Although de Swart draws a line between the two, motivated by the fact that she focuses on quantification over events and leaves habituality as a modal notion, sentences in the imperfective form can often be interpreted in both ways. See for example the pair of sentences in (7).

- (7) a. Quan érem petits, el pare ens duia a veure pel·lícules de Disney.
 when were-1pl little the father us took-3sg-IMPERF to see movies of Disney
 'When we were young children, Dad used to take us to see Disney movies.'
 b. Quan anava a un congrés, sempre tastava el vi de
 when went-3sg-IMPERF to a conference always tasted-3sg-IMPERF the wine of
 la regió.
 the region
 'When he went to a conference, he always tasted the wine of the region.'

One can say that (7a) expresses the habit of a father, mainly because the *when*-clause denotes a period of time, of which a habit can be predicated. In (7b) the *when*-clause introduces a universally quantified conference-going situation, which in turn induces a frequency quantified reading of the main clause: For all instances of the conference-going event, there was a wine-tasting event. There is — to me, at least — no reason to reject a habitual interpretation: his habit was to taste the wine of the region whenever he attended a conference.

For these uses of the imperfective form I will use the compound form "habitual-quantified" and will make no further distinction.

The perfective past does not seem to have a habitual meaning, at least not in the modal sense of what constitutes a habit. However, it does have a quantified reading.

- (8) Quan ens vas escriure sempre et vam contestar.
 when us wrote-2sg-PERF always you replied-1pl
 'When you wrote to us, we always replied.'

3.2. *The Properties of the Imperfective as a State*

One of the main assumptions in the work that follows is that temporal adverbial modifiers serve as tests for state-event predicates, following Herweg.

3.2.1. *Lack of Power to Enumerate Events.* While the perfective past allows to enumerate events, the imperfective does not. This is shown in the co-occurrence restrictions with cardinal count or iterative expressions, which explicitly enumerate events. These expressions behave differently in sentences with an imperfective past and sentences with a perfect past.

- (9) a. Va explicar el conte als nens.
 told-3sg-PERF the tale to-the children
 'He told the tale to the children.'
- b. Va explicar el conte als nens dues vegades.
 told-3sg-PERF the tale to-the children two times
 'He told the tale to the children twice.'
- (10) a. Quan has entrat, explicava un conte als nens.
 when entered-2sg-PRES PERF told-1sg-IMPERF a tale to-the children
 'When you came in, I was telling a tale to the children.'
- b. *Quan has entrat, explicava un conte als nens dues vegades.
 when entered-2sg-PRES PERF told-2sg-IMPERF a tale to-the children two times.
 *'When you came in, I was telling the tale to the children twice.'

Sentence (9a) denotes one tale-telling event. The perfect past denotes the temporal limit of the event, and consequently implies the existence of one event. The cardinal count expression *dues vegades* ('twice') in sentence (9b) enumerates two culminations, and thus implies the existence of two events.

Sentence (10a) denotes the in-progress state of one tale-telling event. The imperfective past denotes the lack of temporal limit of the event, and consequently does not imply the existence of an event. The cardinal count expression enumerates two events in sentence (10b), but since no event is implied by the rest of the VP, the sentence is ungrammatical.

For obvious reasons, cardinal count expressions are not grammatical with a state verb in the imperfective past, although they are grammatical in the perfective past:

- (11) a. *En Pere estava malalt tres vegades.
the Pere was-3sg-IMPERF ill three times
'Pere was ill three times.'
- b. En Pere va estar malalt tres vegades.
the Pere was-3sg-PERF ill three times
'Pere was ill three times.'

(11b) denotes three occurrences of a phase of the state of being ill, not three past periods of time with a particular property.

Iteration expressions are compatible with an imperfective VP if a habitual/quantified interpretation is possible.

- (12) Abans d'operar, la Maria es rentava les mans tres vegades.
before of-operate the Maria herself washed-3sg-IMPERF the hands three times
'Before performing surgery, Maria used to wash her hands three times.'

(12) states that, as a hygiene pre-surgery procedure or superstitious ritual, an event of hand-washing took place three (possibly consecutive) times. The time period characterized includes an indefinite quantity of surgery situations, each of which is preceded by the ritual hand-washing sequence (counted by the iteration expression *tres vegades*).

Lack of power to enumerate events underlies the notion of "imperfective paradox" (Dowty (1977)). The imperfective paradox applies only to events with culmination. Essentially the paradox is that the truth of a sentence in an imperfective form does not entail the truth of the corresponding sentence in a perfective form. Take the following pair of English sentences:

- (13) a. I am making a cake.
b. I have made a cake.

In English, for instance, the truth of (13a) does not entail the truth of (13b), as something may happen during the cake-making event that may interrupt it with the outcome that there may be no cake after all.

The imperfective paradox does not hold for activities/processes. If (14a) is true, (14b) is also true.

- (14) a. John was running in the park.
b. John ran in the park.

As in English, the imperfective paradox holds for Catalan events with culmination. A sentence with an accomplishment in the imperfective past does not entail the completion of the event. This is illustrated in (15), the Catalan translation of (13).

- (15) a. (Jo) Feia un pastís.
b. (Jo) Vaig fer un pastís.

As in English the imperfective form of an activity entails the perfective form of the event. This is illustrated by (16), the translation of (14):

- (16) a. En Joan corria pel parc.
b. En Joan va córrer pel parc.

The different capacity to individuate or enumerate events that tenses possess is claimed to correspond to the mass-count distinction at the level of nouns (see Hoepelman and Rohrer (1980) for French Imparfait).

Apart from this lack of event-individuation capacity, certain co-occurrence patterns of the imperfective past show its state-denoting nature.

3.2.2. *Restriction of Occurrence with Certain Durational Adverbials.* As states hold homogeneously over periods of time, the relation between states and the times at which they hold is indefinite and the temporal limits of states are left open. Therefore there should be restrictions of co-occurrence with those durational adverbials which bound both ends of a situation, i.e. its beginning and its end.

The imperfective past is incompatible with most durational temporal modifiers.

- (17) a. *Els meus avis vivien aquí durant dos anys.
'My grandparents were living here for two years.'
b. *En Pere estimava la Caterina tres anys.
'Pere loved Caterina for three years.'

The sentences in (17) denote states. Modifiers whose effect is to limit exactly the extent of time in which states hold make the sentence ungrammatical. The same applies to culminated events (accomplishments) and processes:

- (18) a. *Ahir la Maria explicava un conte durant tres hores.
yesterday the Maria told-3sg-IMPERF a tale for three hours
'At yesterday's meeting Maria was telling tales for three hours.'
- b. *Ahir a la reunió la Maria parlava durant deu minuts.
'At yesterday's meeting Maria was speaking for ten minutes.'

(18a) denotes an accomplishment and (18b) a process. Neither of them allow a durational that sets the time when the process ends or the achievement culminates.

In contrast with the imperfective, the perfective past allows durationals that put a definite boundary to the start and end of the situation, as there is semantic affinity between those and the meaning of the perfective past — setting a temporal limit to a situation. See (19).

- (19) a. Ahir a la nit la Maria va escriure una carta *durant dues hores*. (accomplishment)
'Last night Maria wrote a letter for two hours.'
- b. La Maria va parlar *dues hores*. (process)
'Maria spoke for two hours.'

There is a class of durationals which can modify VPs in the imperfective past: those which denote the time extent for which the situation has been going on since its beginning without setting a limit on the time at which the event will culminate, the process will end, or the state will cease to hold. They are "*feia T que*" (T= time amount), and the semantically equivalent "*des de feia T*" (T= time amount), both with no equivalent translation in English, although an acceptable one would consist of a VP with *have been -ing* or *have -ed* and a modifier *for T*, T=*time amount*.

- (20) a. Feia una setmana que esperava la carta.
 made-IMPERF a week that expected-3sg-IMPERF the letter.
- b. Esperava la carta des de feia una setmana.
 expected-3sg-IMPERF the letter since made-3sg-IMPERF a week
 'He had been expecting the letter for a week.'

As far as habitual/quantified sentences are concerned, there are no restrictions of co-occurrence with durational expressions, as long as they limit the time of the event which is quantified.

- (21) En Joan tocava el violí deu minuts.
 'Joan used to play the violin for ten minutes.'

The durational *deu minuts* does not constrain the period of time during which the habit holds, but rather, the amount of time taken by each occurrence of the habitual event. In this particular example, a past period of time is characterized by indefinite occurrences of events in which Joan played the violin for ten minutes. The imperfective past does not refer to a ten-minute period of time, but to a longer, indefinite past.

At this point it is necessary to comment on the behaviour of the imperfective as the past of habitual/quantified sentences. In the presence of quantification it is the aktionsart of the verb that sets co-occurrence restrictions with temporal modifiers. For instance, as activities can be limited by a durational, habits consisting of activities can occur with durationals, as illustrated by (21), while the imperfective as progressive of activities cannot occur with durationals (see, for example, (18 a,b)).

Verbs denoting situations that cannot be bound by durationals are not grammatical with a habitual imperfective, either. Take as an example, the punctual (achievement) predicate in (22).

- (22) * En Joan es picava un cop el dit amb el martell (durant) deu minuts.
 the Joan himself hit-3sg-IMPERF once the finger with the hammer for ten minutes
 * 'Joan used to hit his finger once during ten minutes.'

Hitting one's finger with a hammer is not something one can do for a period of time (we are obviously discarding the iterative interpretation). Thus there cannot be a habit consisting of a number of single punctual events modified by a durational.

A similar phenomenon takes place in other constructions and other Romance languages.

De Swart (1991:222-223) observes that in French the presence of quantification/habituality neutralises the effect of the perfective-imperfective distinction in certain constructions. Concretely, she is concerned with the temporal clauses linked by the temporal connector *quand* ('when') to the matrix clause. *Quand* establishes a temporal ordering relation between the matrix and subordinate predicates. In non-quantified sentences, the Passé Simple (the perfective past) expresses an event, and the Imparfait (imperfective past) expresses a state. If both verbs denote an event, *quand* is a succession relation (see (23a)). If the verb of the main clause denotes a state, *quand* turns the state predicate into a background for the *quand*-event (see (23b)). Now, when both verbs are imperfective forms, a habitual reading is obtained and the chronological sequencing of predicates is determined by the aktionsart of verbs, as illustrated in (24).

Since the same holds for Catalan, I provide Catalan translations of the original French examples ((56b and d) and (61a-d)). For (24) the *aktionsarten* of the predicates are given in brackets:

- (23) a. Quan va obrir el veredict, va decidir apel·lar-lo.
 'When he opened the verdict, he decided to appeal.'
 b. Quan va passar el pont, el sol es ponía.
 'When he crossed the bridge, the sun was going down.'

- (24) a. Quan estava malalt, era difícil de tranquil·litzar. (state-state)
 'When(ever) he was ill, he was difficult to calm down.'
- b. Quan parlava, tothom l'escoltava en silenci. (activity-activity)
 'When(ever) he spoke, everybody listened quietly.'
- c. Quan escrivia una carta al seu fill, ell mateix la portava a correus.
 'When(ever) he wrote a letter to his son, he posted it himself.'
 (accomplishment- accomplishment)
- d. Quan era a París, visitava el Louvre. (state-accomplishment)
 'When(ever) he was in Paris, he visited the Louvre.'

When both predicates are culminated, the matrix predicate follows temporally the predicate in the subordinate clause, as in (24 c). When none of the predicates has culmination, the relation is simultaneity, as in (24a,b). When one of them is culminated and the other one is not, the culminated event takes place during the time in which the state holds, as in (24d).

Summarizing then, the imperfective past form seems to have two patterns of behaviour with respect to durational temporal modifiers: as the past of states and the past progressive of events, it does not occur with durationals (see examples (17) and (18)); in quantified/habitual sentences occurrence with durationals depends on the aktionsart of the predicate, as what is modified is not the time during which the habit holds, but the time of the event that is habitual (again, see the contrast (21) vs. (22): an activity vs. a punctual event, respectively).

3.2.3. *The Imperfective Past Cannot Occur with Time Extent Modifiers.* Time extent modifiers measure the amount of time that goes from a particular stage — taken as reference— in the development of an event to its culmination. One such modifier is the PP *en T* (T=time amount, given in units), e.g. *en deu minuts* ('in ten minutes'). Since the situation measured by these modifiers must have a culmination, these modifiers are compatible if the verb is in the

perfect past. However, if it is in the imperfective past, these modifiers are not compatible. The contrast is illustrated in sentences (25).

- (25) a. En Pere va fer l'amanida en deu minuts.
the Pere made-3sg-PERF the-salad in ten minutes.
'Pere made the salad in ten minutes.'
- b. *Ahir al migdia, en Pere feia l'amanida en deu minuts.
yesterday at-the noon, the Pere made-3sg-IMPERF the-salad in ten minutes
'Yesterday at noon, Pere was making the salad in ten minutes.'

Since the salad-making event in (25a) reaches an end, it is grammatical to use a modifier that measures the time of the event. In sentence (25b) nothing is said of the end of the salad-making event, therefore ruling out a time extent modifier.

Time extent modifiers occur in habituals, as shown in (26).

- (26) Quan anàvem a la platja, en Joan feia l'amanida
when went-1pl-IMPERF to the beach the Joan made-3sg-IMPERF the-salad
en deu minuts.
in ten minutes
'When(ever) we went to the beach, Joan made the salad in ten minutes.'

Suppose the time period referred to by the imperfective past is that period during which a couple spent their holidays in a seaside town. Each time they went to the beach — there is an indefinite number of them — it took John ten minutes to prepare the salad. The time extent modifier does not put a boundary to the period of time characterised by the habit. In informal terms, it does not say that they spent their holidays in a seaside town for ten minutes. Rather, the time extent expression limits the time of occurrence of the salad-making event.

3.3. *The Temporal Interpretation of the Imperfective Past in Subordinate Clauses*

Enç (1987) characterises the temporal interpretations available to English subordinate tenses. She proposes a syntax-driven temporal interpretation and is less concerned with the role of the tense form of the subordinate verb. Relevant to our purposes is the discussion of the interpretation of past tense when it appears embedded in a matrix past tense. Although there are variations according to their syntax, embedded clauses can receive a shifted reading (interpreted as past with respect to the matrix past tense), or a simultaneous reading (embedded past tense is interpreted as simultaneous with the matrix tense). As she points out, only "stative complements" can receive the simultaneous reading (p. 635).³ We reproduce some of her examples ((5), (3) and (18)):

- (27) a. John heard that Mary was pregnant.
b. We heard that the man was crying.
c. The gardener said that the roses died.

(27a and b) can receive two interpretations: (1) a "shifted" interpretation with the embedded clause interpreted as past with respect to the past of the matrix clause; (2) a simultaneous interpretation with the embedded clause interpreted as present with respect to the matrix past tense. (27c) can only receive the shifted interpretation with the embedded tense interpreted as past with respect to the matrix past tense.

This seems to suggest that there is a connection between states and the availability of temporal interpretation simultaneity. In Catalan it is obtained when the form of the verb is the imperfective past.⁴

³ Her data include both state verbs and progressive forms of event verbs (i.e. the progressive states of events).

⁴ The imperfective past in Catalan can be interpreted as expressing a situation that holds in the present, as illustrated in the following example:

Consider the following sentences, containing sentential complements as Enç's.

- (28) a. En Joan va sentir que la Maria estava embarassada.
'Joan heard that Maria was pregnant.'
- b. En Joan va sentir que la Maria feia un pastís.
'Joan heard that Maria was baking a cake.'
- c. En Joan va sentir que la Maria estudiava Lingüística.
'Joan heard that Maria was studying linguistics.'
- d. *En Joan va sentir que la Maria feia el cim.
*'Joan heard that Maria was reaching the summit.'

In (28a) the state denoted by the complement can be interpreted as holding at the time of the matrix clause. In (28b) the embedded clause can express an accomplishment which is in progress at the time of the matrix clause. In (28c) the embedded clause denotes a process which can be interpreted as going on at the time of the matrix clause. Finally, (28d) is ungrammatical because the embedded clause denotes an event that is pure culmination, which means that it cannot be interpreted as on-going. The only way for the sentence to be grammatical in the imperfective is for it to have a reading as a habitual situation, as in sentence (28e) below:

- (28) e. La Maria va sentir que en Joan feia el cim cada any.
'Maria heard that Joan used to reach the top of the mountain every year.'

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- (i) Anteriorment s'ha parlat que els preus dels habitatges a Barcelona *eren* escandalosos. Jo diria que, més o menys, estem a la línia europea.
'It has previously been said that the price of housing in B. was/is outrageously expensive. I would say that we stand, more or less, at the European level.'
(from the book *Reflexions sobre Barcelona*)

This seems to be a DAR (double accessibility reading, see Abusch 1986) of the imperfective past embedded in a past tense. Abusch deals with the DAR of the English present tense embedded in a past tense.

It is important to notice that the simultaneous reading of the imperfective past obtains by default, that is, in the absence of referentials in the subordinate clause. In (29) a shifted reading is obtained for the tense of the complement clause due to the presence of the when-clause which "binds" the tense of the complement clause:

(29) En Joan va sentir ahir que la Maria estava embarassada [quan va refusar de participar en l'expedició a l'Everest l'any 1983].

'Joan heard yesterday that Maria was pregnant [when she refused to participate in the Everest expedition in 1983].'

With the clause providing a different evaluation time (in square brackets), the sentence has a reading in which Mary was pregnant before the time Joan heard about it and is not pregnant at the time specified by the matrix clause. The embedded clause is interpreted as anterior to the matrix clause, it can never be interpreted as posterior to it.

In contrast with the imperfective past, the perfective past does not allow a simultaneous reading. With a state predicate, the perfective past denotes the occurrence in the past of a phase of the state. With an event predicate, the perfective past denotes the past occurrence of the event.

(30) a. En Joan va sentir ahir que la Maria va estar embarassada.

the Joan heard-3sg-PERF yesterday that the Maria was-PERF pregnant

'Joan heard yesterday that Maria was pregnant (and is no longer so).'

b. La Maria es va assabentar que en Joan va suspendre l'examen.

the Maria found-out-3sg-PERF that the Joan failed-3sg-PERF the-test.

'Maria found out that Joan failed the test.'

That the situation in the subordinate occurs previously to the situation in the main clause is proved by the time referentials allowed.

- (31) a. En Joan va sentir ahir que la Maria va suspendre l'examen fa tres anys.
 'Joan heard yesterday that Maria failed the test three years ago.'

The imperfective is the form of simultaneity for relative clauses as well:

- (32) a. En Joan ridiculitzà l'home que l'insultava.
 the Joan ridiculed-3sg the-man that him-insulted-3sg-IMPERF
 'Joan ridiculed the man who was insulting him.'
- b. En Joan ridiculitzà l'home que l'insultà.
 the Joan ridiculed-3sg the-man that him-insulted-3sg-PERF
 'Joan ridiculed the man who insulted him.'

An embedded clause in the imperfective past can be interpreted as simultaneous with the situation in the main clause, as in (32a). If the subordinate tense is in the perfective past, the situation is interpreted as anterior to the situation in the main clause (32b). This happens independently of the situation type of the clause (although we do not provide an example of each aktionsart in this paper).

Simultaneity and anteriority are temporal meanings which can at least in part be explained by the aspectual properties of the tense forms. Simultaneity is a result of the lack of temporal limits denoted by the imperfective past. Anteriority is the temporal value obtained when the situation is temporally bounded by the perfective past.

4. One Operator with Two Realisations: Catalan Past Tense Morphemes

So far, we have provided evidence to support the claim that any Catalan sentence in the imperfective past describes a state. Presumably this is a general property of the imperfective past in Romance.

Herweg proposed a unique past tense operator for English. In Catalan, although there are two forms of past tense, there seems to be no reason to propose two different past tense operators. It suffices to say that the predicate type variable in Herweg's definition is instantiated for states and for events. Different morphology realises the two "versions" of the past operator. The imperfective past tense operator applies to states in the widest sense: state predicates, habits (which are probably marked by their own habitual operator), and the in-progress state of an event.⁵ This operator is defined as follows:

IV. (imperfective past tense) $\lambda S \lambda t (S(t) \text{ and PAST}(e^*, t))$

Definition IV says that for any state-type S and any time period t characterised by S , $S(t)$ is in a PAST relation with respect to e^* (the event of utterance).

The perfective past operator applies to events, using the term to include event predicates and also the phase-events. The instantiation for events is:

V. (perfective past tense) $\lambda E \lambda e (E(e) \text{ and PAST}(e^*, \tau(e)))$

Definition V says that, given an event e of type E , the time of the event $\tau(e)$ is in a PAST relation with the event of utterance e^* .

⁵ Again, predicates denoting events can have two distinct state readings: (a) the progressive reading, or in-progress state of an on-going event; (b) the habitual-quantified, in which a period of time has the property of the habitual occurrence of an event. As far as the habitual reading is concerned, some examples that my anonymous reviewer provided as a challenge to the present proposals brought to my attention that being a participant of certain habitual situations can become a characteristic of the agent of the habitual events. Thus the habit denoted by "Ella escribia" (she wrote-IMPERF) may in fact be interpreted as both an occasional writing habit and as a profession, i.e. she was a writer. This predicative reading can be paraphrased as "Era escriptora" (she was a writer).

progress, state holding in the past, available to predicates depending on their state or event nature.

States, for example, cannot be quantified by adverbs like *always*. Consider the sentences in (33).

- (33) a. *En Pere sempre sabia francès.
the Pere always knew-3sg-IMPERF French
'Pere always knew French.'
- b. *En Pere sempre estava malalt.
the Pere always was-IMPERF ill
'Pere was permanently ill.'

(33a) is ungrammatical because there are no individual phases of knowing a language which *sempre* ('always') can quantify over.

(33b) can not be read as 'Pere was permanently ill'; rather, it means that there were an indefinite number of past occurrences of phases of the state 'being ill'. This would be an instance of the application of the "pofective" operator, which considers the individual occurrences of phases of states.

The habitual/quantified interpretation is clearly different from the other ones. Imperfectives in quantified sentences do not show the same co-occurrence restrictions with respect to durational and time-extent adverbials as imperfective progressive and states holding in the past.

If a progressive operator PROG is introduced, the VP cannot be modified by durational and time extent modifiers (cf. sentences (18a and b) and (23b)). This is a logical prediction, since progressive states of events cannot be temporally limited either by durationals or by time extent durationals.

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If a habitual or a quantification operator is introduced, the effect of the imperfective as the marker of non-delimitedness of the event is lost. For this reason durationals and time extent expressions apply according to the aktionsart of the predicate (cf. sentences (21) vs. (22), and (26)).

Thus, while the aktionsart of the VP plays a role in quantified sentences, it is irrelevant when the imperfective is the realisation of the progressive state of an event. This suggests that syntactically PROG must be closer to the VP than HAB-QUANT. The right place to introduce the progressive operator seems to be the phrasal projection of aspect, between the Tns and VP categories. Asp appears structurally as the category in which the (semantic) operator PROG is introduced (at this point in the research we do not know whether the operator would be introduced in the specifier position, or as the head of AspP). Since PROG is the operator that converts events into states (an event VP becomes a state AspP by the application of PROG), if there is no event predicate to be converted, there is no need to have an empty Asp position. This would be in line with previous proposals based on Kratzer (1989) which take AspP to exist only if projected by an event predicate.⁶ A consequence of this is that no Asp category exists when the VP is a state.

⁶ A phrasal category Asp with a feature [\pm perfective] has been proposed for a number of constructions involving event predicates. Recent works have shown that the telicity or delimitedness (the feature of events that have inherent culmination or delimitedness) has syntactic effects in Spanish. For example, de Miguel (1990), Bosque

In the case of habitual/quantified imperfective past, as no lack of delimitedness of the quantified events is implied, it is reasonable to think that no Asp category exists and that the HAB-QUANT operator is introduced at a higher category, possibly at the Spec of TP (Espinal, personal communication).

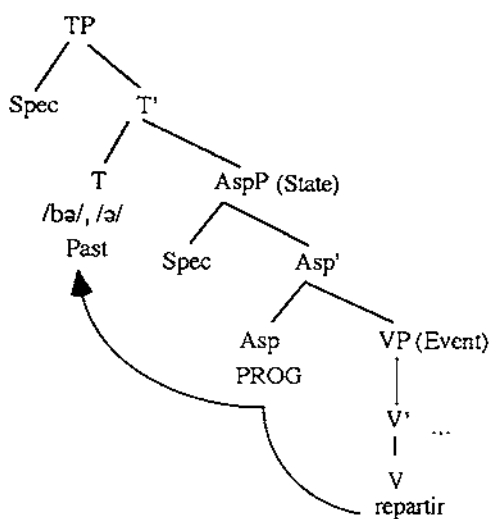
The phrase structure trees given below reflect the specific configurations that explain the varieties of state interpretations induced by the imperfective past morphology.⁷ Following Mascaró (1983) we take the imperfective morpheme to be /bə/ and /ə/, depending on the conjugation class.

(1990) and M.L. Hernanz (1991) propose aspect as a phrasal category projected by a predicate denoting an event to account for a number of constructions: absolute constructions (de Miguel, Hernanz), impersonal clauses and passives, both syntactic and with *se* (de Miguel), and perfective adjectives (Bosque).

⁷ Pérez-Saldanya (1991) sketches an analysis in which the traditional notion of the imperfective past as "present in the past" is reformulated in an operator-like notation as (PAST (PRESENT)), where both PAST and PRESENT are heads of functional categories. PAST is the head of a Tense category, PRESENT projects a syntactic Aspect category. To avoid a representation in which a temporal element (PRESENT) heads an aspectual phrase, the feature IMP (for imperfect) is proposed. The shift from PRESENT to IMP does not seem to us to be justified beyond the obvious problem of having a temporal notion be realised as ASP. Our analysis attempts to articulate the general notion "IMP".

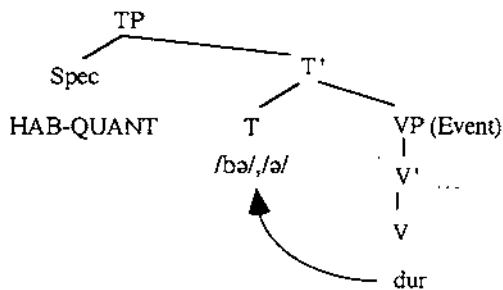
Imperfective progressive :

(1) Quan la directora va entrar, la mestra *repartia* els exàmens.



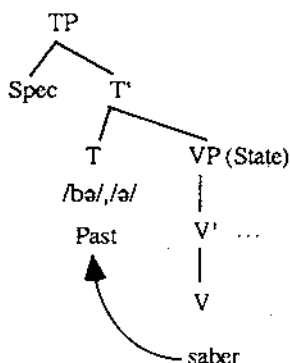
Imperfective habitual/quantified.

(2) Quan érem petits el pare ens *duia* a veure pel.lícules de Disney.



Imperfective state:

(3) La María *sabia* francés.



Notice in (2) that we do not claim that the imperfective morpheme selects state predicates, but that sentences in the imperfective receive a state interpretation. Therefore nothing prevents Tns Past-State to take an event VP, as there is an operator higher up in the structure to guarantee a state interpretation. This could explain the intuition that when an imperfective past sentence is underdetermined as to its reading, the default is a generic situation.

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