Tempus – Aspekt – Modus

Die lexikalischen und grammatischen
Formen in den germanischen Sprachen

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Aspectual Properties of the AN-Construction in German

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ABSTRACT

In many typologically distinct languages there is a similarity between the formal expression of imperfective aspect, in particular progressive aspect, and constructions with locative prepositions. In German the preposition *an* 'on' can function as a special partitive case marking on the noun phrase giving rise to a progressive interpretation of the whole construction: *er baute an einem Haus* he built-PAST on-PREP a-DAT house-DAT 'he was building a house'. The *an* construction stands in a systematic relation to a construction with accusative direct object, as in *er baute ein Haus* 'he built-PAST a-ACC house-ACC', which covers the range of both the progressive and non-progressive aspect. This expression of the aspectual distinction is limited to a restricted class of predicates, and therefore, cannot compensate for the lack of the grammatical category aspect in German. The goal of this study is to account for both the locative-progressive link and the influence of the reference properties of the nominal predicates on the temporal semantics of the whole construction. This account of the progressive *an*-construction relies on the hypothesis that the class of predicates participating in the progressive/non-progressive distinction corresponds to the class of telic predicates denoting a homomorphism from incremental Theme arguments into algebraically-structured events (Krifka 1986, Dowty 1987). I would like to show that the mapping conditions have to be attuned to finer-grained semantic properties of predicator-argument relations, than it has been assumed so far, and to framing (in Fillmore's sense). The systematic relation between the accusative and oblique object constructions is captured in the lexicon by deriving the predicate governing the partitive *an*-PP from the predicate with an accusative direct object via a lexical redundancy rule provided that the mapping conditions are satisfied. The locative-progressive link is motivated by general principles underlying mapping from objects to events.

1. In this paper I would like to investigate the progressive *an*-construction in German with the aim of demonstrating the relationship between Aktionsart (German, lit: 'kinds of action') and aspect, and the conditions under which the reference type of nominal predicates can determine the reference type of verbal predicates.

The account of the progressive *an*-construction given in this paper relies on the hypothesis that the class of predicates participating in the aspectual distinction 'progressive vs. non-progressive' corresponds to the class of telic predicates denoting a homomorphism from incremental Theme arguments into algebraically-structured events. I would like to show that the mapping conditions, namely (i) telicity, (ii) graduality, (iii) non-resettability of event/ uniqueness of object, and (iv) incremental change, have to be attuned to finer-grained semantic properties of predicate-argument relations than has been assumed so far, as well as to framing. In accordance with Fillmore (1975), (1982), (1985) cognitive frames are understood here as structured ways of interpreting experiences. Such frames serve to help the language-user to interpret his experiences, to understand and produce utterances.

The paper is organized as follows: In section 2 I will describe the syntactic and semantic properties of the *an*-construction in the most neutral and theory independent way. Section 3 presents the background on the relevant aspect and Aktionsart literature: it reviews some approaches and problems connected to the description of the *an*-construction. In section 4 I will formulate restrictions on the grammaticality of the progressive *an*-construction. Here I also introduce the cross-categorial semantic property *partitivity* as an important characteristics of nouns which distinguishes mass nouns from count nouns, and which also plays a crucial role for the Aktionsart and aspect properties of verbal expressions. In section 5 I will propose that the systematic relation between the accusative and prepositional *an*-construction can be captured in the lexicon by deriving the predicate governing the partitive *an*-PP from the predicate with an accusative direct object via a lexical redundancy rule. In this section I draw on the insights gained in the framework of Construction Grammar[1].

2. The *an*-construction investigated here may be exemplified by the following sentence:

(1) *Alex baute an einem Haus.*
Alex built on-PREP a-DAT house-DAT
'Alex was building a house.'

The *an*-construction is typically headed by such predicates as *essen*, 'to eat', *schreiben* 'to write', *bauen* 'to build', *malen* paint', *stricken* 'to knit', *nähen* 'to sew'. It contains the preposition *an* (lit.:'on') and a noun phrase in the dative case: verb + an + NP/dative. In traditional terms, the noun phrase governed by the preposition *an* is usually linked to an effected Object (with *to write*) or consumed Object (with *to eat*). All of these different types of predicate-argument relations may be subsumed under the notion of *incremental Theme* [2].

As a first approximation, we can consider a predicate like *an einem Haus bauen* 'to be in the process of building a house' as applying to an event which is a *part* of an event of building a whole house. That is, the referent of the prepositional object governed by *an* is only *partially* subjected to the event of building a house.

The *an*-construction stands in a systematic relation to a corresponding construction with an accusative direct object:

(2) *Alex baute ein Haus.*
     Alex built-PAST a-ACC house-ACC
     'Alex built a house.'

In contrast to (1) in (2), the referent of the direct object is usually (though not necessarily always) interpreted as being completely subjected to the event of building a house. In general, in the construction with the prepositional *an*-phrase the event is viewed as not being completed, whereas in the construction with the direct object in the accusative case the event can be regarded as completed or not completed (especially in the present tense, cf. example 11).

I would like to address mainly two questions here. The first question concerns the conditions under which the reference properties of the nominal predicates can influence the semantics of the whole sentence. Note that the main formal difference between the two types of constructions, as exemplified by (1) and (2), is the alternation 'oblique object (*an* + NP/dative case) vs. direct object (accusative case)'. It is these formal differences marked on the noun phrases which are primarily responsible for the different interpretations of the two constructions. Furthermore, there is an asymmetry between the pair of sentences like (1) and (2). While there is a corresponding accusative construction for each well-formed *an*-construction there is not a corresponding *an*-construction for each accusative construction, as the following pair of German sentences shows:

(3)   a. *Alex sah ein Haus.*   b. *Alex sah *an einem Haus.*
          Alex saw a-ACC house-ACC   Alex saw on-PREP a-DAT house-DAT
          'Alex saw a house.'

This already suggests that only a certain type of predicate-argument relations, and as I would like to show in section 4, only a certain type of incremental Theme relations, can enter the progressive *an*-construction.

And the second question addresses the difficult problem of the delimitation of Aktionsart aspect and tense: on which semantic level in the domain of Aktionsart-aspect-tense are the differences in the reference properties of the nominal predicates relevant for the semantics of the whole verbal expression? Is it on the level of Aktionsart, or on the level of aspect, or maybe even on some other level altogether?

In the next section I will first attempt to answer these questions with respect to the types of German constructions exemplified by (1) and (2).

3. The literature on Aktionsart and related categories contains a long history of discussions on the delimitation and interaction of Aktionsart and aspect[3]. As a result both the terminology and the relevant characterizations vary from author to author. There is no general agreement in the use of the terms *aspect* and *Aktionsart*, or in the use of a number of terms subsumed under these two general notions. The terms *Aktionsart* and *aspect*, *tense* and *aspect* are often used interchangeably for the same concepts. One of the reasons for this confusion has to do with the history of the research carried on in the domain of Aktionsart, aspect and tense. At least three distinct traditions can be distinguished: Slavic, German, and the more recent approaches in truth-conditional semantics. Before describing the specific problems connected with the German progressive *an*-construction I will give a brief account of these research traditions and introduce the terminology which I will use in this paper.

Slavic linguistics, especially during the structuralist era, is distinguished by an effort to characterize aspect and Aktionsart and precisely delimit their domains of application. The line is most often drawn between aspect as grammaticalization of the relevant aspectual distinctions, perfectivity and imperfectivity, and Aktionsart as the lexicalization of the semantic notions such as *ingressivity, terminativity, punctuality, durativity, completion*, etc., by means of derivational morphology[4]. One of the more widespread characterizations of the aspectual distinctions in Slavic linguistics is that aspects are different ways of seeing

the internal temporal constituency of a situation. So, in the most general terms possible, perfectivity is characterized as lacking explicit reference to the internal temporal constituency of a situation, whereas imperfectivity explicitly refers to its internal constituency[5]. Another frequent characterization of aspect is in terms of the feature 'completed action': perfective verbs are marked with respect to this feature, whereas imperfective verbs are unmarked[6].

German linguistics has a long tradition of Aktionsart and aspect research which goes back to Grimm[7]. Here also, Aktionsart is mainly understood as the lexicalization of the relevant semantic distinctions by means of derivational morphology. In German there is a difference, for example, between the aterminative *schiessen* 'to shoot (without necessarily aiming at and/or hitting anything)' and terminative *erschiessen* 'to kill by shooting'. Aktionsart also covers the expression of such distinctions by other means, i.e., by means of temporal adverbials, or certain syntactic and lexical patterns. In German linguistics, the term *Aktionsart* is often used for both aspect and Aktionsart.

The approaches to Aktionsart, aspect and tense in truth-conditional semantics take as a point of departure typologies that are ultimately grounded in Aristotle, and which can be more recently found in the work of Ryle (1949), Kenny (1963) and Vendler (1957)[8]. Vendler (1957) distinguished four classes of verbs, verb phrases or sentences according to the kinds of states-of-affairs that they describe: **activities**, like *push the cart, run*, are continuous, consisting of successive phases over time, and "any part of the process is of the same nature as the whole" (p. 101); **accomplishments**, like *run a mile, draw a circle*, are also continuous and "proceed toward a terminus which is logically necessary to their being what they are" (p. 101); **states**, like *know, love*, last "for a period of time" (p. 103), but are noncontinuous and do not denote a process over time; **achievements**, like *recognize, reach the summit*, are also noncontinuous and "occur at a single moment" (p. 103). Since Dowty (1972) these distinctions have become virtually indispensible for the description of aspect and Aktionsart in a number of languages.

Dowty (1979) refers to these four classes as aspectual classes, while for Hoepelman (1978) Vendler's classification seems to be a classification on the level of Aktionsart, and some linguists working within the theory of truth-conditional semantics consider them to be distinctions at the level of aspect. In short, the term *aspect* is here used for both aspect and the aspectually relevant Aktionsart distinctions.

Following the tradition in Slavic linguistics I will restrict the use of the term *aspect* to particular formal differences in individual languages which can express the semantic aspectual distinction 'perfective vs. imperfective' in a regular and systematic way. Within imperfectivity the following aspectual distinctions may be relevant: 'habitual (or iterative) vs. continuative'; continuative expressions may differ with respect to 'non-progressive vs. progressive' aspectual distinction[9]. The term *aspectual distinctions* will be used here for semantic distinctions on the level of aspect semantics regardless of whether they are grammaticalized or expressed by certain syntactic and lexical patterns in a given language. The term *Aktionsart* will be used here for inherent lexical properties of sentences, verb phrases, and of various classes of verbs as lexical items which are aspectually relevant (exactly in which sense will be explained later). In particular, the term Aktionsart, as it is understood here, also subsumes Vendler's fourfold distinction of accomplishments, activities, achievements, and states.

Despite the different traditions from which these three main approaches to the domain of Aktionsart-aspect-tense arise, there is a striking agreement with respect to the following point: all of them draw a semantic distinction which is important for its interaction with aspectual distinctions. This semantic distinction has been referred to, for example, as 'energeia' and 'kinesis' (Aristotle), 'activity' and 'accomplishment' (Vendler 1957), 'atelic vs. telic' (Garey 1957), 'noncyclic' and 'cyclic' (Bull 1963), 'aterminative' and 'terminative' (Maslov 1959), 'nonbounded' and 'bounded' (Allen 1966; Talmy 1986), 'nicht-grenzbezogen' (lit., not limit-oriented) and 'grenzbezogen' (lit.: limit-oriented) (Andersson 1972).

These terms essentially refer to the same two opposing concepts, and they have the same two major classes of verbal expressions[10] as their extensions. Mainly for mnemonic reasons, I would like to use the terms 'atelic' and 'telic', originally coined by Garey (1957), for the two concepts. The terms 'telic' and 'atelic' have become common in many recent works on aspect and Aktionsart. According to the various definitions given in the literature the general semantic properties distinguishing the two classes of verbal expressions can be characterized in the following way:

(4-a)   A verbal expression is considered to be **telic** if its denotation involves an inherent terminus at which the event exhausts itself and gives rise to a new state-of-affairs. The terminus will be reached in the natural course of events.

(4-b)   A verbal expression is **atelic** if it has no inherent terminus.

The notion "inherent terminus" is consistent with widely held intuitions in aspect and Aktionsart research[11]. It is viewed as an interval of time (or a point of time) and a state-of-affairs constituting a change from one state-of-affairs to the other. According to (4-a) and (4-b) we can distinguish achievements and accomplishments which are telic, on one hand, from activities and states which are atelic, on the other. Examples of telic expressions are *to paint a picture*, *to die*, and of atelic expressions *to walk*, *to sleep*. The verb phrase *to paint a picture* involves an inherent terminus in its denotation, namely that point or time interval at which the picture is complete, when the denoted event automatically terminates. The verb *to walk* has no such terminal point, and denotes a state-of-affairs that can be protracted indefinitely or broken off at any point.

I consider the opposition 'telic vs. atelic' as the highest abstraction on the level of Aktionsart. It manifests itself clearly in its systematic interaction with aspect. In this sense the opposition 'telic vs. atelic' refers to aspectually relevant inherent lexical properties of linguistic expressions[12]. The aspectual distinction 'perfective' can be characterized in the following way:

(5)   A verbal expression is **perfective** if it is telic and if it denotes a state-of-affairs
        in which the inherent terminus is actually attained.

According to the characterizations (4) and (5) the feature 'perfective' entails the feature
'telic': perfective verbal expressions are telic, that is either accomplishments or achieve-
ments. Atelic verbal expressions can only be imperfective[13]. The term *potential* terminus
is here implicitly opposed to an *actually* attained terminus and this distinction can be used
to describe the difference between telic imperfective and telic perfective verbal expressions.
By an inherent terminus that is actually realized it is understood that the event has
reached a state of affairs beyond which it cannot possibly continue to change. *I made a
chair* involves such an inherent terminal point, and moreover, it entails that this point was
actually attained. *I made a chair* is both telic and perfective. The crucial data which
motivate the existence of the two oppositions, 'telic vs. atelic' and 'perfective vs. imperfec-
tive' are such examples as *I was making a chair* in which the inherent terminus is implied
although it is not asserted that it is *actually* attained. To summarize, in all the cases of
telic verbal expressions, a distinction has to be made between potential terminal points and
actually achieved terminal points, and correspondingly, between imperfective and perfec-
tive verbal expressions.

The existence of the 'telic vs. atelic' opposition is motivated not only by the different
behavior of verbal expressions with respect to aspect but also by a number of tests. Dowty
(1979), who adopts Vendler's verb classification, gives two diagnostic tests for distinguish-
ing activities, or atelic expressions, from accomplishments, or telic expressions: activities
and accomplishments are distinguished (i) by restrictions on the type of time adverbials
they can take, and (ii) by the entailments they have when various time adverbial phrases
are present (cf. Dowty 1979:56ff.). A number of other tests have been proposed to distin-
guish telic from atelic expressions. However, I chose these two because they can easily be
applied to different languages.

Activity expressions in English can only be modified by durative adverbial phrases of
the type "*FOR NP$_{extent-of-time}$*", like 'for an hour':

(6)   John walked for an hour / (*) in an hour.[14]

On the other hand, accomplishment expressions, in non-iterative interpretations, can only be modified by frame adverbial phrases of the type "*IN NP$_{extent\text{-}of\text{-}time}$*", like 'in an hour'. They usually do not allow for adverbial *FOR*-phrases:

(7)   John painted a picture ?for an hour / in an hour.[15]

As far as the entailments are concerned, Dowty observes that if "John walked for an hour, then, at any time during that hour it was true that John walked. But if John painted a picture for an hour, then it is not the case that he painted a picture at any time during that hour" Dowty (1979:57). In other words, a proper part of an event of *painting a picture* will not be considered as an event of *painting a picture*, unless it includes the end part, whereas a proper part of an event of *walking* will be considered as an event of *walking*, given that some instance of *walking* is not too small to count as *walking*.

It is not at all obvious what role the distinctions on the level of both Aktionsart and aspect play for the description of German verbal expressions, and in particular for the *an*-construction. Some of the reasons for this difficulty certainly stem from the fact that German does not have a grammatical category which expresses aspect, and that the characterization of the opposition 'telic vs. atelic' is often motivated by its interaction with the aspectual distinction 'perfective vs. imperfective' as it is manifested in languages which have a grammatical expression of aspect.

Intuitively, the *an*-construction seems to involve imperfectivity, or more exactly progressivity[16], since it explicitly asserts that the inherent limit was not attained. Note also that (1) can be considered as the closest translation of the English sentence *John was building a house* into German Whereas the progressive nature of the *an*-construction seems to be fairly uncontroversial, the assignment of the appropriate semantic category on the level of Aktionsart is more problematic. According to (4-a), the German *an*-construction should be classified as a telic expression since the potential terminal point at which the process has to stop is included in its denotation. in (1), for example, it is the point at which

the construction of a house can be considered as completed[17]. However, the modification with durative temporal adverbials of the type "$NP_{extent-of-time}$" (which is the German counterpart of the English "$FOR\ NP_{extent-of-time}$") indicates that the *an*-construction should be categorized as an atelic expression:

(8)   *Alex baute an einem Haus (einen Monat lang) / (*in einem Monat).*
        Alex built on a-DAT house-DAT (one month long)/ (*in one month)
        'Alex was/had been building a house (for a month) / (*in a month).'

On the other hand, the corresponding construction with the accusative direct object behaves like a telic expression (under the preferred perfective interpretation) with respect to this test:

(9)   *Alex baute ein Haus (in einem Monat)/ (*einen Monat lang).*
        Alex built a-ACC house-ACC (in one-DAT month-DAT) / (*one-ACC month-ACC)
        'Alex built a house (in one month)/ (*for one month).'

And yet, in both (1), (8) and (2), (9), we understand that the action performed by the subject was of the same kind. Both the sentence types involve an inherent terminus in their semantic descriptions, and therefore, according to the characterization (4-a), both should be categorized as telic.

In the case of the *an*-construction, there is an apparent contradiction between the characterization of the opposition 'telic vs. atelic' in (4-a) and (4-b) and the *FOR - IN* test which is supposed to indicate the semantic distinctions characterized in (4-a) and (4-b). Note that the test criteria have been chosen to correspond as closely as possible to the concepts 'telic' and 'atelic'. However, they should not be considered as operational definitions of the distinctions. If these tests fail in certain cases, it is assumed that there must be some systematic explanation. It may be concluded that either (i) the characterization (4-a) and (4-b) given above is unsatisfactory, or (ii) that the test does not indicate the category membership 'telic/ atelic' but some other semantic property of verbal expressions.

One possible way out of this contradiction would be to say that the distribution tests *do* indicate telicity/atelicity of verbal expressions and that the characterizations (4-a) and

(4-b) need to be revised. On this view, the construction with the direct object in the accusative case is telic, whereas the construction with the prepositional *an*-phrase is atelic. For example, Andersson (1972:41) is one of the proponents of this view.[18]

An argument against the view that the *an*-construction should be classified as an atelic expression is provided by Dahl (1981:86ff.) who observes that it would lead to an inconsistency in the description of the comparable German and English data. On one hand, such German sentences as (1) would be classified as atelic and at the same time English sentences such as

(10) Alex was building a house.

would be classified as telic. Not only is (10) the closest translation of (1) into English, but it also belongs to the standard inventory of prototypical examples of telic or accomplishment expressions[19]. Note also that (10) cannot be modified with an IN-phrase: **Alex was building a house in an hour.* So, we are faced with the same problem for both the English and German data. Contrary to Andersson (1972:41), Dahl (1981:87) concludes that the *an*-construction is telic. Dahl also argues that the potential end-point of an activity is indicated by a prepositional phrase.

A further complication for the description of the semantic difference between the constructions with the accusative direct object and those with the prepositional *an*-phrase, exemplified by (2) and (1), arises from the interaction of these constructions with tense marking on the verb. The construction with the accusative direct object and the main verb in the present tense behaves like an atelic expression (in non-iterative interpretation), because it is compatible with durative adverbial phrase of "$NP_{extent\text{-}of\text{-}time}$" type and not with frame *IN*-phrase:

(11) *Alex baut ein Haus einen Monat lang / *in einem Monat.*
    Alex builds-PRES a house-ACC a month-ACC long/ in-PREP a-DAT month-DAT
    'Alex has been building a house for a month/ *in a month.'[20]

These examples show that the *FOR - IN* test is also sensitive to tense semantics in German: The interpretation of the construction with the accusative direct object crucially depends on the tense of the main verb. Here, we have to conclude that despite the fact that both (11) and (2) meet the characterization for telic expressions (4-a), only the accusative construction in the *past tense* behaves like a telic expression with respect to the *FOR - IN* test.

Another way out of the apparent contradiction between the diagnostic test and the characterization (4-a) and (4-b) would be to propose that the intuitions behind the characterization of the 'telic/atelic' opposition in (4-a) and (4-b) are well-motivated, and that the test does not give us insights into the opposition 'telic vs. atelic' on the level of Aktionsart.

Support for the claim that the temporal adverbial phrases do not test for the opposition 'telic vs. atelic' could be provided by the fact that in languages which have a grammaticalized category aspect, like Czech and English, for example, the cooccurrence with different types of temporal adverbial phrases can be used as a "litmus test" for the category membership of the verb in the perfective or imperfective class. The German examples (1) and (2) can be translated into Czech as (12-a) and (12-b):

(12-a) *Alex stavěl dům (měsíc) / (*za měsíc).*
        Alex built-IMPF house (month) /(*in month)
        'Alex built/was building a house (for a month)/ (*in a month)'.

(12-b) *Alex postavil dům (*měsíc) / (za měsíc).*
        Alex built-PERF house month / (in month)
        'Alex built a house (*for a month) / (in a month).'

In Czech, imperfective verbs (both in progressive and iterative interpretation) generally occur freely with durative *FOR* adverbial phrases, whereas perfective verbs can only be modified by frame *IN* adverbial phrases. Here, the test clearly operates on the level of aspectual distinctions 'perfective vs. imperfective'.

In English the cooccurrence facts are more complex. It is not generally the case that *IN*-phrases are always compatible with accomplishments and *FOR*-phrases only with activity verbal expressions. Under progressive and/or iterative interpretatio

accomplishment verbal expressions are also compatible with *FOR*-phrases:

(13)   John painted pictures for one week/ *in one week.

(14)   John has been painting a picture for an hour/ *in an hour.

(15)   John has been painting pictures for one week/ *in one week.

In English verbal expressions under progressive and/or iterative interpretations occur freely with *FOR*-phrases, independently of the Aktionsart type of verbal expressions, i.e. independently of whether the verbal expression is telic or atelic.

Once we understand that the compatibility with temporal adverbial phrases does not indicate exclusively the 'telic/atelic' property, but rather tests for the aspectual distinction 'perfective vs. imperfective', the apparent contradiction between the characterization (4a) - (4b) and the distribution properties of verbal expressions in German as well as the inconsistency in the description of the German and English data (among other problems) can easily be resolved. It has been observed that the main semantic difference between (1) and (2) seems to be that the inherent terminus in the construction with the prepositional *an*-phrase remains unattained, only potential, whereas in the construction with the direct object it is usually interpreted as being actually attained in the past tense and as unattained in the present tense. So, in this respect the difference between (1) and (2) does not seem to be really in the opposition 'telic vs. atelic'. But rather the difference is in the opposition 'realized inherent terminus vs. potential inherent terminus'. And this is a difference which pertains to a distinction on the level of aspectual distinctions. In short, the IN adverbial phrases are compatible with verbal expressions which involve realized inherent termini and not merely potential termini. The FOR adverbial phrases modify verbal expressions involving a potential terminus (non-iterative interpretation) or denoting an indefinite number of instantiations of the same event type with (possibly) realized inherent termini (iterative interpretation).

On this view, both the constructions with the direct object and the construction with the prepositional *an*-phrase, both in the present and the past tense, are *telic*, as indeed the characterization (4-a) predicts. Constructions with the prepositional *an*-phrase explicitly

indicate that the inherent terminus is *not* reached at a given reference point, that the denoted event is still in process, both in the present and past tense. In other words, they are telic and marked with respect to progressivity. Constructions with the accusative direct object include an inherent terminus or a result-state in their denotations which can be realized or can remain potential. These constructions are telic and unmarked with respect to progressivity. In this case the question whether a given instantiated construction is perfective or imperfective can only be answered on the level of sentence and discourse semantics and taking into account the tense marking on the verb. In German there is an affinity between the past tense forms and the perfective meaning, on one hand, and the present tense forms and the imperfective meaning, on the other. A sentence such as *Alex baute ein Haus* 'Alex built a house' with a telic verb phrase in the past tense usually implies that the inherent terminus was reached: in other words, it has a perfective reading. On the other hand, a sentence with the corresponding verb in the present tense *Alex baut ein Haus* 'Alex-builds-a-house' is telic and usually interpreted as imperfective (in non-iterative reading), since it cannot usually be assumed that the goal is attained. Therefore, in the present tense the accusative and the prepositional *an*-construction, e.g. *Er baut ein Haus* and *Er baut an einem Haus*, can often be used to denote the same state-of-affairs. The *an*-construction is a highly marked form: it is used only if it is necessary to indicate overtly progressive meaning in German. In the past tense the accusative and the prepositional *an*-construction, e.g. *Er baute ein Haus* and *Er baute an einem Haus*, usually stand in opposition to each other.

It may be concluded that we need both the semantic distinctions 'telic vs. atelic' and 'progressive vs. non-progressive' for the description of verbal expressions in German. Here the crucial evidence which motivates the existence of the two oppositions is the progressive *an*-construction, in which the inherent terminus is implied although it is asserted that it is not actually attained. The meaning of the *an*-construction in German closely corresponds to the meaning of the English progressive aspect. It stands in a systematic relation to a

construction with accusative direct object which covers the range of both the progressive and non-progressive aspect. However, since the expression of the aspectual distinction 'progressive vs. non-progressive' is limited to a very restricted class of predicates, it cannot compensate for the lack of the grammatical expression of aspect in German.

An adequate description of the progressive *an*-construction has to account for the connection between the case marking on the noun phrase and the progressive interpretation of the whole construction. In the next section I will describe the influence of the PP/*an* on the progressive interpretation mainly in terms of the mapping from incremental Theme arguments into events. In order to delimit the class of predicates that participate in the aspectual distinction 'progressive vs. non-progressive' in German I would also like to show that the mapping conditions have to be attuned to finer-grained semantic properties of predicate-argument relations than has been assumed so far, and to framing (in Fillmore's sense)[21].

4. It has often been observed[22] that the reference type of nominal arguments can determine the temporal reference of the whole verbal expression. A count or measure argument usually gives rise to a telic verbal predicate, whereas a mass argument, or bare plural argument, gives rise to an atelic verbal predicate. Thus, *Kim walked* denotes an activity, *Kim walked a mile* has the properties of an accomplishment. *Sue is drawing a picture* and *Sue is drawing five pictures* are accomplishments, however, if the predicate contains a bare plural as its direct object, then it has the properties of an activity sentence: *Sue is drawing pictures*. Whereas *John discovered a treasure* has properties of an achievement, *Tourists discovered that village* behaves like an activity expression. These examples also demonstrate that Vendler's classification in *activities, accomplishments, achievements* and *states* does not relate to types of situations described by verbs alone, but rather to types of situations denoted by the verb together with its arguments, objects and subject.

In recent model-theoretic analyses[23] it has been proposed that the influence of the reference properties of nominal predicates on the reference properties of telic predicates can be accounted for in terms of the mapping from incremental Theme arguments into algebraically-structured events. Informally, the notion of mapping from Theme arguments into events can be described in the following way: telic predicates such as *to build a house* or *to eat an apple* can be characterized by a process phase which manifests progressive development and ultimately reaches a terminal point, or period, resulting in a new state-of-affairs. The progressive phase is typically manifested by changes in the referent of the subject or object of the predicate, as it is gradually produced (e.g. *house* in *to build a house*), destroyed, or consumed (e.g. *apple* in *to eat an apple*). Therefore, the progressive phase can be viewed as comparing incremental stages of the referent of the subject or object as it changes over time. The intermediate stages of the object in transition are always seen as parts of the whole being produced or destroyed. Thus, for example, an unfinished building is viewed in the context of whatever defines a finished building. The speaker appears to have the completed product in mind as a possible outcome if the action takes its natural course and progresses to its inherent limit. Translated into the mapping mechanism this amounts to mapping proper parts of quantified objects into proper parts of telic types of events: thus, a proper part of the house as it is gradually constructed is mapped into the part of the event of building a house.

The mapping from incremental Theme arguments into events crucially depends on the cross-categorial property of the notion *partitivity*. *Partitivity* distinguishes mass nouns from count nouns, but it is also operative in the domain of aspect, and Aktionsart, that is in the domain of verbal reference[24]. A mass term like *water* denotes a partitive substance, every proper part of water counts as being water (given that we do not consider those parts of water that are simply too small to count as water). For a count term like *house*, on the other hand, it does not hold that every proper part of the object it refers to counts as being a house. And analogically, a proper part of a telic type of an event *painting a picture* will

not be considered as an event of *painting a picture*, unless it includes the end part, whereas a proper part of an atelic type of an event of *walking* will be considered as an event of *walking*, given that some instance of *walking* is not too small to count as *walking*. The intuitive insight that atelic verbal expressions are similar to mass nouns (and also bare plurals), whereas telic expressions are similar to measure constructions and count noun constructions amounts to the following generalization within the mapping from objects to events: since *house* is a count expression, and no proper part of a house can be denoted by *house*, no proper part of an event of *building a house* can be considered as an event of *building a house* (unless it includes the end part).

The common intuition in aspect research that imperfectivity, in particular progressivity, explicitly refers to the internal constituency of a state-of-affairs, are consistent with the idea that some notion of partitivity is involved in the concept of progressivity (cf. Bennett and Partee 1972; Dowty 1977). Given the cross-categorial properties of the notion *partitivity* and the intuitive description of progressivity as referring to the internal constituency of a situation, it is not surprising that in a number of languages locative and partitive operations are transferred from the domain of nominal reference to the expression of progressive aspect. In general, progressivity can be either marked in the form of the verb, as for example, in English and Slavic languages, or it can be expressed by a special partitive case marking on a noun phrase or by a special locative expression on a verb (for example, as in French *en train de faire*). In many typologically distinct languages[25] there is a similarity between the constructions expressing imperfective aspect, in particular progressive aspect, and constructions with locative prepositions. In German the occurrence of a partitive *an*-phrase usually gives rise to the progressive interpretation of the whole verbal expression in which it is a constituent.

The connection between the partitive case marking on the noun phrase and the progressive interpretation of the construction in which the partitive noun phrase is a constituent finds its natural explanation in terms of the mapping from objects into events. My

account of the progressive *an*-construction in German relies on the hypothesis that the class of predicates which can enter into the progressive *an*-construction corresponds to the class of telic (accomplishment) predicates denoting such a mapping. In particular, this class of predicates must fulfill the following four conditions: (i) telicity, (ii) graduality, (iii) non-resettability of event and uniqueness of object, and (iv) incremental change.

Krifka (1986) suggested how the mapping from objects into events can be represented formally in terms of formulas of predicate logic and by means of space-time diagrams. In addition, I would like to show that in order to describe the grammaticality restrictions on the progressive *an*-construction the mapping conditions have to be attuned to finer-grained semantic properties of predicate-argument relations than has been assumed so far. In German the expression of progressivity by means of the *an*-construction is restricted to a very limited class of predicate-argument relations. Furthermore, I would like to argue that in addition to the spatio-temporal core idea captured by Krifka (1986), the meaning of the progressive *an*-construction also involves knowing or recognizing cognitive frames[26] associated with the lexical items in this construction. Cognitive frames give us insight into structured ways of interpreting our experiences. A crucial role in this process is played by the notion of the prototype or paradigm case contained in cognitive frames. If we say that the speaker who utters *Alex baute an einem Haus* 'Alex was building a house' appears to have the completed product in mind as a possible outcome, we really mean that he has the knowledge about what constitutes a natural course of events in a prototypical scenario of a telic type of event leading to a certain resultant state-of-affairs. Such a scenario character-izes how we conceptualize a whole telic event. It consists of an initial state, a sequence of steps or stages, and a final state. Thus, the notion of a natural course of a telic event can be understood as a sequence of incremental stages which fits typical conventionalized expectations. Its future stages, or possible outcomes, develop in ways which are most com-patible with the past course of an event up to the reference time of the event denoted by a given verbal expression.

In what follows I will discuss the four conditions proposed above and give examples for each of them. The restrictions are hierarchically ordered according to the degree of their specificity.

Firstly, the progressive *an*-construction has to contain a telic predicate, as I have argued in the previous section. This most general restriction correctly excludes all the atelic predicates, i.e. activities and states, as possible candidates in the progressive *an*-construction. Activity and state verbal expressions followed by the prepositional *an*-phrase are either ungrammatical, or if they are grammatical, they do not have a progressive reading:

(16)   *Eva streichelte *an einer Katze.*
         Eve stroked on-PREP a-DAT cat-DAT

The *an*-construction in (16) is ungrammatical, because it contains an activity verb phrase which does not allow for a progressive interpretation: it is not possible to construe a situation in which parts of a cat could be mapped into the event of stroking a cat. The mapping from Theme arguments into events only makes sense within a scenario in which a certain inherent terminus is gradually approached. In the following sentence the use of the activity predicate with the PP/*an* has primarily locative interpretation, and it does not give rise to a progressive reading of the whole construction:

(17)   *Berta zog an einem Wagen.*
         Berta dragged on-PREP a-DAT cart-DAT
         'Berta dragged/tugged at a cart.'

The partitive preposition *an* cannot be used with state verb phrases, as the following examples show:

(18)   *Peter hat *an einem Haus.*
         Peter has on-PREP a-DAT house-DAT

(19)   *Daniel kennt *an einem guten Geschäft in Berkeley.*
         Daniel knows on-PREP a-DAT good-DAT store-DAT in Berkeley.

However, the use of the preposition *an* with state verb phrases can be grammatical if a partitive interpretation of the referent of the prepositional object can be construed:

(20)   *Alessandro liebte an Silvia, dass sie so klug war.*
         Alessandro loved on-PREP Silvia-DAT that she so smart was
         'Alessandro loved about Silvia that she was so smart.'

Despite the fact that state verbs like *lieben* 'to love' and *bewundern* 'to admire' do not entail any change or progression, it could be assumed that their denotations involve an interval, as do the denotations of activities and accomplishments[27]. If the speaker asserts (20), then he is not asserting that Alessandro is doing anything at the moment of the assertion. Rather, (20) is made true by past instances of Alessandro bearing certain relations to a certain characteristic property of Silvia. In this sense the preposition *an* in (20) functions as a partitive preposition. Note that (20) can be paraphrased with *Alessandro liebte Silvias Klugheit* 'Alessandro loved that Silvia was smart' (lit.: Alessandro loved Silvia's intelligence) and not with *Alessandro liebte Silvia* 'Alessandro loved Silvia'. The interval of time during which it can be claimed that (20) holds, seems to be a long and vaguely defined interval including a number of such past instances and probably a number of such future instances. Thus, the truth or falsity of (20) can be verified by examining occasions on which it is true that Alessandro loved that Silvia was smart. It depends on our pragmatic knowledge how many such occasions are required in order for an assertion such as (20) to hold.

In grammatical *an*-constructions with activity predicates, the preposition *an* has its basic locative meaning. It serves to indicate relations in the concrete physical domain (cf. example 17). In all those cases in which the preposition *an* does not have a locative meaning, e.g. in certain constructions with accomplishment and state predicates, it signals partitivity. Partitivity can be represented in terms of mapping parts of objects or properties of individuals into parts of states-of-affairs. It is only with accomplishment predicates that the partitive preposition *an* can give rise to the dynamic progressive reading of the whole construction.

Secondly, the telic predicate in the progressive *an*-construction denotes an event during which the referent of the Theme role is subjected to a certain change in a *gradual*

manner. This restriction excludes all the telic verbal expressions denoting events which involve a punctual transition from an initial state of affairs into a final state, and which typically also do not entail any subsidiary causal activity or event. This means this restriction excludes all achievements. With achievements the transition from an initial state into a final state is usually conceived of as a point-like event. Since the transition cannot be characterized in terms of an ordered series of incremental stages of a given state of affairs resulting in a final change of state, achievements are not "accessible" to the gradual mapping from Theme arguments into events. It is precisely this class that does not often form imperfectives with the progressive interpretation in languages with the grammatical expression of aspect.[28] And they cannot be used in the progressive *an*-construction in German:

(21)   *Ich entdeckte *an einem Schatz.*
         I discovered on-PREP a-DAT treasure-DAT

The same also holds for a number of other predicates which satisfy the first telicity condition, but which do not fulfill the second condition of gradual transition from one state of affairs into the next: *schlagen* 'to hit', *brechen* 'to break', *töten* 'to kill', for example.

Verbs of cognitive physical perception like *sehen* 'to see' and *hören* 'to hear' are excluded from occurring in the progressive *an*-construction by both the telicity and graduality conditions. The meaning of 'immediate effect' on the Experiencer inherent in the cognitive physical perception verbs neutralizes the semantic opposition between tendency to achieve a certain inherent limit (expressed by the telic progressive) and attainment of this inherent limit (expressed by the telic non-progressive):

(22)   *Thomas sah *an einem Baum.*
         Thomas saw on-PREP a-DAT tree-DAT

(23)   *Thomas hörte *an einem Geräusch.*
         Thomas heard on a-DAT noise-DAT

Thirdly, even though telicity and graduality are necessary conditions they are not sufficient conditions for the grammaticality of the progressive *an*-construction. It must also

hold that the telic predicate governs an incremental Theme role which refers to a *unique* object (or objects). Typically, it occurs as an argument of such telic predicates as *to eat, to write, to build, to paint, to knit, to sew.* Thus, *uniqueness* is a property of those predicate-argument relations which denote either coming into existence or disappearing of objects in a gradual way. Consider the following examples:

(24) *Ich trank an einem Glas Wein.*
I drank on-PREP a-DAT glass-DAT wine
'I was drinking a glass of wine.'

(25) *Paula strickte an einer Jacke.*
Paula knitted on-PREP a-DAT jacket
'Paula was knitting a jacket.'

(24) entails that only a part of wine was drunk up and (25) entails that only a part of the jacket was knitted.

The uniqueness condition is motivated by the fact that a given object token can be subjected to an event denoted by such predicates as *to eat, to write, to build, to paint a picture, to knit, to sew* at most once. Consequently, the whole event is "non-resettable"[29] with the same object token. Predicates with unique incremental Themes in the direct object position which denote non-resettable events are the best candidates for the progressive *an*-construction.

The condition of uniqueness is closely connected to the extent in which an object is changed as a result of the event to which it is subjected: it must hold that the object is both gradually and permanently changed. It is important to bear in mind that the uniqueness condition is valid only for object *tokens*, and not for object *types*. Of course, the same poem may be written many times, if by *poem* we refer to the poem type and not to the poem token. Thus, accomplishment verb phrases with the so-called *performance* verbs like *spielen* 'to play', *singen* 'to sing' as well as predicates with the Representation-Source Theme[30] like *kopieren* 'to copy' and *photographieren* 'to photograph' cannot occur in the progressive *an*-construction. Consider the following examples:

(25)   *Berta spielte *an einer Sonate.*
Berta played on-PREP a-DAT sonate-DAT

(26)   *Ich kopierte *an einem Aufsatz.*
         I copied on-PREP a-DAT paper-DAT

This behavior could also be explained by the uniqueness and non-resettability condition. Performance predicates denote the realization of an abstract type of a certain performance piece, and predicates with Representation-Source Themes denote the realization of a given source object. Performance predicates and predicates with Representation-Source Themes always denote resettable events. The same performance piece or the same source object can be reproduced many times without bringing about any changes whatsoever in the abstract type underlying the actual performance piece or in the original object.

In addition to the conditions of graduality, uniqueness of the object and non-resettability of the event, there is a further condition on the grammaticality of the progressive *an*-construction: in the prototypical case the boundaries of the event are determined by the *extent* of the object in the concrete physical domain as it gradually comes into existence or disappears. This last condition is necessary in order to exclude such sentences as (28):

(27)   *Marco kochte *an Spaghetti.*
         Marco cooked on-PREP spaghetti-DAT

Note that (27) satisfies the first three conditions on the grammaticality of the *an*-construction: graduality, uniqueness, and non-resettability. Whereas in such progressive *an*-constructions as (24) or (25) the existence of the incremental Theme is contingent on the event to which it is subjected, in (27) the Theme exists independently of the event. It is only internally changed by the event to which it is subjected. In (27) the boundaries of the event are determined by the degree of the *internal change* of state of the Theme object. In other words, our pragmatic knowledge about how soft cooked spaghetti should be, determines the boundaries of the event. Therefore, the mere fact that the event is non-resettable, e.g., that the referent of the incremental Theme is permanently changed by the event, is not sufficient for the grammaticality of the progressive *an*-construction. Rather, it is necessary that the boundaries of the event are determined by the *extent* of the referent of the incremental Theme in the concrete physical space. On these grounds expressions like

an den Nudeln kochen 'lit.: on the noodles cook' or *am Bier kochen* 'lit.: on-the beer brew'

are ungrammatical. The *extent* may also be understood as a conventional form in which a

given token of a certain type usually occurs. The following sentence

(28)   *Meine Freunde kochten am Abendessen.*
         my friends cooked on-the dinner
         'My friends were cooking dinner.'

is grammatical, because what is relevant here is not merely the fact that certain

ingredients are subjected to an internal change in the process of cooking; but rather that a

certain procedure with a number of ordered steps must be followed so that a certain type of

meal gradually comes into existence with all of its conventional sequence of courses. In

order to describe such progressive *an*-constructions as (28) it is necessary that the mapping

can be applied not only in a concrete physical domain but also in the more abstract domain,

of prototypical procedures, for instance. Thus, in our example we might also include a map-

ping from parts of the steps in a prototypical cooking procedure into the event of cooking

dinner.

In some cases, the judgements of native speakers seem to vary with respect to the

acceptability of the progressive *an*-construction. In this group belong, for example, the fol-

lowing expressions:

(*) *an einem Hemd bügeln* 'on a shirt to iron'
(*) *an einem Hemd waschen* 'on a shirt to wash'
(*) *am Boden schrubben* 'on-the floor to scrub'
(*) *am Haar kämmen* 'on-the hair to comb'
(*) *am Buch lesen* 'on-the book to read'[31]

These expressions denote events in which one and the same object token can be subjected to

the same event type more than once. And consequently, events with such non-unique incre-

mental Themes are resettable. For example, the process in which somebody acquires infor-

mation from a book does not change the book, neither its physical appearance nor its con-

tents in any way.

However, there are contexts in which some speakers may more readily accept the pro-

gressive *an*-construction referring to resettable events with non-unique incremental

Themes. Consider the following example:

(29) *Ich habe schon eine Viertelstunde an diesem Hemd 'rumgebügelt und es ist immer noch nicht glatt.*
I have already a quarter-hour on-PREP this shirt all-around-ironed-PAST-PART and it is always still not smooth
'I have been ironing on this shirt for a quarter of an hour and it still is not smooth.'

Here, *herum* abbreviated as *'rum* '(all) around' is used together with the prepositional *an*-phrase to emphasize the progressive reading of the whole verbal expression.

Similarly, the expression *an einem Hemd waschen* (on-PREP a-DAT shirt-DAT to wash) 'to be washing a shirt' represents a borderline case. The acceptability of this expression depends on the cognitive frame associated with it. It may be well-formed if it refers to a situation in which the shirt is gradually subjected to the event of washing. This is the case, for example, when the shirt is washed by hand. However, speakers who normally think of washing in terms of washing laundry in the washing machine, that is for whom the event of washing consists merely in putting the laundry into the washing machine, consider the expression *an einem Hemd waschen* 'to be washing a shirt' as not well-formed. In this case the condition of gradual mapping from Theme arguments into events is not satisfied, and consequently the expression *an einem Hemd waschen* 'to be washing a shirt' cannot be used appropriately. This example also clearly shows that the acceptability of the progressive *an*-construction is not a purely syntactic or semantic matter, rather it also depends upon the framing of the sentence in the context. This means that the entire context of a verbal expression is relevant in considering a Theme as incremental (and thus gradually affected) or not.

There is another dimension which interacts with the semantic-pragmatic conditions mentioned so far: the speaker's perception of control over the course of the telic scenario, whether that control comes from the voluntary actions of an Agent, from the involuntary actions of his body's forces or from natural forces beyond his control. Typically, in the progressive *an*-construction the subject is Agent. Note that the *an*-construction with the subject-NP linked to an Instrument or Cause semantic role is ungrammatical. Consider the

following examples:

(30)   * *Die elektrische Mühle mahlte an den Koffeebohnen.*
         the electric mill ground on-PREP the-DAT coffee-beans-DAT

(31)   * *Die Sonne trocknete an der Wäsche.*
         the sun dried on-PREP the-DAT laundry-DAT

To summarize, the description of the *an*-construction in German leads to the conclusion that the progressive reading is possible with telic predicates which govern a Theme argument denoting an incrementally and permanently changed object and an Agent. The progressive *an*-construction is grammatical only if the denoted event can be evaluated in extended periods, and, if it involves a gradual transition from one state-of-affairs to the next, so that it allows for the object to be subjected to the event in a gradual way. Furthermore, it has been shown that the acceptability of the progressive *an*-construction also depends on the linguistic context as well as on the pragmatic knowledge represented in the cognitive frames. Over and above the spatio-temporal core idea of partitivity-progressivity relation my analysis emphasized a number of pragmatic conditions which follow from the cognitive frames associated with the telic predicates which function as heads in the partitive *an*-construction. The description of the meaning of the progressive *an*-construction has to involve the knowledge about what constitutes a prototypical accomplishment scenario. Among other things, it has to be sensitive to whether the transition from the initial state to the final state is conceptualized as a gradual (accomplishment) or abrupt (achievement) change. Furthermore, it has been shown that an adequate account of the progressive *an*-construction, and the description of the Aktionsart and aspect semantics of verbal expressions in general, has to take into account such distinctions as 'type vs. token', 'part vs. whole', 'permanent change vs. temporary change', among others, when characterizing the properties of the object which undergoes the change.

5. In this section I would like to propose that the grammaticality of the progressive *an*-construction can be partially predicted as a function of the lexical properties of its head

verb, and partially motivated by the cognitive frame evoked by a given accomplishment expression. This approach is motivated by the following two assumptions:

(i) only accomplishment predicates with subcategorized incremental Themes can occur in the progressive *an*-construction; (ii) within Construction Grammar knowledge of lexical items comprises knowledge of grammatical constructions in which the lexical items can be used. Therefore, valency descriptions can be regarded as 'abbrevations' of lexically-headed constructions with lexical items as their heads. Moreover, each construction is defined in terms of its syntactic and semantic restrictions as well as in terms of conditions on its use.

As far as the first point is concerned, it has been shown that the aspectual distinction 'progressive vs. non-progressive' can be applied only to a very restricted class of two-place accomplishment predicates in German. In addition to those accomplishment verb phrases which have been excluded from the progressive *an*-construction in the last section, there are accomplishment expressions which seem to fulfill all the mapping conditions, and yet they cannot be used in the progressive *an*-construction. Consider the following examples:

(32)   *Gestern rannte Marco *an einer Meile.*
         yesterday ran-PAST Marco on-PREP a-DAT mile-DAT

Such accomplishment verb phrases as *eine Meile rennen* 'to run a mile' denote events with an inherent terminal point, and parts of a mile can be gradually mapped into the event of running a mile. The direct object *mile* determines the boundaries of the event, i.e. after the whole mile has been run, the event comes to an end. However, they differ from accomplishments which can enter into the progressive *an*-construction in that the non-subject argument, the measure noun phrase *eine Meile* 'a mile' in our example, does not have a status of an affected participant (Theme or Patient), and furthermore, it is not a subcategorized-for argument of the head verb. *Rennen* 'to run' is a one-place predicate which subcategorizes only for a subject noun phrase argument. It may be concluded that only accomplishment predicates with subcategorized-for incremental Themes are appropriate candidates for the progressive *an*-construction.

Note that it is almost always possible to build an accomplishment expression from an activity expression by adding a measure phrase or some other event-delimiting adjunct to the activity predicate[32]. If all the PP/*an* had the status of adjuncts, it would not be possible to predict which accomplishment expressions can enter into the progressive *an*-construction and which cannot. The hypothesis that only those accomplishment predicates with subcategorized-for incremental Themes can enter the progressive *an*-construction allows the prediction that such sentences as (32) should be ruled out.

In the framework of Construction Grammar a lexical entry specifies for each lexical item capable of functioning as a predicator[33] the nature of the linguistic environment in which the item can appear: the number and the kind of arguments that it requires and the semantic case roles to which the arguments are linked. Furthermore, it also specifies the nature of the semantic/conceptual or morphological relatedness of the item to other items in the lexicon and the pragmatic knowledge of the appropriate and meaningful contexts in which the lexical item can be used.

As far as the structure of the lexicon is concerned, I would like to suggest that there are two entries in the lexicon: one entry for the predicate with the incremental Theme linked to the direct object realized in the accusative case and the other for the predicate with the incremental Theme realized as the prepositional phrase. The two valency descriptions for the predicate *bauen* 'to build', for example, can have the following form: <BAUEN, V [Agt/Nom, Theme/Acc]> and <BAUEN, V [Agt/Nom, (Part)Theme/PP/*an*]>. The relation between the two lexicon entries can be captured by a lexical redundancy rule. Such a lexical redundancy rule takes the predicate with the accusative noun phrase as "input" and renders as "output" the predicate with the partitive PP/*an*.[34] On the semantic tier of the valency description the partitivity is represented as an operator "Part" applied to the incremental Theme role. This treatment implies that predicates with the Theme linked to the direct object are considered to be more basic than the predicates with the Theme linked to PP/*an*. The predicate governing the Theme realized as a prepositional phrase

inherits most of its syntactic, semantic, and pragmatic information structure from the predicate with the Theme realized as the direct object in the accusative case. The application of the lexical redundancy rule is sanctioned, among other things, by the semantic-pragmatic conditions on the mapping from Theme arguments into events described in section 4. These mapping conditions are at the same time understood as partially stating the grammaticality restrictions on the progressive *an*-construction. This follows from the assumption that knowledge of lexical items also involves knowledge of grammatical constructions in which such items can occur, and therefore the systematic syntactic and semantic relationship between the constructions with the accusative direct object and the constructions with the partitive PP/*an* can be understood as being partially captured in the lexicon as a relation between the predicators which can function as heads in such constructions.

The Aktionsart properties of atomic constructions are a fairly direct function of the lexical semantics of their head verbs and the rules of quantification in natural language. The simple constructions with the accusative direct object and the partitive PP/*an* in singular are telic. The actual attainment (perfectivity) or non-attainment (imperfectivity) of the inherent limit in their denotations is expressed in German by the sentence and discourse semantics in which a given verb-form is embedded. In languages with a grammatical expression of aspect these aspectual distinctions are usually marked on the verb.

The class of predicates which can enter into the progressive *an*-construction is to be differentiated from verbs which are incompatible with it not only in terms of some diacritic features (like the partitive operator) in their syntactic and semantic description, but also in terms of the cognitive frames associated with this class of predicates. Valency descriptions not only contain information about the linguistic choices by the minimally specified form-meaning representation but also each valency description is associated with one or more prototypical scenes or states-of-affairs. Cognitive frames evoked by actual utterances involve the particular structure of knowledge that enables us to communicate information

about scenes related to predicators. Knowledge of a language involves knowing or recognizing a large number of such frames, and knowing what linguistic choices are relevant for each of them. Frames are associated in memory with other frames by virtue of shared linguistic material activated by each cognitive frame. Since valency descriptions and cognitive frames activate each other, the lexical redundancy rules which operate on lexical entries must refer not only to valency descriptions, that is not only to the purely syntactic and semantic information they include, but also to cognitive frames associated with valency descriptions.

Footnotes

(1) Fillmore (1986).

(2) The term 'incremental Theme' was used by Dowty (LSA talk, San Francisco, 1987).

(3) A detailed overview of the Slavic and German aspectology can be found in Andersson (1972).

(4) Agrell (1908). Isačenko (1962:385-418).

(5) Cf. Comrie (1976:3).

(6) Cf. for example, Jakobson (1932:155).

(7) Jacob Grimm (1824).

(8) An overview of philosophical approaches which draw upon Aristotle's classification is given in Dowty (1979).

(9) Cf. Comrie (1976:24ff.).

(10) I use the term *verbal expression* for any expression which contains a verb as its head: it may be a verb, verb phrase, or a sentence.

(11) Cf., for example, overviews of the relevant literature in Andersson (1972) and Dahl (1981).

(12) Garey (1957) characterizes **telic** verbs as follows: "... a category of verbs expressing an action tending towards a goal envisaged as realized in a perfective tense, but as contingent in an imperfective tense." **Atelic** verbs "are realized as soon as they begin" (Garey 1957:106).

(13) However, some perfective verbs of delimitative Aktionsart in Slavic languages, for example, do not involve any progression or change. Thus, they do not seem to fit either the scenario of accomplishments or achievements. In Czech, for example, the perfective verb *pospat si* 'to sleep a little' does not involve any inherent terminal point in its denotation, and therefore, it should be considered as atelic. The perfectivizing prefix *po-* serves to derive a perfective verb from an imperfective verb *spát* 'to sleep'. Here, the prefix *po-* 'quantizes' the unbounded event expressed by the imperfective verb *spát* 'to sleep'. Kučera (1983:174,177) suggests establishing delimitatives (perfectivized atelic predicates) as one of three perfective event types in Russian and Czech together with accomplishments and achievements.

(14) Example is taken from Dowty (1979:56).

(15) Example is taken from Dowty (1979:56).

(16) Cf. Comrie (1976:24ff.) for the view of progressivity as one of the submeanings of imperfectivity. Cf. Krifka (1986) and Andersson (1972) for the insights into the progressive nature of the *an*-construction.

(17) Strictly speaking, it would be an idealization to assign a time span with definite starting and ending points to a complex event like building a house.

(18) According to Andersson (1972:41) *er baute ein Haus* 'he built a house' is telic, or in Andersson's terminology *grenzbezogen*, whereas *er baute an einem Haus* 'he was building on a house' is 'atelic', *nichtgrenzbezogen*. With the aim to compare German and Russian data Andersson (1972) introduces the terms **grenzbezogen** (lit.: limit-oriented) and **nicht-grenzbezogen** (lit.: not-limit-oriented). According to him, verbs are 'grenzbezogen' if their semantic description involves an inherent goal, or limit: *"Die lexematisch grenzbezogenen Verben* drücken Handlungen aus, die auf die Erreichung irgendeines Ziels, irgendeiner Grenze ausgerichtet sind. Dieses Ziel, diese Grenze wird erreicht, wenn die Handlung lange genug fortgesetzt wird. Die Handlung erschöpft sich da, sie geht in etwas anderes über. Ob dieses Ziel, diese Grenze erreicht wird oder nicht, ist nicht das ausschlaggebende Merkmal, denn dies geht vielfach erst aus dem Kontext hervor" Andersson (1972:33).

(19) Comrie gives *John is making a chair* as an example of a sentence describing a telic situation (Comrie 1976:44) And Dowty (1977) uses the sentence *John was drawing a circle* containing an accomplishment verb phrase to illustrate the 'imperfective paradox' in English (Dowty 1977 and Dowty 1979:133ff.)

(20) However, if iterative reading is intended, modification with adverbial *IN*-phrases is also possible: *Alex baut ein Haus in zwei Wochen.* (Alex builds-PRES a-ACC house-ACC in-PREP two-DAT weeks-DAT) 'Alex builds a house in two weeks.'

(21) Cf. Fillmore (1975), (1982), (1985).

(22) One of the first to systematically investigate this effect of the nominal arguments on verbal expressions were Wierzbicka (1967) and Verkuyl (1972). Dowty (1979), Hoepelman (1978), developed theories in the paradigm of model-theoretic semantics to capture these facts in a more explicit way.

(23) Cf. Krifka (1986), Dowty (1987).

(24) It has often been observed that there are parallels between the mass-count distinction in nominal systems and verb-classification. See, for example, Allen (1966), Taylor (1977), Mourelatos (1978), Hoepelman and Rohrer (1980), Carlson (1981), Talmy (1986), Langacker (1987).

(25) E.g., English, Irish, Scots Gaelic, Welsh, French, Mandarin Chinese, among others. For more details see Comrie (1976:98ff.).

(26) Fillmore (1975), (1982), (1985).

(27) Cf. Dowty (1979:173ff.) for a justification of this view.

(28) Of course, there are achievement verbal expressions, for example, in English that can occur in the imperfective aspect: *John was falling asleep, John was dying, The Rosenbergs are dying tomorrow, He was gradually discovering the secret.* For a discussion of the problems connected with the interpretation of such achievement expressions cf. Dowty (1979). In the context of this paper, it is decisive that such German expressions as *Er entdeckte *an einem Geheimnis* (lit.: He discovered on-PREP a-DAT secret) are not well-formed.

(29) Cf. Talmy (1986:20). The non-resettable type of an event can be distinguished from the resettable type by its incompatibility with iterative adverbial phrases: *Paula ass *dreimal den (gleichen) Apfel.* 'Paula ate *three times the (same) apple.' vs. *Ich öffnete dreimal das Fenster.* 'I opened the window three times.'

(30) The term 'Representation-Source Theme' was coined by Dowty (LSA talk, San Francisco, 1987).

(31) However, *Ich las im Buch* (I read in-the book) 'I was reading the book' is grammatical and conveys the progressive reading which is close to the English progressive aspect. The construction with the preposition *in* 'in' provides a further means for the expression of progressivity in German.

(32) Cf. Dowty (1979:28): "I have not been able to find a single activity verb which cannot have an accomplishment sense in at least some special context."

(33) Following Fillmore (1986), I would like to distinguish here between *predicators* and *predicates*. The term *predicator* refers to the lexical item which can serve as predicate in a predicate-argument structure, and the term *predicate* or *predicate phrase* refers to the phrasal unit which functions as predicate in a subject-predicate structure.

(34) However, as Theo Janssen pointed out, there is an exception to this lexical redundancy rule: The construction *arbeiten an* does not have a counterpart with an accusative direct object **arbeiten + DO*. So, even though *Alex arbeitete an einer Novelle* (lit.: Alex worked on-PREP a novel) 'Alex was working/worked on a novel' is a perfectly well-formed progressive construction in German, the corresponding construction with the accusative direct object is ungrammatical: *Alex arbeitete *eine Novelle* (lit.: Alex worked a novel). Also note that comparable constructions in Dutch and English behave in a similar way: (Dutch) *Alex werkte aan een novelle* - ?Alex werkte een novelle, (English) *Alex worked/was working on a novel* - Alex worked/ was working *a novel.*

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