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Lexical actional classes in Romance languages in interaction with aspectually relevant material in the clause

Abstract: The present study challenges several approaches to the category of aspect and establishes a coherent descriptive model which is applicable cross-linguistically. Based on fieldwork and assuming an interactional model of aspect, it proposes a fine-grained categorisation of thirteen universal, lexically-inherent, actional classes and provides a coherent explanation of the aspectual behaviour of verbs by illustrating how perfective and imperfective forms of verbs in combination with verb root-external elements, such as completive markers and the stacking of TAM forms, activate the lexically pre-defined readings, and interact with the affectedness and quantification of nominal participants and with various adverbials in Romance and other languages. Specifically, verbs of consumption and production and verbs of goal-attaining motion form a clearly delimited successive-terminative class in its own right with a dynamic phase proceeding up to a final boundary. In addition, this contribution argues for two inceptive classes with a lexically-inherent initial boundary and an ensuing dynamic or static phase, two classes of two-phase verbs with a preparatory dynamic phase preceding the initial boundary and an ensuing static or dynamic phase, a comparative-terminative class with a scalar phase, a preludial-terminative class with an uninterruptible in-run phase to boundary transgression, and a semelfactive class, among others.

Keywords: actional class, aspect tests, two-phase verbs, successive-terminative, differential lexicalisation

1 Aspect and actional class

1.1 The aim of this study

Aspect is one of the most controversial categories in linguistic discussion, especially among specialists of different language families. Aspect in the sense of “aspectuality” has been approached with quite different frameworks and dis-

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cussed with respect to the verbal lexicon, morphology and syntax (for an overview cf. Sasse 2002). The aim of this study is to challenge several “traditional” approaches and to establish a coherent, descriptive model which is applicable cross-linguistically.

The following concepts in particular are challenged here:

- the four-cell grid of actional classes, also called “aktionsarten” (e.g., Dessì Schmid 2014), established by Vendler (1967) and Dowty (1979);
- the conception that actional class is a property of VPs or clauses;
- the conception that the actional class changes depending on features of overt participants of the verb and adverbials in the clause (cf. also Sasse 1991; Olbertz 1998, 105; Dessì Schmid 2014, 50);
- the unquestioned assignment of verbs to actional classes on the basis of translational equivalents and extralinguistic reasoning;
- the non-distinction of the following levels: lexical actional class, grammatical aspect category, so-called phasal verbs, verbal periphrases (analytic constructions such as *empezar a* ‘begin’, *terminar de* ‘finish’, *dejar de* ‘stop’, *seguir* + gerund ‘go on’, *tardar en* ‘take a long time’, cf. Olbertz 1998), verbal derivations (such as *releer* ‘reread’, *erblühen* ‘blossom’) and syntax (the contribution of participants and adverbials to aspectuality), e.g., De Miguel (1999); Dessì Schmid (2014); Haßler (2016, 219);
- the conception of aspect as a point of view of a state of affairs from before, after or during the state of affairs (as in Fábregas 2015, 17) and any non-binary conception of the grammatical aspect category, e.g., one which includes prospective aspect or perfect as aspect forms (cf. Fábregas 2015, 3.1)
- the view that perfective aspect encodes a state of affairs *only* as a completed whole (from beginning to end; cf. Comrie 1976, 16; Haßler 2016, 74, 190, 240) or as punctual (cf. Dahl 1985, 78).

Instead, I propose a finer-grained categorisation of universal, lexically-inherent, actional classes, based on Breu’s approach (1992; 1994; 1996; 1997; 2000) and on fieldwork with native speakers of French and Spanish,¹ in which a range of verbs along the lines explained in section 1.3 were tested (= Mattissen field data 2017). The classes are presented in detail in section 2 with examples of their language-specific representations with a view to illustrating the differences between the present model and others and to making it possible to compare Romance languages with

¹ Research for this paper was funded by the German Research Foundation (DFG), Project-ID 281511265, SFB 1252. I would like to express my profound gratitude to all those who discussed a considerable battery of questions, tests and examples with me!

other languages described along the same lines. Section 3 shows how these classes, in particular the successive-terminative, interact with grammatical aspect and various aspectually relevant elements in a clause, again placing Romance languages in the wider context of aspect languages. This section illustrates how, in the present model, the overall aspectual effect comes about through the activation of lexically pre-defined readings, not with any class change of expressions, so that the erratic behaviour of verbs in context, which has made theories of aspectuality unwieldy, is merely apparent, not real. Section 4 concludes.

1.2 Theoretical prerequisites

The most influential work on actional classes is still that by Vendler (1967) and Dowty (1979), which takes an entangled lexical, phrasal and clausal approach to “aspect” in English (cf. Sasse 1991, 25). While using their four classes – “states”, “activities”, “accomplishments” and “achievements” – aspectualists have nonetheless been increasingly aware of the need for finer-grained distinctions to be able to describe the actual behaviour of verbs and VPs in aspectual contexts in a satisfactory manner (cf. Sasse 1991, 22–23, 25; Rappaport Hovav 2008), which has led to the introduction of subclasses such as “delimited activities”, “active accomplishments” or “degree achievements” (e.g., Rothstein 2004).

Only Breu (1992; 1994; 1996; 1997; 2000) and Sasse (1991), however, have proposed more than these four classes as lexical classes in their own right. Ebert (1995); Sasse (2000) and Mattissen (2001; 2003) have made additions to their model and these will be discussed here. Breu’s finer-grained approach seems to be the most promising for gaining a unified insight into the lexical properties of verbs and their interaction with aspect as a grammatical category and other material in the clause. It also allows for cross-linguistic comparison of aspect systems. In this contribution, it will be partially reformulated, augmented with additional classes and applied to several Romance languages, especially French and Spanish.

Breu (1994, 24, 29; 1995) and Sasse (1991) established a classification not of VPs or clauses, but of meanings of verbal lexemes (the readings/meanings of polysemous verbs may belong to different classes) that are determined by their temporal boundary characteristics. Breu proposed the following six actional classes, one with two “subclasses”, another with four: “totally static” meanings typically have “a lack of boundaries” and no temporal dynamics, e.g., Russian *vesit* ‘weigh’ (1994, 25); “relative-static” meanings (1996, 40) have a possible temporal delimitation; “inceptively static” verbs have an inherent initial boundary marking the entry into a situation and a static situation, but no probable final boundary, e.g., Italian *seppa/sapeva* and Spanish *supo/sabía* ‘knew’ (Sasse 1991, 5; Breu 1994, 26; 1996, 44).

A further class with an inherent initial boundary comprises “inchoative” verbs that have two phases (situations), an activity-like phase before the entry into the state of affairs and a temporary stative resultative situation after the entry (Breu 1996, 45s.). In a footnote, Breu (1996, 46) further alludes to “inchoative” verbs with an activity-like resultative situation, as in *nascondersi* ‘hide’. Breu’s “activities” do not have an inherent limitation, rather a probable initial and final boundary because they cannot be maintained for a limitless duration of time, e.g., *lavorò/lavorava* ‘worked’ (1994, 26; 1996, 41). “Gradually terminative” meanings have a situation that is a prefinal stage characterised by a gradual approach to the inherent final boundary (1994, 26; 1996, 41). As a subdivision, Breu (1994, 29) envisages situations that express quantitatively partial completion, e.g., Russian *(po)stroit* ‘build’, conativity, e.g., *ubedit’/ubeždat’* ‘(try to) convince’, or a tendency, e.g., *umeret’/umirat’* and *mori/moriva* ‘died’, that does not exclude the possibility of interruption (recovery in the case of ‘die’) as well as a tendency that does (such as English *was dying*; 1994, 33). For “totally terminative” meanings the final boundary is obligatory as soon as the state of affairs has begun, without any possibility of interruption, i.e., the state of affairs is conceptualised as a pure situation change, e.g., *trovò/trovava* ‘found’ (Breu 1994, 26).

In Breu’s (1996, 39) model, the perfective aspect of a verb encodes a situation change by highlighting the inherent boundaries, whereas imperfective aspect highlights the given situation without any boundaries. Taxis describes the relationships the aspect forms enter into with each other in context (Bondarko 1987; Breu 1994, 27; Sasse 1991, 11), viz. sequence (two perfective forms), parallelism/simultaneity (mainly two imperfective forms) and incidence (perfective in relation to imperfective form). Sasse (1991, 2) points out the differences with the Vendlerian (and Dowty’s) conception: Vendler and Dowty do not delimit lexical semantics, aspect morphology and syntactic context, but apply the term actional class to all these levels. They describe actional classes as varying with the construction of a verb and do not consider the contribution of adverbials, which they merely use as tests for class membership (cf. Sasse 1991, 25).

In accordance with Breu’s conception, here actional classes are held to be lexically inherent and conceptualised as meaning designs consisting of boundaries and phases² (see section 2). The classes exist independently of an aspect system, i.e., an obligatory grammatical category of the verb in the form of a binary opposition of morphosyntactic perfective and imperfective forms (independent of the morpho-

2 Note that here “phase” is not used in the sense of beginning and end, nor of “phasal verbs”, but of a temporal extension (a run-time interval) during which the state of affairs holds, regardless of any boundaries.

logical means for their encoding (stem or affix) and of the tense and mood system of the language, although interacting with it).

Actional classes are, furthermore, held to interact with aspect forms: a perfective form of a verb activates any of the lexically-inherent boundaries for its reading, whereas an imperfective form activates any of the lexically-inherent phases while suppressing the boundaries (cf. Sasse 1991, 11). This means that a perfective aspect form may have the following readings: entry into a state of affairs, as in French *elle sut* ‘she got to know’; transgression (cf. Sasse 1991, 17, for the term) of the sole inherent boundary, as in *il éclata* ‘it burst’; completion of a state of affairs, as in *elle ouvrit* ‘she opened’, or a state of affairs *en bloc* (from beginning to end), as in *il travailla* ‘he worked’. The imperfective aspect may have a continuous, progressive, accruing, conative or habitual reading etc.

Verbal periphrases or affixes that encode a single one of those imperfective or perfective readings, such as progressive (*stare* + gerund, *être en train de* + infinitive), completive (*terminar de*), resultative, repetitive (*re-*), habitual (*soler* + infinitive), constitute a different level to both the lexical actional class and the perfective-imperfective aspect opposition, and are called “aspectoids” here. Aspectoids are usually on a grammaticalisation cline towards an aspect system and are found in languages without an aspect category (such as the progressive in German), or in addition to an aspect category (such as the progressive in Romance languages). When an aspectoid is marked on a verb form together with perfective or imperfective, here this is called “stacking of aspectual markers” (head marking) on the predicate, e.g., *il était en train de faire qc* ‘he was doing sth.’.

The manner in which or the degree to which an undergoer is affected by the state of affairs is also relevant to the aspectual effect. The manner of affectedness can, for instance, be holistic, as in *see sth.*: the whole of the undergoer is affected as soon as the state of affairs starts; or it can be partial or full, as in *eat sth.*, where the undergoer is processed in steps until no more is left to process; or it can be gradual, as in *cool sth.*, where a property of the undergoer changes continuously in an increasing or decreasing manner.

As verbs of different actional classes in different aspect and aspectoid forms enter syntagmatic constructions, that syntactic material (quantified participants and adverbials, in particular) interacts with the inherent lexical class in different ways, both within a single language and from a cross-linguistic perspective (see section 3). From this interaction, an aspectual effect arises as an overall feature of a clause.

The term “aktionsart” is avoided in this approach in order to avert misunderstandings. “Aktionsart” has been used for what I call actional class here (e.g., Dessi Schmid 2014), but also for “aspectoids” (morphosyntactic expressions for single readings, including verbal periphrases), and for verbs derived from the same root

but that in their derived forms fall into different actional classes, e.g., *blühen* ‘be in blossom’, activity; *er-blühen* ‘blossom (into)’, ingressive (cf. Dressler 1968; Comrie 1976, 6; De Miguel 1999; Haßler 2016, 219).

Instead of “phasal verb” (such as ‘begin’, ‘continue’, ‘end’) the term “stage verb” is used in this approach in order to avoid confusion with the term “phase”, which is used for the run-time interval of the actional class design.

1.3 Morphosyntactic tests

While the set of possible actional classes is universal, the classes actually represented in a given language and the assignment of individual verbs to one of these classes are not. Breu (1994, 32) shows that whereas English *sit* and Russian *sidet’* are an activity, Italian *sedette/sedeva* is an inceptively stative verb (as is Nivkh *hurʔivd*, cf. Gruzdeva 2012, 470). Furthermore, Spanish *sentarse* and French *s’asseoir* are gradually terminative (Mattissen field data 2017) and Laz *pxer* (Mattissen 2001, 20) is totally stative.

In most of the aspect literature the class membership of a verb is taken for granted and is not questioned: either a verb is classified in the same way as its (nearest) English translational equivalent was classified by Vendler (1967) or Dowty (1979), as e.g., in Olbertz (1998, 101), Dessì Schmid (2014, 21s.) and Fábregas (2015), or it is classified according to extra-linguistic reasoning (cf. Olbertz 1998, 101; Rothstein 2004, 11, 97–99, 115; Dessì Schmid 2014, 22, 77), for instance that ‘build’ means erect scaffolding, buy materials, lay foundations and bricks, take rests, etc., and ‘run’ means lift one foot, move it forward, etc.

As verbs do not encode extra-linguistic states of affairs, but rather concepts of states of affairs (cf. Ogden/Richards 1923), the actional class a verb will belong to cannot be entirely predictable (cf. Sasse 1991, 21). In order to avoid classification by translational equivalents or on extra-linguistic grounds, the class membership of a verb has to be determined by language-specific linguistic tests. Such tests are (i) compatibility with aspectuality-related morphology and morphosyntax, e.g., perfective or progressive forms (cf. Breu 1994, 28, 29; Mattissen 2001), (ii) readings of verbs with regard to their aspectuality-related morphology and morphosyntax, i.e., possible readings of perfective and imperfective forms (see section 1.2; Breu 1994, 28; 1996, 37; Mattissen 2001; Haßler 2016, 225s.), and the compatibility of the verbs with aspectoids, verbal periphrases (such as resultative *estar* or *stare* + gerund; cf. Breu 1996, 45, 64; Olbertz 1998, 120s., 170), avertives (‘almost’ constructions) and stage verbs; (iii) compatibility with time and degree adverbials (cf. Bertinetto/Squartini 1995; Braginsky/Rothstein 2008); and (iv) coherence (contradiction) tests in which imperfective and perfective forms are opposed, as shown in (1) (cf. Garey 1957;

Comrie 1976; Dowty 1979, 60; Breu 1996, 50, 67; Behrens 1998, 290ss.; De Miguel 1999, 2982, 2988; Gardenghi 2000; Mattissen 2001; 2003; Sasse 2002, 246; Rothstein 2004):

- (1) a. interruption test
When someone Vs / was V-ing [IMPERFECTIVE FORM] and is/was interrupted, has s/he V-ed [perfective form]?
- b. contradiction test
Someone was V-ing [IMPERFECTIVE FORM], but didn't V [PERFECTIVE FORM].
- c. continuation test
Someone/something V-ed [PERFECTIVE FORM] and is still V-ing [IMPERFECTIVE FORM].
- d. antiresultative test
Something V-ed [PERFECTIVE FORM], but was/is not [RESULTANT STATE], e.g., *sth. (has) dried but isn't dry*.

Not all tests are equally (or easily) applicable to verbs of all classes and some tests are difficult for native speakers to assess, as my fieldwork showed. For reasons of space, only the tests that yielded the most characteristic results and readings are used in what follows to determine the class membership of verbs.

The most popular tests for actional classes of verbs in the literature are assessments of compatibility and readings with time adverbials, viz. duration adverbials like 'for x time' and time span adverbials like 'in x time' (e.g., Breu 1994, 28). Behrens (1998, 290ss., 297–298) considers these tests problematic as diagnostics as these adverbials are not neutral, but contribute to the overall aspectual effect of a clause. As will be shown in sections 2.4 and 3.1, the duration adverbial 'for x time' on the one hand measures the duration of a phase (the run-time interval), as in *run for two hours*, while on the other hand it encodes the delimitation of a state of affairs at the same time: the running is not open-ended, but has a determined time limit. This constitutes the so-called boundary paradox. Furthermore, Bertinetto/Delfitto (2000) show that apparent translational equivalents of adverbials are not semantically congruent and do not interact similarly with TAM forms and actional classes cross-linguistically.

2 Actional classes

Actional classes are conceptualised here as designs of states of affairs in terms of boundaries and phases. Phases can be static, dynamic, scalar and (un)interruptible; a boundary can be either the initial one whose transgression corresponds to the

entry into a state of affairs, the final one, whose transgression marks the end of a state of affairs, or intermediary. These different types of phases and boundaries are responsible for the different readings of perfective and imperfective forms of verbs of different actional classes. For example, the perfective form of a verb with an inherent final boundary reads as completive (final boundary transgression), e.g., French *il a ouvert qc* ‘he has opened sth.’ means that the opening process is complete, i.e., sth. is open, whereas the perfective form of a verb with an inherent initial boundary reads as ingressive (initial boundary transgression), e.g., Spanish *supo* ‘s/he got to know sth.’ means that someone has entered the state of knowing. A verb with a lexically-inherent boundary is terminative; if the boundary is the final one, the verb is also telic.

While the set of possible actional classes is universal, the (number of) classes represented in a given language and the assignment of verbs to one of these classes are language-specific (cf. Sasse 1991, 6). Each single verb or each meaning of a polysemous verb in a given language belongs to one fixed, lexically-inherent class (cf. Horrocks/Stavrou 2007, 633; Rappaport Hovav 2008, 15).

In the following sections, the classes will be presented in turn with examples from Romance languages. The terminology follows Breu, while new terms have been coined for classes that do not feature in his model.

2.1 Totally-stative and relative-stative states of affairs

Totally-statives are conceptualised as a (permanent) state, i.e., a non-bounded stative phase without any lexically-inherent boundaries (cf. Breu 1996, 40). Verbs belonging to this class are characterised by their incompatibility with stage verbs, such as ‘begin’, ‘end’ etc., and by not having perfective forms. This class is marginal in Romance languages, e.g., Italian *splendere* ‘shine’, French *bruire* ‘buzz, rustle’, *gésir* ‘lie (buried)’, which do not have perfective forms (cf. Haßler 2016, 226), but it contains a greater number of verbs in Greek, e.g., *ksero* ‘I know’ (Sasse 1991, 15), Russian (Breu 1996, 38) and other languages.

In Romance languages, stative verbs generally have perfective forms. They belong to the relative-stative actional class. This class is conceptualised as a temporary state, i.e., a stative phase without lexically-inherent boundaries (cf. Breu 1996, 40). The fact that the state is temporary, however, implies a beginning and an end, i.e., boundedness. Therefore, perfective forms of the relevant verbs present the state of affairs as a totality, *en bloc*. This is called the delimitative reading of a perfective form, which is – extending Breu’s approach – characteristic of all atelic verbs (i.e., without a lexically-inherent final boundary).

Examples of relative-stative verbs are French *espérer* ‘hope’, *consister* ‘consist of’, *dominer* ‘dominate’, Spanish *durar* ‘last’, *costar* ‘cost’, and Italian *appartenere* ‘belong’, *chiamarsi* ‘be called’ (Breu 1996, 32). In the continuation test (imperfective form of a verb in a posterior relation to its perfective form, as in (2)) a relative-stative verb yields a contradiction.

- (2) Italian (Gardenghi 2000, 118)

Se Piero ebbe i capelli rossi, dopo aveva i capelli rossi? – No.

‘If Piero had [PFTV] ginger hair, did he have [IPFV] ginger hair afterwards? – No.’

2.2 Inceptive-stative and inceptive-dynamic classes

In distinction to Breu, I present two inceptive actional classes which are conceptualised as states of affairs with a lexically-inherent initial boundary, whose transgression marks the entry into the state of affairs, and an ensuing temporary phase, which is static in the case of inceptive-stative and dynamic in the case of inceptive-dynamic states of affairs. Neither has a lexically-inherent final boundary. However, as the states of affairs are temporary, final boundedness is entailed.

The interaction between the verbs of both classes and a grammatical perfective form produces two readings: as the perfective form selects the boundary component as well as the temporariness of the phase, it may be read either as the entry into a state of affairs (ingressive) or as delimitative (cf. Breu 1996, 44). The imperfective form of inceptive verbs has a stative meaning for inceptive-statives and a progressive reading for inceptive-dynamics, as well as a habitual reading for both.

- (3) a. perfective past form, ingressive reading; imperfective past form, stative reading
- | | | | | |
|---------|----------------|------------------|------------------|----------------------------|
| French | <i>j’ai su</i> | ‘I got to know’ | <i>je savais</i> | ‘I knew’ |
| Spanish | <i>vi</i> | ‘I spotted’ | <i>veía</i> | ‘I saw’ |
| Greek | <i>ayápisa</i> | ‘I fell in love’ | <i>ayapúsa</i> | ‘I loved’ (Sasse 1991, 15) |
- b. perfective past form, delimitative reading
- Spanish (Chapado Chorro/García García 1991, 51)
- Tú conociste muy bien a María Z.*
- ‘You knew Maria Z. well.’ (Maria Z. is dead)
- Italian (Breu 1996, 44)
- la vide per due ore*
- ‘s/he saw her for two hours’

The continuation test (compare (2) and (4)) does not yield a contradiction with an inceptive-stative verb.

- (4) Italian (Gardenghi 2000, 118)

Se Piero si trovò nel bosco, dopo si trovava nel bosco? – Sì.

‘If Piero was [PFTV] in the forest, was [IPFV] he in the forest afterwards? – Yes.’

The inceptive-stative class is well represented in the world’s languages, including the Romance languages, Greek (Sasse 1991), Russian, Nivkh (cf. Gruzdeva 2012) and Laz (Mattissen 2001), but is absent from German and English, which is why it does not feature in the Vendler/Dowty grid. Examples are:

- (5) French: *être* ‘become/be’, *savoir* ‘learn/know’, *avoir* ‘get/have’

Spanish: *conocer* ‘(get to) know’, *saber* ‘learn/know’, *ver* ‘spot/see’, *tener* ‘get hold of/have’

Italian: *sedere* ‘sit (down)’, *vedere* ‘see’ (Breu 1994, 32, 35)

Inceptive-dynamic verbs were also postulated by Ebert (1995, 191) and described for Moroccan Arabic by Chaara (2003, 113s.). Where this class is represented, verbs of source-oriented motion, like ‘set off’ + ‘go’, typically belong to it, for example Nivkh *vi-* (adapting Gruzdeva 2012, 473) and Moroccan Arabic *mša-* (cf. Chaara 2003, 99). The perfective form selects the initial boundary (ingressive) and encodes the setting-in-motion, or the state of affairs *en bloc* (delimitative reading); the imperfective form selects the ensuing dynamic phase of the ongoing motion. I found no Romance examples for this class. An Ancient Greek example is:

- (6) Ancient Greek (Comrie 1976, 17)

- a. *ebasíleusa*

reign.PFTV.PST.1s

‘I became king/ascended the throne’ ingressive

- b. *ebasíleusa* déka étē

reign.PFTV.PST.1s ten years

‘I reigned for ten years’ delimitative

- c. *ebasíleuon*

reign.IPFV.PST.1s

‘I was king’

(9) Spanish

- a. *estoy hirviendo agua* ‘I’m bringing water to the boil’
- b. *la sopa está hirviendo* ‘the soup is boiling’

it does not count as an inchoative-dynamic verb but as two different verbs (cf. also Sanz 2000, 68).

2.4 Activities

Activities are conceptualised here as temporary dynamic phases without any lexically-inherent initial or final boundaries (cf. Breu 1996, 41), and which affect their patients holistically (cf. Krifka 1989, 160–161). They are atelic and atterminative, but, as temporary phases, they entail initial and final boundedness. Therefore, the perfective forms of verbs belonging to this class denote the ended state of affairs *en bloc* (delimitative reading; cf. Sasse 1991, 15). Verbs belonging to this class can be intransitive or transitive, e.g., Spanish *trabajar* ‘work’, *llorar* ‘cry’, *buscar* ‘look for’, *empujar* ‘push’; French *travailler* ‘work’, *chercher* ‘search’, *souffrir* ‘suffer’; Italian *lavorare* ‘work’, *cercare* ‘search’ (Breu 1994, 28).

Contrary to Dowty’s claim (1979, 60), activity verbs may be compatible not only with stage verbs, such as ‘start’ and ‘stop’, but also with ‘finish’, for instance in French:

(10) French (Mattissen field data 2017)

Elle a fini de travailler.

‘She has finished working.’

With activities, the interruption test (cf. (11a)) yields a positive answer. The contradiction test (imperfective form + ‘but’ + perfective form) yields a contradiction (11b):

(11) Spanish (Chapado Chorro 2000, 65)

- a. *Estaba trabajando. Le interrumpieron.* – *¿Ha trabajado?/¿Trabajó?* – *Sí.*
‘S/he was working. S/he was interrupted. – Has s/he already worked/Did s/he work? – Yes.’

- b. French (Mattissen field data 2017)

**Elle travaillait/était en train de travailler, mais elle n’a pas travaillé.*

**‘She was working, but didn’t work.’*

Traditionally, activities are said to be compatible only with duration adverbials, not with time span adverbials (as in (12a) vs. (12b, c); Dowty 1979, 60). In fact, adverbial

compatibility not only interacts with the actional class, but also with grammatical aspect (cf. Bertinetto/Delfitto 2000, 207) and morphosyntactic properties such as the presence and quantification of a participant (cf. Behrens 1998, 297–301). As a duration adverbial nevertheless denotes a delimited period of time, the “boundary paradox” arises (cf. Behrens 1998, 297–298): the adverbial refers to the duration of a phase and at the same time measures it out (indicates its boundedness). This dual nature means that its compatibility differs cross-linguistically. In English, the adverbials’ measuring function is tuned out and its durational character fits the phase of an activity.

- (12) a. **She worked in one hour.*
 b. *She worked/used to work/has been working for one hour.*
 c. *She had been working for one hour when . . .*

In Italian, on the other hand, the delimiting nature prevails, therefore the duration adverbial is not compatible with the imperfective past (*lavorava* in (13a)) nor the progressive form (*è stata ballando* in (13b)) of an activity verb with a non-delimiting reading, but is compatible only with the perfective form (*lavorò*).

- (13) Italian (Breu 1994, 28)
 a. *lavorò* (/ **lavorava*) *due ore*
 ‘s/he worked for two hours’
 b. **Maria è stata ballando per due ore.*
 ‘Maria has been dancing for two hours.’

Spanish has a special paradigmatic form combining a perfective past form (*indefinido*) and a progressive (*estuvo bailando* in (14), see section 3.2) with the same dual nature of the boundedness of an enduring state of affairs (cf. Bertinetto/Delfitto 2000, 201, 207), which is compatible with a duration adverbial, while an imperfective or progressive form (*estaba bailando*) is not.

- (14) Spanish (Bertinetto/Delfitto 2000, 207)
María estuvo bailando (/ **estaba bailando*) *durante dos horas.*
 ‘Maria was dancing for two hours.’

In French, an activity verb is compatible with a duration adverbial in both the perfective (*passé simple/passé composé*; *a miaulé* in (15a)) and imperfective past form (*imparfait*; *miaulait* in (15b)).

- (15) French [www.chat-et-cie.fr/forum/chatons-4-mois/douchka-t5089-75.html, accessed 31/1/2020]
- a. *Elle a miaulé pendant une heure et puis s'est résignée.*
'It miaowed for an hour, then resigned itself to its fate.'
 - b. *Elle miaulait miaulait miaulait pendant une heure.*
'It miaowed miaowed miaowed for one hour.'

This varying compatibility is one of the reasons why testing actional class membership with temporal adverbials is problematic (cf. Behrens 1998, 290–293).

The difference between states of affairs with a lexically-inherent initial boundary and activities can be seen with a perfective form: the former have two possible readings, the latter only the delimitative reading.

- (16) Spanish (Mattissen field data 2017)
- a. *vio* 's/he spotted sth.' ingressive
's/he looked at sth. for a while' delimitative
 - b. *trabajó* 's/he worked for a while' delimitative
*s/he started working'

The boundary-selecting stage verb *acabar* 'end' refers to the initial boundary for inceptive and inchoative verbs, but to the state of affairs *en bloc* for activities:

- (17) Spanish (Chapado Chorro 2000, 71)
- a. *Acaba de conocerle.*
'S/he has just got to know him.' (and knows him now)
 - b. *Acabó de trabajar.*
'S/he finished work.' (and was not working after that point)

2.5 Totally-terminative, preludial-terminative and semelfactive classes

Three actional classes are characterised by a dominant boundary component.

First, totally-terminative states of affairs are conceptualised as a boundary without any phase (cf. Breu 1994, 26), which is why they are often described as punctual. The perfective forms of verbs belonging to this class have a completive reading. In the absence of a phase that could be selected, these verbs frequently lack imperfective forms, but if imperfective forms do exist, they have a habitual reading. Totally-terminative verbs are usually not compatible with stage verbs.

(18) French (Mattissen field data 2017)

- a.
- *Il est en train de trouver ses lunettes.*

*‘He is finding his glasses.’

- b. Spanish (Chapado Chorro 2000, 60)

**Empezó a encontrar la llave.*

‘S/he began to find the key.’

The participant is affected holistically and a single participant can only transgress the boundary once (the state of affairs is not repeatable). A mass, collective participant or a plurality of participants, however, can trigger a series of single boundary transgressions, and these boundary transgressions in succession establish a phase of homogeneous states of affairs “through the back door”, similar to a (non-episodic/non-actual) habitual (cf. Lindstedt 1985, 203). Therefore, totally-terminative verbs may be compatible with imperfective forms or stage verbs in such a distributive reading.

(19) French (Mattissen field data 2017)

- a.
- *Il est en train d’arriver.*

‘He is arriving.’

- b.
- Les alpinistes étaient en train d’arriver au sommet quand une avalanche . . .*

‘The mountaineers were arriving at the summit (one by one) when an avalanche . . .’

- c.
- La neige tombait pendant des heures.*
- (Haßler 2016, 226) distributive
-
- ‘It snowed [IPFV] for hours.’

- d.
- Il trouvait ses lunettes trois fois par jour.*
- habitual
-
- ‘He used to find [IPFV] his glasses three times a day.’

Verbs which typically belong to this class are translational equivalents of ‘find’ or ‘explode’.

(20) French *trouver* ‘find’, *arriver* ‘arrive’Spanish *encontrar* ‘meet, find’, *explotar* ‘explode’Italian *trovare* ‘find’ (Breu 1994, 29)

Secondly, preludial-terminative states of affairs, established by Sasse (2000, 227) for Cayuga (termed class “T2” there; cf. also Botne 2003, 240s. for English), are conceptualised as a dynamic, non-interruptible, preludial phase leading to a final boundary. The phase, no matter how long it lasts, cannot be separated from the boundary

transgression: whenever the prelude is true, the state of affairs cannot be interrupted but inevitably transgresses the final boundary. To put it metaphorically: the preludial phase is like the in-run in ski jumping, once the athlete gets off the Haple-bar (on which s/he sits before the start) s/he has to go all the way to take-off and cannot give up halfway. Therefore, the interruption test is not applicable and the contradiction test yields a contradiction:

(21) English

**He was dying, but didn't die in the end.*

Imperfective forms of preludial-terminatives, such as Spanish *llegar* 'arrive', select the prelude or are read projectively ('on the verge of', as in (22a)), in contrast to the "ongoing" reading of an activity in (22b)).

(22) Spanish (Chapado Chorro/García García 1991, 56–57)

a. *Salía cuando sonó el teléfono.*

'I was on the verge of going out [IPFV] when the telephone rang [PFTV].'

b. *Paseaba cuando oí un ruido.*

'I was going for a walk [IPFV] when I heard [PFTV] a noise.'

Thirdly, semelfactive states of affairs (first introduced as an actional class by Smith 1991) are conceptualised here as a temporary phase produced by multiple (repeated) homogeneous boundary transgressions. Typically, translational equivalents of 'knock', 'flash', 'cough' or 'wink' belong to this class, e.g., Spanish *golpear* 'hit', *relampaguear* 'flash'; French *frapper* 'knock', *taper* 'hit', *cligner* 'wink, flash'.

Similarly to totally-terminative states of affairs, a succession of boundary transgressions constitutes the phase, but in contrast to them, a single participant can repeat the boundary transgression. Therefore, semelfactives do not have a defined endpoint or resultant state and behave as aterminative states of affairs, similar to activities (cf. Smith 1991). The boundaries that are transgressed are thus intermediary boundaries. Accordingly, semelfactives act like activities in the interruption and contradiction tests:

(23) French (Mattissen field data 2017)

a. *S'il est en train de frapper et on l'interrompt, a-t-il déjà frappé? – Oui.*

'If he is knocking and is interrupted, has he already knocked? – Yes.'

b. **Il frappait, mais il n'a pas frappé.*

*'He was knocking, but didn't knock.'

The perfective forms of semelfactive verbs have two readings: a single boundary transgression (the technical semelfactive) or the whole phase of multiple boundary transgressions *en bloc* (delimitative reading). In addition, semelfactive verbs are compatible with progressive morphemes and stage verbs ((23a), (24)).

(24) Spanish (Mattissen field data 2017)

- a. *estaba golpeando*
 ‘s/he was hitting’ (several hits, semelfactive)
- vs
- b. *estaban besándose*
 ‘they were kissing’ (one longer or several kisses, activity)

2.6 Gradually-terminative, comparative-terminative and successive-terminative classes

Finally, there are three actional classes which are worth dwelling on a little longer. They have an interruptible, temporary, dynamic phase and a lexically-inherent final boundary and are thus telic. They are oriented to a resultant state, a result (effectee or product) or the attainment of a goal, which are reached by transgressing the final boundary. The resultant state may be either implicit, i.e., lexically inherent, or expressed by a co-predicate or adverbial, as in English. This depends on the grammaticalisation status of the aspect system in a given language (cf. Horrocks/Stavrou 2003, 299), the relation to the subject or object (cf. Rothstein 2000), the form of the result expression (adjective, metaphorical noun, adverbial etc.; cf. Farkas 2011) and the verb (cf. Riaubiené 2015), with fewer types of overt results possible in aspect languages (compare the ungrammatical Romance forms with the English translations; cf. Giannakidou/Merchant 1999).

(25) Spanish (Sanz 2000, 101; Farkas 2011, 81)

- a. *El río se congeló (*solido)*
 ‘The river froze [PFTV] solid.’
- b. *Juan fregó la mesa (*limpia).*
 ‘Juan wiped [PFTV] the table clean.’
- c. French (Farkas 2011, 81)
*Jean a essuyé la table (*propre).*
 ‘Jean wiped [PERF] the table clean.’
- d. Italian (Farkas 2011, 81)
Gianni ha pulito il tavolo a lucido/a specchio.
 ‘Gianni wiped [PERF] the table to a shine/mirror clean.’

- e. Romanian (Farkas 2011, 69, 81)
Lac-ul a înghețat bocnă.
 lake-DEF has frozen bone
 ‘The lake has frozen solid.’
- f. *Fata a frecat masa lună/oglindă.*
 Girl has scrubbed table moon/mirror
 ‘The girl scrubbed the table to a shine/mirror clean.’
- g. *wipe sth. clean, sing s.o. to sleep, beat s.o. black and blue, hammer sth. flat*

2.6.1 The gradually-terminative class

As Breu does not establish subclasses of gradually-terminative states of affairs in their own right (1996, 43–45), the gradually-terminative class here is not congruent with his, but is rather conceptualised as a temporary and interruptible dynamic phase encoding an attempt at transgressing the inherent final boundary. Therefore, imperfective forms of verbs belonging to this class have a conative reading (*imperfectum de conatu*; cf. Sasse 1991, 13), as distinct from preludial-terminatives. The phase does not have stages or intermediate results. Therefore, when the phase is interrupted, the state of affairs has not been realised at all, as the interruption and contradiction tests show:

- (26) French (Mattissen field data 2017 and cf. Garey 1957, 105)
 - a. *Il était en train d'ouvrir la fenêtre, mais on l'a interrompu. A-t-il ouvert la fenêtre? – Non.*
 ‘He was opening the window but was interrupted. Did he open/has he opened the window? – No.’
 - b. *Figurez-vous un homme qui se noyait, mais qu'on a tiré du fleuve avant qu'il n'ait pu mourir: s'est-il noyé? – Non.*
 ‘Imagine a man who was drowning, but was rescued from the river before he could die: did he drown? – No.’
 - c. Italian (Breu 1994, 33) (varying grammaticality judgements)
Moriva, ma non morì.
 ‘S/he was dying, but didn’t die.’
 - d. Spanish (Haßler 2016, 220)
La cogía, pero no la cogió.
 ‘S/he tried to catch her, but didn’t get her.’

The conative phase can be measured by a duration adverbial in Italian (27). The Spanish stage verb *acabar* ‘end’, which selects a lexically-inherent boundary, refers to the resulting state after the transgression of the final boundary ((28) vs. (17)).

(27) Italian (Breu 1996, 44)

Spiegò il problema per due ore.

‘I tried to explain the problem for two hours.’

(28) Spanish (Chapado Chorro 2000, 72)

Acaba de ahogarse.

‘S/he has just drowned.’

If a language has an ‘almost’ (avertive) construction, it is typically said to have two readings with gradually-terminatives (or there may be two different constructions): one meaning is that the state of affairs has not begun (has been completely avoided, reading (i) of (29)), the other is that it has been started but interrupted before the transgression of the final boundary (reading (ii) of (29)).

(29) French (Mattissen field data 2017)

Hier, je suis presque mort.

‘Yesterday, I almost died.’

(i) I avoided a life-threatening situation.

(ii) I was very close to passing away (in a life-threatening situation).

Usually, French would distinguish the two by using *j’ai failli mourir* for the first meaning. De Miguel (1999, 3003) mentions the difference between verbs with readings (i) and (ii) and other classes of verbs which only have reading (i) in the Spanish construction with *casi* ‘almost’.

The perfective forms of gradually-terminative verbs are read as completive, not delimitative. Typically, translational equivalents of ‘open’ and ‘break’, and in some languages also ‘die’, belong to this class: Italian *morire* ‘die’, *persuadere* ‘convince’; Spanish *poner* ‘put’, *sentarse* ‘sit down’, *ahogarse* ‘drown’; French *ouvrir* ‘open’, *mourir* ‘die’, *se noyer* ‘drown’.

2.6.2 The comparative-terminative class

What I call comparative-terminative states of affairs here were introduced by Bertinetto/Squartini (1995) as “gradual completion verbs”, two subclasses of which they describe. Their variant (α) has been adopted here as the comparative-ter-

minative class, while variant (β) seems to be the gradually-terminatives of 2.6.1 (cf. Bertinetto/Squartini 1995, 22). The former class is conceptualised here as a temporary scalar phase (run-time interval) leading up to a final boundary. The phase is characterised by degrees of one and the same state of affairs with a later degree higher or lower on the scale than any preceding one. For example, something which is enlarging becomes larger compared to a former stage. The comparison inherent in comparative-terminatives implies intermediary boundaries in the sense that any entry into a new degree corresponds to the transgression of such a boundary delimiting two adjacent stages. In distinction to semelfactives, there is also a final boundary, although comparative-terminative states of affairs can end without transgressing the final boundary and reaching a resultant state (e.g., something which has become larger need not be large), or they can end by transgressing the final boundary and reaching the resultant state (e.g., something has become large by becoming larger). Accordingly, the perfective forms of verbs belonging to this class have two possible readings: either they select the final boundary (completive reading), or they select an intermediary boundary, which ends a temporary phase without final boundary transgression (delimitative reading).

(30) Italian (Bertinetto/Squartini 1995, 21)

Il livello dell'acqua si è abbassato.

'The water level sank.'

(i) *Il livello dell'acqua è più basso.* intermediary stage

'The water level is lower.'

(ii) *Il livello dell'acqua è basso.* resultant state

'The water level is low.'

Bertinetto/Squartini (1995) give the following examples of comparative-terminative verbs in Italian and English; the Spanish and French examples are from my fieldwork (compare also Sanz's (2000, 79–81) "degree achievements" and Rothstein 2012, 68):

(31) English: *fatten, improve, enlarge, increase, lower, warm up*

Italian: *avanzare* 'move forward', *migliorare* 'improve', *invecchiare* 'grow old', *raffreddarsi* 'cool down', *aumentare* 'increase' Spanish: *mejorar* 'improve', *ruborizarse* 'blush', *bajar* 'lower, decrease' French: *s'améliorer* 'improve', *faciliter* 'facilitate', *sécher* 'dry', *vieillir* 'grow old'

To identify verbs belonging to this class, Bertinetto/Squartini (1995, 16) introduced the test of compatibility with the adverb of multiplicity ‘by a lot’, which is not compatible with verbs of the other actional classes.

(32) Italian (Bertinetto/Squartini 1995, 21, 16)

- a. *La situazione è migliorata di parecchio.*
‘The situation has improved by a lot.’
- b. **Pippo ha corso / ha risolto il puzzle / è partito / possiede la sua casa di parecchio.*
*‘Pippo has run/has solved the puzzle/is gone/owns his house by a lot.’

This test is also applicable in French, as the following examples show. In addition, comparative-terminative verbs are compatible with both duration and time span adverbials.

(33) French (Mattissen field data 2017)

- a. *La situation s’est améliorée, mais elle n’est pas bonne.*
‘The situation has improved, but is not good.’
- b. *Ça s’est amélioré de beaucoup.*
‘It has improved by a lot.’
- c. *La situation s’est améliorée pendant la journée.*
‘The situation improved during the day.’
- d. *La situation s’est améliorée en deux ans.*
‘The situation has improved in two years.’

2.6.3 The successive-terminative class

The most challenging actional class from a traditional viewpoint is the successive-terminative class, introduced by Mattissen (2001; 2003), which emerges from the actional class tests (e.g., the interruption test, see below). The behaviour of its member verbs becomes comprehensible and is no longer erratic once one accepts the basic conceptions that actional class is a property of verbs, including inherently-transitive verbs, not of VPs or clauses, and that it does not change according to features of overt participants of the verb and adverbials in the clause. Rather participants and adverbials *activate lexically pre-defined phases and boundaries* (as shown in greater detail in section 3). Successive-terminatives constitute a class of their own; they are neither activities nor accomplishments nor changing back and forth between the two. This constitutes the major difference from traditional approaches.

Successive-terminative states of affairs are conceptualised as an interruptible temporary dynamic phase (a run-time interval which is not comparative) leading eventually to a final boundary (cf. Mattissen 2001; 2003). A participant is gradually effected (produced) or partially affected up to full affectedness.

Although such a state of affairs is on the whole telic, its phase is neither conative nor a prelude and can end without transgressing the final boundary and reaching a resultant state, like the phase of comparative-terminative states of affairs. Therefore, the perfective forms of verbs belonging to this class have two possible readings (as in (34)): the completive one (like telic verbs) and the delimitative one (like atelic ones).

(34) French

Il a écrit des lettres.

‘He wrote some letters.’

Russian successive-terminative verbs stand out as a class because they have two perfective aspect partners to one imperfective form, each marked with a different prefix, i.e., one for each reading, e.g., *pisat* ‘write’ has the completive perfective past *napisal* ‘he wrote (to the end)’ and the delimitative perfective past *popisal* ‘he wrote (for a while, i.e., without finishing)’ (cf. Isačenko 1962, 392).

Typically, verbs of consumption (e.g., ‘eat’ or ‘read’), production (e.g., ‘build’ or ‘draw’; mostly transitive) and goal-attaining motion (e.g., ‘go somewhere’; mostly intransitive) belong to this class cross-linguistically (cf. Krifka 1989, 161; Mattissen 2003).

Successive-terminative verbs are compatible with progressive forms and all sorts of stage verbs.

(35) French

Il était en train de manger.

‘He was eating.’

They combine characteristics they share with activities and characteristics they share with telic states of affairs, e.g., compatibility with both duration and time span adverbials.

(36) Spanish (Sanz/Laka 2002, 325)

Mi hermano leyó un libro toda la tarde/en una hora.

‘My brother read [PFTV] a book the whole afternoon/in one hour.’

However, they generally elicit a specific response to the interruption test, which is neither “yes” (as with activities) nor “no” (as with gradually-terminatives), but rather “yes, partially/a bit/a while” (cf. also Chapado Chorro 2000, 65; Mattissen 2001; 2003).

(37) Spanish (Mattissen field data 2017)

Estaba leyendo. Le interrumpieron. ¿Leyó? – Sí, un rato.

‘S/he was reading. S/he was interrupted. Did s/he read? – Yes, for some time.’

The answer shows that at the interruption, the state of affairs has already begun and has proceeded to a certain point (a characteristic shared with activities), but is not completed, in contrast to both preludial-terminatives, whose phase necessarily leads to boundary transgression, and to gradually-terminatives, whose phase encodes an attempt at a boundary transgression (cf. (26)).

Successive-terminative verbs can be intransitive or transitive, e.g., Spanish *comer* ‘eat’, *tomar* ‘take’, *leer* ‘read’, *construir* ‘build’, *pintar* ‘paint’, *cantar* ‘sing’, *tocar* ‘play’, *cocinar* ‘cook’; French *manger* ‘eat’, *lire* ‘read’, *jouer* ‘play’, *peindre* ‘draw’, *chanter* ‘sing’.

In English and German, such verbs are typically ambitransitive, e.g., *eat* (sth.), *read* (sth.), *write* (sth.), *sing* (sth.), and there has been discussion regarding (i) whether the verb without an overt object and the verb with an overt object belong to different actional classes (activities and accomplishments in the Vendlerian model), or (ii) whether actional classes (under the label “aspect”) are a property of lexemes, verb phrases or clauses, or (iii) whether verbs may be recategorised by their context (e.g., features of participants; cf. Smith 1991; Sasse 2002, 214–216).

We assume that lexemes are not reclassified by syntactic constructions (see section 3), instead their behaviour as a whole is determined by their lexically-inherent properties. So a verb does not belong to the activity class as a lexeme and to “accomplishments” in a VP, but rather it belongs to the lexical successive-terminative actional class without or within any context. The different inherent (pre-defined) possible readings of verbs of this class, e.g., the delimitative and completive readings of a perfective form, are then *activated* (not changed) by syntagmatic material, in particular (non-)quantified participants and adverbials, as will be shown in the next sections.

3 Interactions among aspectually relevant elements in a clause

Where verbs – due to their actional class membership – allow two readings of one and the same aspect form, there are several ways to signal which reading is to be chosen in a given context.

Verb-external elements of a clause, viz. arguments, adverbials and copredicates, for which I use the term “dependent” here, interact with the actional class of the verb in the sense that they activate one or the other possible readings. They do not change the lexically-inherent actional class. For reasons of space, we will focus on dependents activating the completive reading of successive-terminative verbs here, viz.

- (i) dependents measuring out the state of affairs
- (ii) dependents setting an explicit endpoint
- (iii) dependents naming an overt result.

These terms are used somewhat differently to Tenny (1994, section 1.2.3, 96, 76), viz. dependents measuring out a state of affairs may be:

- increments (see 3.1)
- cognate objects, encoding one instance of a state of affairs and thus quantifying it, as in *sing a song*
- a physical measure (a distance or interval), as in *run a mile*.

An explicit endpoint may be set by:

- a temporal limit, as in *read until 8 o'clock*
- a telos, as in *go there/to the park* (as distinct from *go about* without a telos).

The overt result may be

- an effectee or product of a verb of creation, as in *build a house*
- a resultant state, as in *wipe clean*
- a resultant locale, as in *drink s.o. under the table*.

3.1 Increments

A state of affairs can be measured out with the help of a verb-external explicit increment (subject or object), i.e., by a participant that is not affected holistically, but rather in discrete stages from partially affected to fully affected (cf. Braginsky/Rothstein 2008, 31). A state of affairs cannot continue beyond the point where the

ent phase and the boundary transgression being activated by the totally affected object (see 3.2).

(40) French (Mattissen field data 2017)

- | | | | |
|----|--------------------------|---------------------------------|--------------------------------------|
| a. | <i>il a bu du vin</i> | [PERFECTIVE PAST + PARTITIVE] | 'he drank (from the/some) wine' |
| b. | <i>il a bu le vin</i> | | 'he drank up the wine' |
| c. | <i>il buvait du vin</i> | [IMPERFECTIVE PAST + PARTITIVE] | 'he was drinking/used to drink wine' |
| d. | <i>*il buvait le vin</i> | | 'he was drinking up the wine' |

As the object clitics in French encode either partial (*en*) or full affectedness (*le, la, les*) and, depending on the context, may not be omitted (*il a bu?* 'did he drink?' would refer to alcohol), the interruption test has to be presented in two versions for a mass-noun object:

(41) French (Mattissen field data 2017)

Il était en train de boire de l'eau. On l'a interrompu.

'He was drinking water. He was interrupted.'

- | | | | | | | |
|----|--------------------|-------------------------|---|-------------|--------|----------------------------------|
| a. | <i>Il l'a bu?</i> | 'Did he drink it?' | – | <i>Non.</i> | 'No.' | (total quantity, completive) |
| b. | <i>Il en a bu?</i> | 'Did he drink from it?' | – | <i>Oui.</i> | 'Yes.' | (partial quantity, delimitative) |

When a quantified participant activates a completive reading, in French and Romanian a duration adverbial cannot at the same time measure the extent of the phase. Only a time span adverbial is compatible, which measures the time until boundary transgression.

(42) French (Mattissen field data 2017)

- | | | |
|----|---|--------------------------------------|
| a. | <i>Il a lu pendant une heure.</i> | 'He read [PFTV] for one hour.' |
| b. | <i>*Il a lu un livre pendant une heure.</i> | 'He read a book for one hour.' |
| c. | <i>Il a lu un livre en une heure.</i> | 'He read [PFTV] a book in one hour.' |

(43) Romanian (Stoicescu 2013, 120)

- a. *A mâncat bețe timp de zece minute (cal-ul).*
has eaten sticks time of 10 min. (horse-the)
'It (the horse) ate sticks for ten minutes.'
- b. *A mâncat mingea în zece minute.*
has eaten ball in 10 min.
'It ate the ball in ten minutes.'

As a third strategy, the Spanish perfective past form may have a delimitative reading even with a quantified participant: in (44) *leyó un libro* is compatible with a duration or a time span adverbial.

(44) Spanish (Sanz/Laka 2002, 325)

- Mi hermano leyó un libro (toda la tarde/en una hora).*
'My brother read [PFTV] a book (the whole afternoon/in one hour)'

However, the delimitative and completive readings are distinguished by an obligatory completive marker in the form of the reflexive pronoun *se* in Spanish, which is used with verbs of different actional classes and in different TAM forms. The function of the form has been frequently discussed (e.g., Nishida 1994; Sanz 2000; Sanz/Laka 2002). Evidence for *se* being a completive marker lies in the fact that it is obligatory (cf. (45a)) with quantified patients, which can be interpreted or are marked as totally affected (as in *se sabe toda la lección* 's/he knows the whole lesson', cf. Nishida 1994, 441); native speakers disprefer *comió dos manzanas* 's/he ate two apples' without *se* (Mattissen field data 2017). At the same time, *se* is incompatible with non-quantified patients (as in (45b) vs. (45c); cf. Nishida 1994, 431–432, 439) and with imperfective forms (except when the reading is habitual; Nishida 1994, 446), i.e., with forms activating the delimitative reading.

(45) Spanish (Chapado Chorro/García García 1991, 66)

- a. *Se comió dos manzanas/la manzana.* completive
'S/he ate [PFTV] two apples/the apple.'
- b. *Comió manzanas.* delimitative
'S/he ate [PFTV] apples.'
- c. **Se comió manzanas.*

In addition, continuation with something remaining is impossible with the completive marker: when the final boundary is transgressed, nothing of the increment can be left over.

(46) Spanish (Nishida 1994, 432)

- a. *Juan leyó el libro un poco más anoche, y ahora le faltan dos capítulos.* delimitative
 ‘Juan read [PFTV] the book a bit further last night and now he has two chapters left.’
- b. *Juan se leyó el libro (*un poco más anoche, y ahora le faltan dos capítulos).* completive
 ‘Juan read [PFTV] the book through (*a bit further last night and now he has two chapters left).’

A duration adverbial is not compatible with a completive *se*-form (compare (44)).

(47) Spanish (Sanz/Laka 2002, 325)

- Mi hermano se leyó un libro en una hora / (*toda la tarde).*
 ‘My brother read [PFTV] a book in one hour / (*the whole afternoon).’

The Spanish completive marker *se* constitutes a (stacked) second layer of aspectual marking in addition to the paradigmatic perfective and imperfective forms, but there can be even more layers.

3.2 Stacking of aspectual marking

Stacking of aspectual marking means head-marking of aspect, aspectoids and other boundary markers on the predicate and is especially striking when (i) perfective forms are combined with material that encodes readings which are comprised of or have an affinity with the imperfective (e.g., progressive, habitual), and (ii) imperfective forms are combined with material that encodes readings that have an affinity with perfective aspect (e.g., completive).

Spanish allows seemingly contradictory aspectual means to be combined, viz. perfective past (*indefinido*) with a progressive form (*estar* + gerund as in (48a); cf. Chapado Chorro/García García 1991, 64–65; Breu 1994, 38), and the completive marker *se* with an imperfective past progressive (as in (48b)). This means that a category that activates a phase can be combined with a category that activates a boundary.

(48) Spanish (Sanz 2000, 87)

- a. *Mi hermano estuvo [PFTV] leyendo un libro.*
 ‘My brother was reading a book.’
- b. *Se estaba comiendo la carne cuando oyó un disparo.*
 ‘S/he was just eating up the meat dish when s/he heard a shot.’

These combinations express finer-grained aspectual information. In (48a), a delimited phase is presented as temporally extended. In (48b), the completive marker *se* + the quantified patient (the definite article *la* signals total affectedness) activate the final boundary transgression and the progressive form stretches the immediate approach to this final boundary transgression (similar to the prelude of preludial-terminatives). In the example given, this means taking the last forkful of the meal to the mouth. In addition, the final stage of eating constitutes the backgrounded state of affairs in the incidence taxis configuration and, as such, is in the imperfective past form. The intruding state of affairs is that a shot is heard.

A layering as in (48) is not possible in Italian (Breu 1994, 39; Bertinetto/Delfitto 2000, 197) nor in French. To express the stretched approach to the final boundary transgression, an imperfective past form (*imparfait*) or progressive form cannot be used with a participant marked for total affectedness (as in (49a)). Instead, a different verb featuring an inherent final boundary has to be used in the imperfective past form: *finir* ‘finish’ (as in (49b)).

(49) French (Mattissen field data 2017)

- a. **il buvait le vin quand . . . / *il était en train de boire le vin quand . . .*
‘he was drinking up the wine when . . .’
- b. *il finissait le vin quand . . .*
‘he was drinking up the wine when . . .’
- c. Italian (Haßler 2016, 256)
Francesca stava giusto finendo di scrivere una lettera, . . .
‘Francesca was just finishing writing a letter, . . .’

In its layering of aspectual markers, Spanish resembles the South Slavonic languages Bulgarian and Macedonian (cf. Lindstedt 1985, 209; Breu 1994, 37–38; 1996, 62) and the Kartvelian language Georgian (cf. Mattissen 2003, 266–268). All three have a binary grammatical aspect opposition of perfective and imperfective forms and distinguish completive and delimitative readings (cf. Lindstedt 1985, 169–171, 173) parallel to the Spanish use of completive *se*. Bulgarian and Macedonian also mark definiteness on nouns.

In Bulgarian and Georgian, perfective past (*aorist*) forms usually bear a completive prefix (glossed PRV in (50)–(52)), whereas imperfective forms generally do not (cf. Lindstedt 1986, 169s.; Holisky 1981, 139–141). However, it is possible not to prefix a perfective form (the so-called “imperfective aorist”) in order to signal the durativity/temporal extension of a sequential state of affairs ((50a), compare Spanish (48a)); prefixation of an imperfective form (so-called “perfective imperfect”) is possible for a habitual completive reading or a habitual sequence ((50b) cf.

Lindstedt 1985, 169–171). Non-prefixation of successive-terminative verbs is interpreted as partial affectedness of the object in all three languages ((50c) vs. (50d), (51); (52a) vs. (52b)) while partial affectedness is not marked on the noun itself.

(50) Bulgarian (Lindstedt 1985, 175, 197, 185)

- a. *Toj caruva trijset godini.*
he reign.PFTV.PST.3s 30 years
'He reigned for thirty years.'
- b. *Prez ljetoto pro-čitax vseki den edna ruska kniga.*
in summer PRV-read.IPFV.PST.1s every day one Russian book.ACC
'In summer I read a whole Russian book every day.'
- c. *jadox saxar*
eat.PFTV.PST.1s sugar
'I ate some sugar'
- d. *iz-jadox saxar-ta*
PRV-eat.PFTV.PST.1s sugar-DEF
'I ate the sugar'

(51) Macedonian (Lindstedt 1985, 176)

- Nè jade što nè jade dodeka ne nè iz-edè.*
us eat.PFTV.PST.3s that us ate until not us PRV-PFTV.PST.3s
'It ate us, ate us, until it had eaten us up.'

(52) Georgian (Vogt 1936, 238)

- a. *ṗuri v-čame*
bread 1s-eat:1s.PFTV.PST
'I ate (at the) bread'
- b. *ṗuri še-v-čame*
bread PRV-1s-eat:1s.PFTV.PST
'I ate up the bread'

The use of the prefix in Bulgarian, Macedonian and Georgian, and the use of Spanish *se* have clear parallels as stacked completive markers. In addition, the delimitative reading of partial affectedness as opposed to a morphologically marked completive reading for one class of verbs constitutes another argument for establishing the successive-terminative actional class. As can be clearly seen, the two readings are lexically inherent in the verb and not induced by any marking on a participant in Georgian.

3.3 Goal-oriented motion

Slobin (2004) distinguishes between verb-framing languages, in which the “path”, i.e., direction-of-motion component, is encoded in the verb, and satellite-framing languages, in which the manner-of-motion component is encoded in the verb and the path component in a dependent form. Romance languages belong to the verb-framing type (less so Italian; cf. Hijazo-Gascón 2017, 307–308), as do, for instance, Greek and Japanese (cf. Sanz 2000, 105; Slobin 2004; Horrocks/Stavrou 2007).

In satellite-framing Germanic languages, which do not have a fully grammaticalised aspect system (i.e., no binary opposition of perfective and imperfective forms), manner-of-motion verbs usually belong to the successive-terminative class. Their inherently possible delimitative and completive readings are activated and distinguished with the help of an explicit (dependent-marking) endpoint of the state of affairs. Such an endpoint is set by means of a *telos* (a goal attained) or a temporal or distance limitation as a cut-off point or buffer (e.g., *walk a mile*). The attainment of the goal or limit corresponds to the final boundary transgression (cf. Sasse 1991, 22), whereas motion in a place or in the direction of a goal yields a delimitative reading for one and the same verb.

- (53) non-goal-attaining: delimitative reading goal-attaining: completive reading
walk, *walk in the park*,
walk in the direction of the park vs. *walk to the park*
she swam near the island vs. *she swam to the island*

Verb-framing languages, however, tend to assign non-goal-oriented verbs, especially manner-of-motion verbs, and goal-attaining verbs to different actional classes: the former belong to atelic, the latter to telic classes. I call this differential lexicalisation. Goal adverbials are only compatible with telic verbs ((54a); native speakers comment that **nadar a la isla* “may be heard but does not sound correct”), whereas atelic verbs are compatible with local (as in (54b)) and directional adverbials (as in (54c)), which do not imply the attainment of a goal and thus do not measure out the state of affairs.

- (54) Spanish (Mattissen field data 2017)
- a. *ir a la isla* vs. **nadar a la isla*
 ‘go to the island’ ‘swim to the island’
 - b. *nadar en la playa*
 ‘swim at the beach’
 - c. *nadar hacia/hasta la isla*
 ‘swim towards the island’

Differential lexicalisation of motion verbs is also observed in verb-framing languages such as Japanese (56) and Nivkh (57), which do not have a fully grammaticalised aspect category, and in Slavonic and Kartvelian languages, which are satellite-framing and have a grammatical category of aspect, e.g., Russian *idti* ‘go (to a goal)’ vs. *xodit’* ‘go (around or somewhere and back)’, and Laz *bulur* ‘I go (to a goal)’ vs. *go-bulur* ‘I go (around)’ (Mattissen 2003, 264; for Georgian cf. Holisky 1981, 76–78).

To combine a manner of motion and a goal, verb-framing languages have to use both in a dependent construction of a goal-attaining finite verb (cf. (55), (56b), (57)).

- (55) Spanish (Sanz 2000, 105)

Fue a la costa nadando.

Lit.: ‘s/he went to the coast swimming’

- (56) Japanese (cf. Horrocks/Stavrou 2007, 610)

a. **Toshi=wa kishi=e oyo-da* →

T.=TOP shore=to swim-PST

b. *Toshi=wa kishi=e oyo-de it-ta.*

T.=TOP shore=to swim-CV go-PST

‘Toshi swam to the shore’

- (57) Nivkh (Panfilov 1965, 88)

tə-eri maŋ-gur verla-ŋa ŋi řəm-t

this-river strong-CV wide-if 1s swim-CV

tozə-jiki-nə-ŋ-ra

cross-cannot-FUT-IND-HILI

‘if this river is very wide, I will not be able to swim across’

The correlations among verb/satellite-framing, (in)compatibility with goal adverbials, the category of aspect, actional class membership of verbs and the structure of the verbal lexicon as a whole needs further exploration.

4 Conclusion

The model of lexically-inherent actional classes originally developed by Breu (1992–2000) and extended in this study provides a coherent explanation of the aspectual behaviour of verbs, the different readings of perfective and imper-

fective forms of verbs, their interaction with the affectedness and quantification of nominal participants and with various adverbials in Romance and other languages. The model is universally applicable and provides a fine-grained grid of actional classes, all classes in their own right, which is open to further expansion.

In particular, the lexically-inherent design of successive-terminative verbs has been shown to consist of a dynamic phase proceeding up to a final boundary, which allows a delimitative reading as an ended state of affairs *en bloc* without transgression of the final boundary as well as a completive reading with transgression of the final boundary. Verb root-external elements of a clause, such as completive markers, stacked TAM forms, (non-)quantified participants and adverbials, activate one of those possible readings in context cross-linguistically, but do not change the verb's class membership. Besides verbs of consumption and production, verbs of goal-attaining motion may belong to this class. The interaction of verb/satellite-framing and aspect as a verbal category, as observed in such verbs, is a field open for further research.

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