Ranko Matasović
University of Zagreb & Croatian Academy of Sciences and Arts
E-mail: rmatasov@ffzg.hr
Homepage: www.ffzg.hr/~rmatasov

A New Approach to Aktionsarten in Role and Reference Grammar[1]

§1. The structure of my talk will be as follows: first I will give a brief overview of the development of the system of Aktionsarten in RRG (§2-5); then, I will present two of the recent modifications of that system, by Córtes-Rodríguez (2014) and myself (Matasović 2018) (§6-7); then, I will discuss some remaining problems with the RRG system of Aktionsarten and present some data from languages that seem to have predicates that are difficult to classify as any of the hitherto proposed Aktionsarten (§8-11) – two-phase verbs and ingressives/inceptives; and lastly, I will propose two "fixes" to the theory of Aktionsarten in RRG (§12-17). The paper relies on the works of Breu (1994), Johanson (2000), Tatevosov (2002, 2016) and the bidimensional approaches to actionality, which has been somewhat neglected by the RRG community.

§2. The RRG system of lexical decomposition is based on the concept of Aktionsarten. Aktionsarten play a major role in RRG: they are involved in 1) determining logical structures of verbs, which is in turn crucial for 2) determining semantic roles, thematic relations and macroroles, and this then is the basis for establishing 3) rules for case marking and agreement, 4) determining grammatical relations and 5) formalizing the linking algorithms. It is therefore vital for RRG to have a typologically adequate theory of Aktionsarten, applicable to the verbal system of any language.

§3. Aktionsarten were introduced already in Foley and Van Valin 1984 (FVV, 28-74) where they are used as a basic way of representing the semantic structure of the clause. The system of Aktionsarten in FVV is adopted from Dowty (1979), which is, in turn, based on Vendler (1967). The basic Aktionsarten in FVV are:

- States (*know, believe, have…*)
- Activities (*run, walk, swim*), formed from basic predicates with the operator DO
- Achievements (*recognize, spot, find, die*), formed with the operator BECOME
- Accomplishments (*paint a picture, make a chair, draw a circle*), formed by joining an activity and an achievement predicate by a connector CAUSE.

In FVV it was assumed that all Aktionsarten can be transitive and intransitive, i.e. they can involve one or two arguments. It was further assumed that all predicates have a basic Aktionsart, which is stored in the lexicon, but that the basic Aktionsart can be modified in the clause, e.g. by changing the argument structure of the predicate (*to eat* vs. *to eat a cake*). Thus, we can say that

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Aktionsart/Actionality[2] characterizes the *verb sense* in RRG, rather than simply the verb as a lexical unit. A verb sense is only acquired by the verb in a syntactic construction (Breu 1994: 32f.).

§4. The system of Aktionsarten has evolved since FVV:

- In Van Valin (1990) and (1993) a distinction between punctual and durative achievements was made (corresponding to "achievements" and "accomplishments" in the current system), and the operator DO was kept only for verbs which lexicalized agency (e.g. *murder*), while **do´** was introduced for plain activity verbs (which need not have animate/consciouss agents, e.g. *kill*).

- Van Valin and LaPolla 1997 (VVLP) represented a return to Vendler's original system (in contrast to Dowty's), but with some modifications. Active accomplishments were added to the list of Aktionsarten, since it was recognized that they cannot be interpreted as causative activities. Rather, the causative operator CAUSE was added to all the basic Aktionsarten.

- In Van Valin 2005 semelfactives were added, since they are punctual, but atelic, unlike achievements. Furthermore, the operator BECOME was decomposed into PROC & INGR, as it was realized that there are languages in which verbs can refer only to the process preceding the endpoint (termination) of that process, e.g. in Mparntwe Arrernte (Australian; Van Valin 2018: 82); the verb in (1) with the processual suffix *-irre-* means 'to become blacker/darker'; with the resultative suffix *-arle-* in (2) the verb is an accomplishment and means 'to become black':

(1) *Arntape   urrperl-irre-ke*
       tree.bark black-CHANGE-PST
     "Some tree bark became blacker/darker"

(2) *Arntape urrperle-arle-irre-ke*
       tree.bark black-RES-CHANGE-PST
     "Some tree bark became black".

§5. This brings us to the current RRG system of Aktionsarten (Van Valin 2005: 33):

1. State: [+static], [-dynamic], [-telic], [-punctual] (**predicate´**)
2. Activity: [-static], [+dynamic], [-telic], [-punctual] (formed with **do´**[LS])
3. Achievement: [-static], [-dynamic], [+telic], [+punctual] (formed with INGR[LS])
4. Semelfactive: [-static], [+/-dynamic], [-telic], [+punctual] (formed with SEML [LS])
5. Accomplishment: [-static], [-dynamic], [+telic], [-punctual] (formed with BECOME [LS]
6. Active accomplishment: [-static], [+dynamic], [+telic], [-punctual] **do´** [LS] & INGR [LS]

The causative operator (CAUSE) can be used to derive the causative versions of each basic Aktionsart.

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[2] I use the term "Aktionsart" to denote the concrete combination of (temporal) semantic features of predicates (e.g. "Accomplishment", "State"), and "Actionality" in the broader sense encompassing all the aspects of verbal meaning relevant to the semantic-syntax interface.

§6. In Matasović (2018) I have criticized the current RRG system of Aktionsarten for the following reasons:

- it is uneconomical: it predicts the combinations of features that do not occur in any known language (e.g. the combinations such as [+static, +dynamic]), and allows for +/- values of features (semelfactives are [+/- dynamic]).

- it can represent the meaning of some verbs in Croatian (and other languages with a Slavic-type aspect system, with perfective/imperfective verb pairs) only very awkwardly. For example perfective activity verbs such as *skočiti* "to jump" have features of activities (they are dynamic), but also of semelfactives (there is no result state and they are [+punctual]). Moreover, the imperfective pairs of such verbs are usually ambiguous between iterative/habitual and durative/activity interpretations: *Petar skače* (Peter jump.3SG.PRS) can mean "Peter jumps" (regularly, e.g. every Friday at the stadium) or "Peter is jumping" (right now he is in the air). Apparently, this verb can be interpreted both as [+punctual] (if interpreted as iterative/habitual) and [-punctual] (if it is interpreted as an activity verb). This raises the question how this verb is to be represented in terms of its actionality features?

§7. Therefore, I proposed a revised system of Aktionsarten in Matasović 2018. It uses the following "actionality features": 1. *duration* (the perception of time), 2. *(internal) force* (an object or organism's ability to change or move without an external cause or mover), and 3. *telicity* (having an internal end-point or purpose). Durative verbs correspond to [-punctual] in the current RRG system, those having [+telicity] to telic verbs (the meaning of which has an internal limit), and those with the feature [+ force] would be called [+dynamic] in the current RRG system of features.

Events

-force   +force

-duration   +duration   -duration   +duration

-telic +telic   -telic +telic -telic +telic -telic   +telic

Semelf. Achiev.   States   Acc. Semelf. Semelf. Activities Active
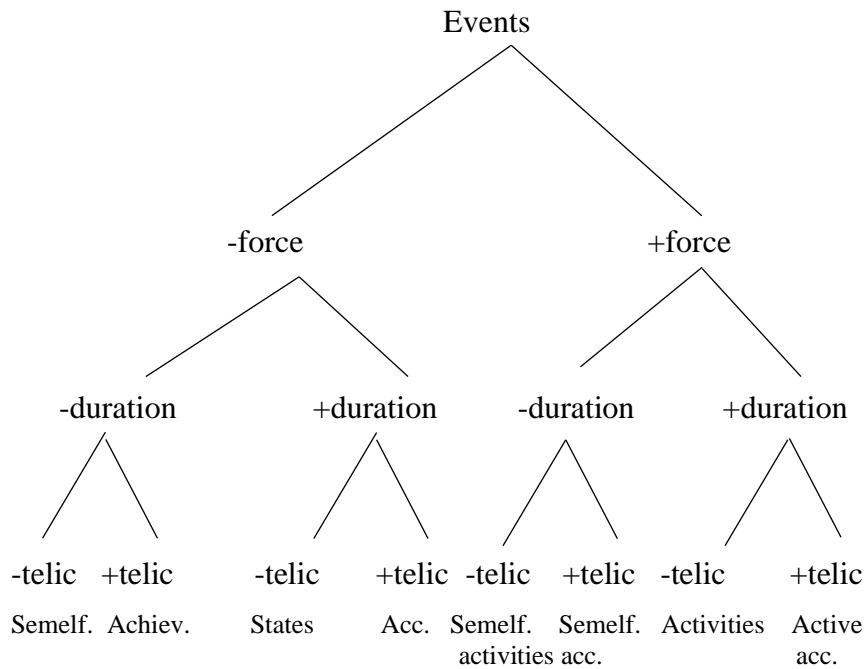   activities acc.   acc.

Figure 1. The hierarchical system of Aktionsarten proposed in Matasović 2018

As in the current RRG system, all Aktionsarten have their causative versions, i.e. there are causative states, activities, causative semelfactive activities, etc.

A similar hierarchical system was independently proposed by Francisco Cortés-Rodríguez (2014):
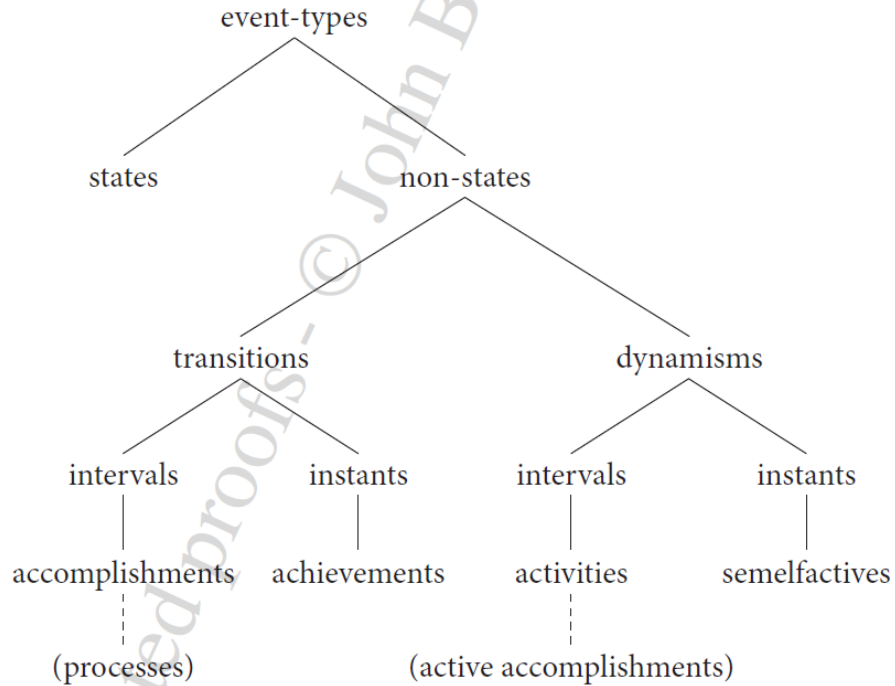

Figure 2. Hierarchy of Aktionsarten (= Aspectual classes) from Cortés Rodríguez 2014: 514.

Both systems have the merit that they allow the researcher to apply the tests for determining the Aktionsarten *sequentially*, i.e. as an algorithm:
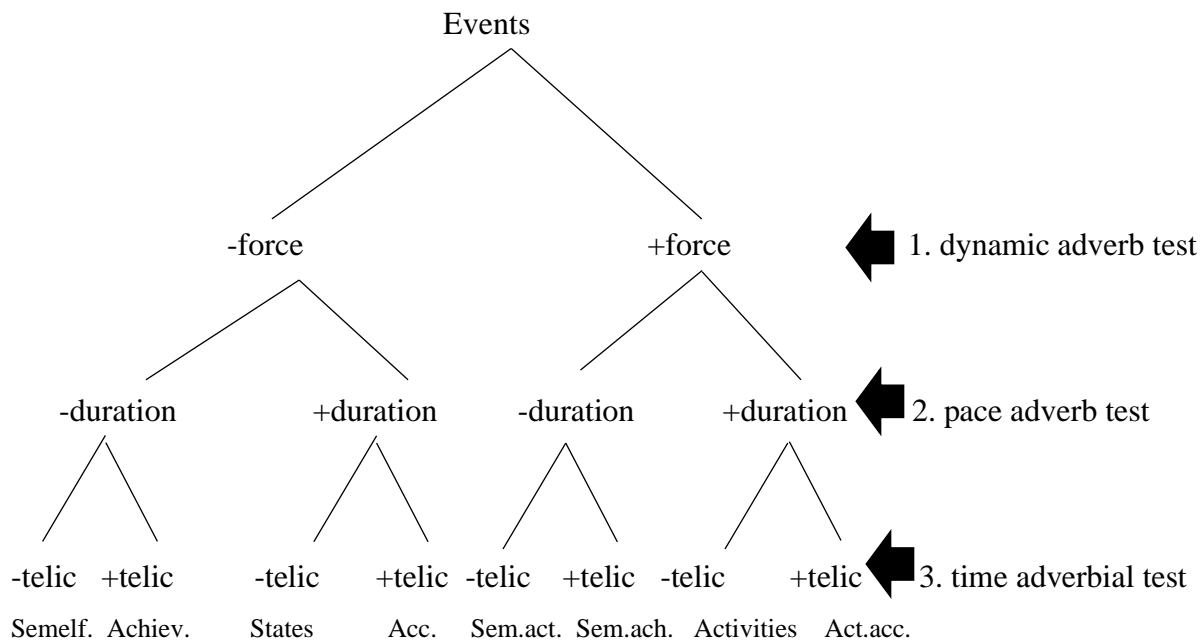
Figure 3. The sequential order of the application of tests for Aktionsarten

Say, if we wanted to determine the Aktionsart of the verb *to sing*, we would first check whether it can be modified by a dynamic adverb (*John sang forcefully*); given that the answer is positive, we would then modify that verb with a pace adverb (*John sang quickly*), and lastly, we would check its compatibility with a time adverbial expression: given that *John sang for five minutes* is grammatical, while **John sang in five minutes* is not, we would conclude that the verb *sing* is an activity predicate.

§8. However, there are still some problems with the current RRG system of Aktionsarten, and both versions of the revised system (Matasović 2018 / Cortés Rodríguez 2014)) have to account for them.

The system of Aktionsarten is Anglocentric unlike most other aspects of RRG: all the tests used for the identification of Aktionsarten are based on English, often on categories that need not (and often do not) exist in other languages, e.g. the progressive. On the other hand, the imperfective and perfective aspects, which English lacks, do not play a role in the tests used to determine the Aktionsarten. However, in Croatian, as in many other languages, the distinction between the imperfective and perfective forms of verbs can be used to distinguish between the telic and atelic Aktionsarten: while the perfective verbs can (but need not) be telic (5), the imperfectives are always atelic, i.e. they can be activities, states, or semelfactives, but never achievements or accomplishments (3-4):

(3) *Ivan*   *je*   *pjevao*   *pet minuta*
   I.NOM.SG   AUX.3SG   sing.PPLE.M.SG(IPF)   five minutes
   "Ivan sang for five minutes"

(4) **Ivan*   *je*   *pjevao*   *za pet   minuta*
   I.NOM.SG AUX.3.SG   sing.PPLE.M.SG(IPF) in five minutes
   "Ivan sang in five minutes"

(5) *Ivan*   *je*   *otpjevao*   *pjesmu*   *za pet minuta*
   I.NOM.SG AUX.3SG   sing.PPLE.M.SG.(PFV) song.ACC.SG in five minutes
   "Ivan sang a song in five minutes"

Likewise, in many West African languages, the factative aspect can be used to distinguish between the dynamic Aktionsarten (activities and active accomplishments) and stative Aktionsarten (Degema, Niger-Congo; Welmers 1973: 346, Nurse, Rose and Hewson 2016: 25ff.):

(6) *mɪ-dí-ɪn*
   1SG-eat-FAC
   "I ate"

(7) *o-mi-in*
   3SG-be.wet-FAC
   "It is wet"

In (6), the activity verb in the factative has the default interpretation as referring to a past event, while in (7) the stative verb in the factative has the default present interpretation.

Therefore, I suggest that Aktionsarten are best revealed through aspectual oppositions; more attention should be paid to languages with aspectual systems different from English; just as the count/mass distinctions in nouns in any language are best revealed by looking at that language's system of quantifier constructions, so the Aktionsarten (and actionality oppositions) of a language are revealed by looking at the meanings that different verbs acquire in different aspectual forms.

§9. FVV were aware of the problem of the language-specific nature of some of the Aktionsarten-tests, but they argued that "it is assumed that the categories, primitive predicates, and operators employed in the analysis of English will be relevant to the analysis of other languages. These constructs have the same status as Jakobsonian distinctive features; languages employ different sets of them in a variety of ways, but they provide the basis for a unified description of aspects of phonological systems" (FVV 28). Although the theory of Aktionsarten in RRG has evolved since FVV, it is still assumed that Aktionsarten are universal: "It would be reasonable to hypothesize that these distinctions [of Aktionsarten] are the universal basis of the organization of verbal systems in human language" (Van Valin 2005: 32).

§10. However, it is not altogether clear that Aktionsarten existing in English must be those that exist in all other languages of the world (Smith 1997: xvi). It is conceivable that some combinations of the actionality features that are attested in English are unattested in other languages, and vice versa.[3] Moreover, in some languages there are predicates that are difficult to classify as any of the hitherto proposed Aktionsarten.

Let us first consider "two-phase verbs" (Bickel 1996, Polančec 2021), e.g. *to hide* in English: such verbs can refer to two phases of an action, the *preparatory phase*, as in (8), or to the *resultant phase,* as in (9) (Bickel 1996: 212):

(8) *The kids were just hiding in the garden when she came back*

(9) *The kids were hiding in the garden for some time.*

In Bagvalal (NE Caucasian) two-phase verbs are systematically ambiguous in the imperfective (they can refer to both phases of the event, as in (10)), but in the perfective they refer to neither of the phases, but rather to the transition between them, as in (11), Tatevosov 2002: 388:

(10) *maHammad helli-rā-x   ek'$_o$a*
    Mohammad lie_down-IPF-CONV AUX.PRS
    I "Mohammed is lying down"
    II "Mohammed lies / is lying"

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[3] It is possible that only the "building blocks", or features that define the Aktionsarten, are universal, while their combinations are language-specific (Sasse 2002: 263).

(11) *maHammad helli*
 Mohammed lie_down.PFV.PST
 "Mohammad lay down"

Two-phase verbs are not achievements, since achievements refer only to natural end-points (as in *The window broke*), while the meaning of two-phase verbs includes both initial and final boundaries (Johanson 2000: 58-63). They cannot be identified with accomplishments or active accomplishments, which never show this type of ambiguity. Hence RRG must show how this class of verbs can be accomodated into its system of Aktionsarten and how their systematic ambiguity could be represented in their logical structure.

§11. The solution lies in the systematic distinction between the lexical Aktionsart of a verb, and its derived Aktionsart which it acquires in a particular construction, or in a particular grammatical category by a lexical rule. This change of Aktionsart by a lexical rule can be called *coercion* (a term borrowed from other theories of actionality, Smith 1997, Tatevosov 2002).

§12. I would argue that two-phase verbs are lexically underspecified for an actional feature, hence they are ambiguous in constructions and/or grammatical categories that do not involve coercion. In (10), the verb *helli* 'to lie down' can be represented as [+duration, -telicity] and unspecified for [force], hence it can mean both 'is lying down' (if it is interpreted as having the feature [+force]) and 'is lying' or 'lies' (if it is interpreted as having the feature [-force]). In (11), the perfective form coerces the interpretation of *helli* as 'lay down' and the feature values are changed to [+force, -duration, +telicity] by a lexical rule, which can be generalized to all two-phase verbs in the language (i.e. verbs with the lexically underspecified Aktionsart with the actional values [+duration, -telicity]).

§13. The same approach works well for other two-phase verbs, showing different ambiguities, e.g. in Nyakyusa (Bantu branch of Niger-Congo, Persohn 2020: 158, Polančec 2021: 19):

(12) *i-kʊ-kalal-a*
 1-PRS-be(come)_angry-FV
 "S/he is becoming angry" (preparatory phase)

(13) *a-kaleele*
 1-be(come)_angry.ILE
 I "She is angry" (resultant phase)
 II "She got angry" (transformation)

In (12) the imperfective coerces the interpretation of the verb *-kalal-* as a process, and its actional feature specification is [+duration, -telicity]; in (13), on the other hand, the verb has as its lexical feature specification only [-force] (it is underspecified for both duration and telicity), hence its ambiguity: if it is interpreted as having the features [+duration, -telicity] it is a stative verb and means 'to be angry', while if it is interpreted as having the features [-duration, +telicity] it is an achievement and means 'get angry' (see Polančec 2021). Note that Nyakyusa systematically opposes two-phase verbs like *-kalal-* 'become angry' to accomplishments such as *-lembok-* 'wake up'. Unlike the former, the latter verb cannot refer to the resultant state in the perfective, so that *a-lembwike* (1-awake.ILE) cannot mean *'S/he is awake' – it mens only 'S/he has woken up', i.e. it

refs to the transition between the two phases (Persohn 2020: 123f, cf. also Polančec 2021). Thus it does not suffice to say that two-phase verbs are a sub-class of accomplishments with some additional properties: at least in Nyakyusa the two Aktionsarten are clearly different.

Two-phase verbs are marginally attested in European languages (e.g. *to hide* in English), but more amply so in Bantu languages (e.g. Nyakyusa), Laz (Kartvelian), Bagvalal (NE Caucasian), Tatar (Turkic), Mari (Uralic), etc. (cf. Polančec 2020: 333). In Belhare (Kiranti, Sino-Tibetan), they are actually more numerous than some Vendlerian classes, e.g. states (Bickel 1996: 226).

§14. Note, incidentally, that underspecification for actionality features in the lexical entry of verbs allows us to account for the systematic ambiguity of verbs like *skočiti/skakati* 'to jump' in Croatian and other Slavic languages (in §6), which have both durative and non-durative (iterative/habitual) interpretation in the imperfective aspect. This is a consequence of their being underspecified for the feature [duration] in the imperfective.

§15. Therefore, the existence of two-phase verbs does not require a modification of either the current RRG system of Aktionsarten (the meanings of these vers could be decomposed by using the features from Van Valin 2005, or from the revised system of Matasović 2018). What is required is to acknowledge that verbs, in their basic, lexical meaning, can be underspecified for some actional features, which results in systemic ambiguities.

§16. Bidimensional approaches to actionality by Tatevosov (2002, 2016) and Breu (1994, cf. also Sasse 2002) posit other Aktionsarten that have no equivalents in the RRG system (Table 1):

Tatevosov	**Breu**	**RRG (Vendler)**
stative	totally static (TSTA)	state
atelic/processual	activity	activity (and process)
punctual	totally terminative (TTER)	achievement
telic	gradually terminative (GTER)	accomplishment
multiplicative	n/a	? semelfactive
inceptive-stative	inceptively static (ISTA)	n/a
ingressive-processual	n/a	n/a

Table 1. Different systems of Aktionsarten in bidimensional approaches to actionality

§17. Multiplicatives (in Tatevosov's system) are verbs like *hiccup, flash, knock,* etc. – verbs that would be called semelfactive in RRG: they normally have an iterative/habitual interpretation in the progressive or imperfective aspect (Van Valin 2005: 37). What about ingressive/inceptive verbs? Should we posit a new Aktionsart in RRG? Tatevosov (2002) and Breu (1994) treat them as parallel to telic verbs, the difference lying in the fact that such verbs lexicalize the initial transition to a state, or process, rather than final transition. Inceptives denote the initial transition to a state (e.g. *to start sleeping, to fall asleep*, Croat. *zaspati* 'fall asleep' vs. *spavati* 'to sleep'), while ingressives denote the initial transition to a process or activity (note that processes and activities are not distinguished in Tatevosov's system), e.g. *to start singing*, Croat. *zapjevati* 'start singing' (pfv.) vs. *pjevati* 'sing' (ipf.).

I believe that inceptives and ingressives do not represent a special Aktionsart. *To start drinking* or *to start melting* are more similar to terminatives such as *to stop drinking* or *to stop melting* than to

active accomplishments such as *to drink (a beer)* or accomplishments such as *to melt*, because they lexicalize an external, not an internal limit or completion. They can be formed from verbs belonging to all Aktionsarten, even from accomplishments, which lexicalize telicity (the inherent end-point of an activity or process), as in the the example (14) from Karachay-Balkar (Turkic; Tatevosov 2016: 219):

(14) *üy   zan-ʁan-dɨ*
     house   burn-PFV.PST-3SG
     I "The house caught fire, started to burn" (Russ. *Dom zagorelsja*)
     II "The house burned, was burning (for some time)" (Russ. *Dom gorel*)
     III "The house burned down" (Russ. *Dom zgorel*)

In Adyghe (NW Caucasian) inceptive/ingressive meaning is observed in certain activity verbs in the perfective past (Arkad'ev 2009: 215):

(15) *č'aler- wəna-m ča-ʁe*
     boy-ABS house-OBL run-PFV.PST
     "The boy started running to the house"

In the (present) imperfective the verb *čan* 'run' is a plain activity verb (without any inceptive/ingressive meaning), Arkad'ev 2009: 215:

(16) *č'ale-r   wəna-m   ma-ča*
     boy-ABS house-OBL DYN-run
     "The boy is running to the house"

Verbs which lexicalize inceptive/ingressive meaning are attested in other languages as well: Mari (Uralic), Bagvalal (NE Caucasian), Karachay-Balkar (Turkic), Belhare (Sino-Tibetan), etc. (for more examples see Polančec 2020: 308-9, Tatevosov 2016: 217-18).

The existence of inceptive/ingressive verbs and inceptive/ingressive meanings that are coerced to some verbs (or expressed by them) in certain aspectual forms does not mean that a new set of Aktionsarten should be added to the system. In terms of actionality features, an inceptive activity verb like Adyghe *čan* 'set out, go' is characterized as [+force, -duration, -telicity], which means that it behaves as a semelfactive activity. However, since it is an established typological fact that some verbs in some languages lexicalize inceptivity/ingressivity, and that they interact in a partly predictable way with aspectual systems (e.g. their inceptive/ingressive meaning is cancelled in the imperfective) this has to be somehow captured in the logical structure of such verbs.

Therefore, I propose to introduce a new operator **INC´** (for "inceptive") to capture the fact that some verbs, in some languages, lexicalize inceptivity/ingressivity (it is similar to the operator **DO'** for agentivity). This operator interacts with the aspectual system of a given language, and it can be removed by a lexical rule in some contexts (e.g. in the imperfective in the Adyghe example (16)). The logical structure of the verb *čan* 'to run' in Adyghe would thus be **INC´** (**do´**x[**run´**x]), but the logical structure of the form *ma-ča* in (16) would be just (**do´**x[**run´**x]) after the application of the lexical rule removing the **INC´** operator from activity verbs in the imperfective aspect.

§18. To sum up: our main suggestions for a revision of the RRG system of Aktionsarten are the following:

I. The system can be represented hierarchically with only three actionality features: [force], [duration] and [telicity] (Matasović 2018). This system is more economical than the current RRG system (Van Valin 2005, 2018).

II. Verbal lexemes that show systematic ambiguity with respect to their Aktionsart (e.g. two-phase verbs), which have not been dealt with so far in the RRG framework, do not require positing additional Aktionsarten or primitive actionality features. Rather, we need to assume that in many languages some verbs are lexically underspecified for some actionality features, and that additional features are coerced or expressed in certain contexts or grammatical categories.

III. To capture the fact that some verbs in some languages lexicalize ingressivity/inceptivity, I propose to introduce an operator **INC´** (for "inceptivity") that should be included in the lexical representation of such verbs. It is not a basic actional feature (like "duration" or "telicity") – its theoretical status is more akin to the status of the operator **DO´** for agentivity. It can modify the logical structures of both stative and activity verbs and it interacts with aspectual systems of different languages in somewhat predictable ways (e.g. this operator is normally eliminated, by lexical rules, in the imperfective aspect).

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ABBREVIATIONS

1 = noun class 1 (Nyakyusa)	m = masculine
abs = absolutive	nom = nominative
acc = accusative	obl = oblique
aux = auxiliary	pfv = perfective
conv = converb	pple = participle
fac = factative	prs = present
fv = final vowel	pst = past
ile – a perfectivizing morpheme (Nyakyusa)	refl = reflective
intrans = intransitivizer	res = result
ipf = imperfective	sg = singular