

## On How Compositional Aspect and the Article-Aspect Interplay Ought to Appear in English Comprehensive Grammars

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*Two recent publications on compositional aspect (CA) and the article-aspect interplay (AAI) in English argue that these cross-language phenomena are so fundamental that they must be taught to learners of English at higher levels and incorporated into the contents of comprehensive English grammars (CEGs).<sup>1</sup> This paper fully endorses the idea that English language teaching (ELT) at higher levels – intermediate to advanced, must include CA-AAI and that CA-AAI must also become part of the linguistic knowledge of native speakers, but focuses on some aspects of the CA theory that are insufficiently covered and need further elaboration. Outlined and analyzed are some CA theory issues that must be appropriately handled in CEGs – and in intermediate/advanced ELT in general. It is high time for the domains of aspect, tense, nominal determination, lexical semantics and aspectually relevant adverbials to be described in CEGs in terms of CA and according to the latest achievements of theoretical linguistics. This will provide a much better picture of the structure, rules and regularities of the world's most important language today.*

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### Introduction

Two recent publications by a university lecturer raised a serious alarm concerning the teaching of English globally. The first one argues that CEGs have failed for decades to handle numerous very important phenomena in the domains of aspect, tense, nominal determination, lexical semantics, adverbials, among which AAI, all subsumed under CA (Bulatović 2020). These phenomena have for some inexplicable reason been persistently sidestepped in ELT since the discovery of CA (Verkuyl 1972). Given the fact that publications in applied linguistics exploring CA-AAI are practically non-existent, the other paper has taken ELT by surprise with “the sudden revelation” that English articles perform the task of explicating aspect:

“the articles *a* and *the* have a key role in the signaling of [+boundedness], [...] the zero article has a key role in the signaling of [-boundedness]; [CA regularities] have not made their way into research on article use by ESL learners; [CA] is not

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<sup>1</sup>What is a CEG? A definition by Routledge: “Comprehensive Grammars are clear guides to the entire grammar system of each language [...] suitable for intermediate to advanced learners”.

described in grammars of English, not mentioned in English coursebooks, and not taught in schools and colleges” (Bulatović 2022).

This is a huge discrepancy, hard to understand. Absent in CEGs and a *terra incognita* at all ELT levels, CA-AAI have been explored in theoretical linguistics for decades and are in a certain sense even banal. On the other hand, deeply intricate, difficult to conceptualize, they are far from well-understood (see Kabakčiev 2018, 2019) – which partly explains their sidestepping in CEGs and textbooks. Nevertheless, as CA is so well-known and has been studied in theoretical linguistics for decades, it is an absurdity for such a fundamental phenomenon to be shunned in applied linguistics. Therefore, the appearance of Bulatović’s publications on the necessity for CA-AAI to be taught and incorporated into CEGs is a long-awaited event for specialists who have hoped for ELT and CEGs to start to reform.<sup>2</sup>

Following Bulatović’s concern, this paper looks at some major CA-AAI features and regularities and the necessity for them to enter the contents of CEGs. Being an early attempt in this sphere, no special method of incorporation is proposed – a task for the future. As the problem field is extremely large and complex, it is envisaged that the method of incorporation should be worked out well in advance, taking into account the grammarians’ approaches and overall understanding. As for what to begin with, and as CA&AAI equally embrace several domains, among the starting points could be the aspecto-temporal system, the verbal/nominal lexical system, the system of nominal determination, quantification, etc.

### On the Essence and Intricacy of CA

Before explaining briefly how CA works, let me recall its essence (described in Kabakčiev 2019). It is the effectuation in any language of the perfectivity-imperfectivity contrast, whereby perfectivity represents a Vendlerian (Vendler 1957) situation bounded on the time axis by an initial- and an end-point. Apart from bounded, perfectivity is “brought to a natural end” in broad pragmatic terms. Imperfectivity is a non-bounded situation – with or without endpoints. Perfectivity/imperfectivity equals the Russian *sovershennyi/nesovershennyi vid* ‘completed/non-completed aspect’. Slavic perfectivity/imperfectivity is directly (morphologically) verb-encoded, as in Latin, Proto-Germanic, Greek, Georgian, etc. In English, etc. perfectivity/imperfectivity is indirectly effectuated compositionally at the sentence level.<sup>3</sup> Sequences like (1a) depict actions executed on/generating non-bounded entities: *figs, beer, poems, grammar, lessons*. If the action is on a non-bounded entity (1a), it is non-bounded, imperfective. Conversely, *a/the fig, a/the beer, a/the book, a/the lesson* in (1b) are bounded entities – and ever since Vendler (1957) and

<sup>2</sup>Bulatović (2013) called for CEGs to include CA a decade ago; earlier Schüller (2005). Bulatović (2020) finds two grammars covering CA: Declerck (2006), Kabakčiev (2017), the latter providing “a full description of the role of articles for aspect in English”.

<sup>3</sup>On signaling/explication, see Kabakčiev (2019, p. 203).

Verkuyl (1972) such sequences are viewed as perfective. Boundedness is mapped from the NPs onto the verb (Kabakčiev 2000, Bulatović 2020). In structural terms, NP boundedness in (1b) rests in the article (definite/indefinite), outwardly (superficially/morphologically) encoded. Conversely, *figs, beer, poems, grammar, lessons* in (1a) and *holiday makers* in (1c) are non-bounded entities, thanks to the zero article:

- (1) a. John ate figs, drank beer, wrote poems, taught grammar/lessons  
 b. John ate a/the fig, drank a/the beer, wrote a/the book, taught a/the lesson  
 c. Holiday makers drank a beer in this pub after visiting the beach, their children stayed behind<sup>4</sup>

Non-boundedness is thus also superficially encoded, with the zero marker. After Verkuyl (1972), there is no doubt about encoding boundedness through articles, determiners, quantifiers, etc., and non-boundedness through their absence. But how these entities trigger boundedness and their absence non-boundedness remains undescribed (Czardybon and Fleischhauer 2014, Fleischhauer and Czardybon 2016, Filip 2017, Ihsane 2020, Martin et al. 2020). Verkuyl (1993, 2022) explains it using formal semantic analyses; Kabakčiev's (2000; 2019) model uses temporality of situation participants as an approach. Bulatović also has it that NP properties – not necessarily temporal – are mapped onto the verb (Bulatović 2020, p. 390).

To understand CA development better, let us go back some decades. The discovery of CA was made in Verkuyl (1972) – containing his initial theory. Earlier, Vendler (1957) had launched his classification of time schemata for verbs, known as “situations”. Aspect in Verkuyl's (1972) model is realized *not* at the VP-level as in Vendler's but at the sentence level. When examples such as (1) are analyzed, not only the syntactic object takes part in the explication of aspect, the subject does too – something persistently ignored or misunderstood. Just like *a fig, a beer, a book, a lesson* are bounded in the underlying perfective sentences (1b), *John* would also have to be treated as bounded. But the status of *John* in the underlying imperfective sentences in (1a) – bounded or non-bounded, becomes an open question. Issues start to emerge, due to the different ways of conceptualizing CA. In at least three models, Verkuyl's (1972, 1993, 2022), Kabakčiev's (2000, 2019) and Bulatović's (2020, 2022), an entity such as *John* in (1b) is regarded as bounded (quantified/quantized), while *figs, beer, poems, grammar, lessons* in (1a) are “non-bounded”, due to the lack of an article/determiner or other quantifier. Why is *John* in (1b) bounded? The reason is that it is equivalent to “*the man*”

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<sup>4</sup>Note that the adverbial *after visiting the beach*, signaling non-bounded iterativity together with the zero article in the plural subject, contributes to the imperfectivity of (1c). Cf. an unacceptable sentence without it, *?Holiday makers drank a beer in this pub*. Imperfectivity in (1c) is mainly due to the non-boundedness of *holiday makers*, as seen from the comparison with *John drank a beer in this pub after visiting the beach* – a perfective sentence in which the time adverbial does not impart iterativity. This demonstrates the intricacy of CA as an extremely complex interplay between sentence elements.

named John” – proper names contain a covert definite article. Obviously NP referents are bounded in English and similar languages *fully systematically*, by various entities: determiners, pronouns, demonstratives, possessives, quantifiers, etc. But the key question, precisely how determiners and quantifiers explicate boundedness while their absence explicates non-boundedness, remains unanswered. Do CEGs try to handle this issue? Never. Some explain that demonstratives and possessives encode definiteness, and that numerals encode indefiniteness. But, as stressed by Bulatović (2020), no CEG explains why articles, pronouns, quantifiers, etc. encode boundedness.

Let me resume the analysis of (1). A conflict arises between not only the non-existing descriptions in CEGs but also because of the inadequacy of many theoretical models. When entities like *a beer* and *beer* are compared, the difference is explained in spatial terms: *a beer* is a glass of beer, an object in space with a clear shape; *beer* is a spatial object again, but shapeless. This explanation appears reasonable in commonplace terms. Actually it is *extremely misleading* and stands at the heart of the problem pestering both aspectology and grammar.

Note that, as a major tenet in Verkuyl’s CA theory, not only the object-referent, as in (1a), can unbound the aspectual value. The subject-referent can perform this function too, cf. (1c), (7b). A sentence such as *John drank a beer* is perfective, but the de-quantified subject in (1c) coerces its second part into imperfectivity. *Mutatis mutandis*, this circumstance corroborates the thesis that if *holiday makers* in (1c) is non-bounded and *John* in (1b) is bounded, then *John* in (1a) ought to be *not* bounded, contrary to what it appears at first sight, bounded. Note also that *John* in (1a,b) is superficially the same entity, yet *John* in (1a) is different from *John* in (1b). This is because in (1b) *John* is bounded but, as will soon be shown, *John* in (1a) is actually non-bounded despite its superficial boundedness (covert *the*) – and thus it assumes the same status as *holiday makers* in (1c), non-bounded.

The same reasoning holds for *a beer* in (1c). If *a beer* in (2b) is bounded – a single glass of beer drunk on a single occasion, must *a beer* in (1c) also be treated as bounded? Definitely not. In (1c) *a beer* is *not* a beer on a single occasion: it stands for a non-bounded concatenation of beers drunk *in succession*, not together in one gulp. Analogously, *holiday makers* in (1c) refers *not* to a non-bounded group at the same point in space and time but to a non-bounded temporal series of people entering the pub one after the other, drinking a beer one after the other and leaving. In other words, *a beer* in (1c) is *not* a single beer, despite its grammatical singularity. *A beer* here is *a non-bounded temporal concatenation of beers*, a recurring entity in the minds of speaker and hearer.

### Expression vs Explication of Aspect

English aspect, apart from explicated compositionally, is also represented by the progressive, (2c):

- (2) a. John drank beer  
 b. John drank a beer  
 c. John was drinking a beer

While the “current activity” meaning of the progressive, which is a subtype of imperfectivity, is located in the verb in (2c) and directly expressed by the past progressive, imperfectivity in (2a) is, conversely, *not* expressed (denoted/signified/encoded). It is *explicated/signaled*. In other words, imperfectivity in English can be indirectly effectuated as in (2a), which means compositionally, in a covert manner, and the same is valid for perfectivity in (2b). It follows that the English preterit (indefinite/simple past) has no aspectual meaning of its own; it is “an empty bag” capable of accommodating any aspectual value arising in a sentence/context (Kabakčiev 2017, p. 227). But the most important generalization is that English aspect is realized in two radically different ways: as verbal aspect (VA), see (2c) where aspect is expressed by the verb periphrastically, or as CA (2a,b), where (2a) is an instantiation of imperfectivity and (2b) of perfectivity. In both cases aspect is indirectly effectuated.

The difference between aspect expression and explication is not difficult to explain and, hence, can be included in CEGs.

### What is a Situation?

The term situation is associated with Vendler (1957), but it was Comrie (1976, p. 3) who used it for what a verb plus its arguments can portray; Vendler called his situations “time schemata”. Vendler’s classification is so well-known that its explanation here is unnecessary. It comprises four situations: states, activities, accomplishments, achievements, the first two imperfective, the latter two perfective. It is a classic preceding the discovery of CA and must feature in every CEG.

### What Are Situation Participants?

Contained in (2a,b) above is the verb form *drank* with two situation participants. Situation participants are semantico-syntactic entities represented by NPs whose referents participate in the explication of aspect.<sup>5</sup> If they are in perfective sentences and bounded by an article/determiner, quantifier, etc., their substitution by a bare NP triggers imperfectivity, cf. (3a,b), (3a)-(1c):

- (3) a. John drank a beer in this pub  
 b. John drank a beer in pubs

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<sup>5</sup>The term “situation participants” is employed instead of “verb arguments” for being better suited to aspectological analyses.

Thus for a NP *not* to be a situation participant means that its substitution with a bare NP will *not* cause imperfectivization. In (4b) the adverbial *around corners*, used instead of *around the corner* in (4a), does not trigger imperfectivity, it produces non-grammaticality:

- (4) a. John drank a beer in the pub around the corner  
 b. \*John drank a beer in the pub around corners

But this regularity does not imply that adverbials like *around corners* will always fall outside the perfectivity-imperfectivity domain.<sup>6</sup> While in (4a,b) the NPs *the corner* and *corners* are *not* situation participants, in (5a,b) they *are*:

- (5) a. John drove the car around the corner  
 b. John drove the car around corners

In (5b) the removal of *the* before *corners* imperfectivizes (5a), previously perfective.

Unfortunately, as CA is extremely intricate, there are no hard-and-fast rules to differentiate between NPs that are situation participants and those that are not. Every sentence must be analyzed to establish which NPs are situation participants and which not. But generally NPs as syntactic objects and subjects are situation participants – in most cases. All in all, the notion “situation participant” is not overproblematic and should be included in CEGs – with relevant explanations.

### Verkuyl’s Schemata, Leaks and the “Plus-Principle”

Verkuyl’s aspectual schemata, the perfective and the imperfective one, underlie the mechanism discovered by him (Verkuyl 1972), later called CA by other researchers. If the CA mechanism is not properly exemplified, it can be very difficult to grasp. It is sentence-based, explicated by referents of syntactic objects and subjects *simultaneously*. If for some reason the referent of a subject cannot demonstrate its role in CA explication, a sentence with such a subject is not suitable for explaining CA. Recall (2b). We can substitute *John* with *the neighbor* – (6a), and the perfectivity of (2b) is preserved. But if we substitute *John* with *neighbors*, (6b) appears deviant. Being hard to interpret, it fails to explicate imperfectivity, as would otherwise be expected with a de-quantified subject.

- (6) a. The neighbor drank a beer  
 b. ?(\*)Neighbors drank a beer<sup>7</sup>

<sup>6</sup>Verkuyl (1972, 98f.) calls this domain “upper bound of the aspects”.

<sup>7</sup>Recall (1c), where non-boundedness is explicated through the bare-NP subject *only if* the sentence is appropriately complemented. If it is not, cf. ?*Holiday makers drank a beer in this pub*, such a sentence does not make much sense.

It is usually subjects, not objects, that demonstrate this deviance – hence CA-AAI must be exemplified by sentences that clearly manifest the CA mechanism through their subjects too. Sentences such as those in (7) are exemplary, clearly manifesting AAI. Both subject and object perfectly demonstrate the CA mechanism. De-quantification in either subject or object, called “a Verkuylian leak” (see below), triggers imperfectivity; (7a) represents Verkuyl’s perfective schema, (7b,c,d) the imperfective one.

- (7) a. The tourist visited the castle  
 b. Tourists<sub>LEAK</sub> visited the castle  
 c. The tourist visited castles<sub>LEAK</sub>  
 d. The tourist hated<sub>LEAK</sub> the castle

But apart from de-quantification, there is another element that, inserted into the initially perfective (7a), triggers imperfectivization – (7d). This is a second Verkuylian leak, called (in Kabakčiev 2000, pp. 181–210, 2019, pp. 204–205) “atelic verb meaning”. Compared to the huge majority of verb meanings in English that are telic, atelic ones are relatively fewer. But their numbers are more than sufficient to require inventorization.

The sentences in (7) demonstrate Verkuyl’s two schemata, the impact of an atelic verb and of NP de-quantification, leading to the imperfectivization of a perfective sentence. These two factors are “leaks” (Verkuyl 1993, pp. 232–233). A leak is a key element for understanding how aspect works in English and similar “aspectless” languages and lies at the heart of Verkuyl’s CA model.<sup>8</sup> As for perfective sentences like (7a), they are described by Verkuyl (1993) in his extended CA theory as also obeying the so-called “plus-principle”. Subject and object NP-quantification and verb telicity are “plus-values”. When there are only “plus-values” in a sentence, it conforms to the “plus-principle” and exemplifies Verkuyl’s perfective schema.<sup>9</sup> If a leak or more than one leak occurs (7b,c,d), the sentence is imperfectivized. It is said to have developed a leak/leaks and starts to represent Verkuyl’s imperfective schema. There is yet another potential leak in Verkuyl’s model, discussed below.

Verkuyl’s aspectual schemata, Verkuyl’s “plus-principle” and Verkuyl’s leaks are high intellectual achievements of a scientist who discovered and initially described CA: a more than sufficient reason for them to be incorporated in all CEGs and properly explained.

### **The Temporality of Situation Participants**

This is a fundamental thesis indispensable for the correct conceptualization of CA. Unfortunately, it remains misunderstood to the present day (see publications quoted above, also Kabakčiev 2019). Verkuyl’s and Bulatović’s CA models are

<sup>8</sup>On “Verkuylian leaks”, see Kabakčiev (2019, p. 204); Bulatović (2020, p. 401).

<sup>9</sup>Verkuyl (2022) also uses the terms durative and non-durative for imperfective and perfective.

almost identical with Kabakčiev's, yet there are subtle differences. Verkuyl (2001, pp. 374–387) discusses the idea of the temporality of situation participants and their mapping but does not subscribe to it – his model is based on different tenets (see Verkuyl 2022). Bulatović (2020, p. 390) approves the idea partially but does not see it as necessarily a transfer of temporal values.<sup>10</sup> In her intriguing study of aspect coercion in Greek, Dimitrova (2021) fully subscribes to the idea of the temporality of situation participants (see also Dimitrova and Kabakčiev 2021).<sup>11</sup>

Consider again a problem already discussed. Ever since Verkuyl (1972), it has been maintained that sentences such as (7a) manifest boundedness of the referent of *the castle*, boundedness somehow stemming from the article. Conversely, sentences such as (7b,c) manifest non-boundedness of the referents of *tourists* and *castles*, respectively – non-boundedness again somehow stemming from the absence of a determiner/quantifier. Consider now *John* in (1a,b). As already argued, proper nouns contain a covert definite article, which, just like overt determiners, quantifiers, etc., signals boundedness. But, given that *John* is bounded in (1b), is it bounded or non-bounded in (1a) – where the situation is imperfective (habitual, non-bounded), completely different from the one in (1b)?

In (1a) the non-boundedness of *figs*, *beer* and *poems* is easily perceived as spatial by the native speaker, in this case in English – but also in other languages. Non-bounded entities are those whose beginning and end *in space* are unknown: think of the Chinese Great Wall as composed of stones whose beginning and end are hidden to the observer. But note that *grammar* in (1a) is radically different from *figs* and *beer*. *Grammar* is an abstract object whose beginning and end are unknown *not in space* but *in time*. Ergo, *grammar* is a temporal entity, not a spatial one. In *John wrote poems* the referent of *poems* could be understood as something spatial – as sheets of paper non-bounded in physical terms, in the sense of having no beginning and end in view. But in *John recited poems* the entity *poems* is obviously not spatial. It is clearly temporal, located in time, but again non-bounded. The ensuing generalization, therefore, is that while some situation participants are understood as spatial, others are understood as temporal.

Think now of *holiday makers* in (1c). In commonplace terms, in the mind of the native speaker, this is a spatial entity. But is it really? Does it comprise some static physical entities, people, at a particular point in time, with no beginning and no end – recall the Great Wall, all drinking a beer simultaneously in the same pub? Definitely not. This sentence does not portray a group of people located simultaneously in one place, in the same pub. It depicts an entity comprising people *appearing one after the other, in time*, with no temporal beginning and end, each drinking a separate beer. Thus it turns out that an entity such as *holiday makers*, a physical one in everyday parlance, must, actually, also be considered temporal – located at different points or intervals in time.

<sup>10</sup>Bulatović (2020, p. 390): “the properties of the nominal referents are mapped onto the referent of the verb”.

<sup>11</sup>It must be noted that mapping from NPs onto verbs, in principle, takes place in CA languages (Verkuyl 1972, 1993). In VA languages, conversely, the mapping is in the opposite direction: from verbs onto NPs (Kabakčiev 2000, pp. 158–161). In the English progressive, also an instantiation of VA, mapping again takes place from verbs to NPs (Kabakčiev 2000, pp. 163–180).



Think now along the same lines of *a beer* in (1c). Is this a spatial object drunk simultaneously by the spatial entity *holiday makers*, people located simultaneously in the same pub? No. It may sound strange initially, but *a beer* here is also a moving picture in the minds of speaker and hearer. *A beer* is not “a single glass of beer”, it is a kinetic object, re-occurring in the minds of speaker and hearer. Each beer or, rather, each instantiation of a beer, is acted upon (consumed) by one visitor in the pub. Then another instantiation of a beer occurs and is consumed by another visitor. Then a third, etc. And all this is subsumed under the expression *a beer*. Is *a beer* in (1c) a physical entity then? Not at all. It is a temporal one. But the native speaker’s brain obviously prefers to process *a beer* as a physical entity – “illogically”, using a cognitive technique for saving memory (Kabakčiev 2000, pp. 91–122, 2019). Unfortunately, language researchers and grammarians generally follow suit in this misleading conceptualization of the nature of things and people around as only spatial (physical, material).

Consider furthermore *John* in *John taught lessons*. Picture *John* in a school. If the situation *John taught lessons* is in a school, and this is an imperfective situation, then the entity *lessons* consists of a non-bounded series of lessons – the first given months ago, the second some weeks ago, the third last week, etc. But what about the agent *John*? Is *John* a physical entity with no spatial beginning and end, and with no direct relation to what he is doing in *John taught lessons*? Must we not, rather, picture *John* as a temporal thing, a kinetic object that initially appeared many months ago, gave a lesson and exited the scene, then re-appeared, gave another lesson and exited the scene – and thus a non-bounded number of times? And if it is the second option, the temporal interpretation – and visualization – of *John*, then *John* is definitely a temporal entity, a moving thing as in a film, though standardly it is thought of by both the native speaker and the linguist as physical and somehow stationary, permanent.

What does all this mean? It means that if some language-encoded objects are understood and explained in grammars and other linguistic descriptions as spatial – *a/the fig, figs, a/the book*, etc., others are understood and explained as temporal: *grammar* and *lessons* in (1a), *a/the lesson* in (1b). However, *ultimately*, in sentences where Vendlerian situations are described, *entities understood otherwise as spatial can, and in fact must, be viewed as temporal too*: as kinetic objects in the minds of speaker and hearer. Can this idea be found explained in CEGs? Not at all. But it ought to be explained – when CEGs finally start to explain CA-AAI.<sup>12</sup>

### Temporality of Situation Participants in Other Languages

Another key question arises: must the temporality of situation participants be present and explained *in CEGs only*? If *John taught lessons* is a sentence describing a situation in which *John* is a temporal entity, what about correspondences of such sentences in other languages? Will they not also have to treat *John* as a temporal

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<sup>12</sup>In linguistics there exist parallels (starting with Carlson 1977) to the notion “temporality of situation participants”, where “physical objects” are viewed as objects in time.

entity? The answer is obvious, a positive one. The temporality of situation participants is an important tool for understanding CA in cross-language terms. Compare translation correspondences of *John taught lessons* in some Slavic languages and Greek:

- (8) a. John prepodavashe<sub>IMPFVIMP</sub> urotsi [Bulgarian]  
 John taught lessons  
 b. John je držao<sub>IMPFVPERF</sub> lekcije [Montenegrin/ Serbian]  
 John is held lessons  
 c. John prepodaval<sub>IMPFVPAST</sub> uroki [Russian]  
 John taught lessons  
 d. O Giánnis ékane mathímata [Greek]  
 The Giannis taught<sub>IMP</sub> lessons

There is an essential structural difference between, on the one hand, English as a language with a regular pattern of definite and indefinite article and no aspect in verbs as lexical entries, and the majority of Slavic languages, on the other hand – which have no articles and where the perfective-imperfective contrast resides in verbs as lexical entries.<sup>13</sup> In English the perfective-imperfective contrast is effectuated mainly compositionally: subject and object boundedness, marked by a determiner, quantifier etc. in sentences like (9a) below, is simultaneously mapped onto the referent of the aspectually unmarked verb, rendering it perfective. Conversely, (9b) are imperfective sentences. The non-boundedness of *figs* is mapped onto the aspectually ambivalent verb *ate*, rendering it imperfective:

- (9) a. The kid ate the fig  
 b. The kid ate figs

But note that the iterativity and non-boundedness of the VP *ate figs* (and of *ate*), mapped from the object *figs*, are then mapped further back onto the referent of the subject *the kid*, rendering it non-bounded, indefinitely recurrent: a kid emerging from time to time and eating one fig every time, a kinetic object as if in a video in the minds of speaker and hearer. Along these lines, in the normal, habitual interpretation of (9b), *the kid* is not a physical object located at a single interval in time but a temporal one deployed on separate sections on the time axis in the form of recurring motion images in the minds of speaker and hearer. And these separate sections in time entirely coincide with the recurring images of figs and with the action of eating a single fig every time (Kabakčiev 2000, 2019).

Recall the structural means used in English and similar languages to effectuate the perfectivity and imperfectivity of sentences like (9a,b), respectively. It is the article in the former case (9a), and the zero article in the latter (9b), as also argued by Bulatović (2020, 2022). Of course, there are other means, mentioned earlier, of signaling the boundedness of situation participants: other determiners, personal pronouns, possessives, demonstratives, quantifiers, etc.

<sup>13</sup>Bulgarian is an exception, featuring a definite article but no indefinite; the same in Greek.

So far so good. Now consider again (1c), where *a beer* is quantified, yet its referent defies the description “bounded”. It refers not to a single beer drunk on a single occasion but to a non-bounded temporal concatenation, kinetic images, of beers drunk sequentially. This is an extremely important theoretical aspect. Determiners, pronouns, quantifiers etc. do not always encode or signal “bounded quantity”.

*They do so only in Verkuyl’s perfective schema!*

In Verkuyl’s imperfective schema, non-bare NPs are no longer bounded, a point many researchers (Czardybon and Fleischhauer 2014, Fleischhauer and Czardybon 2016) completely fail to understand (see Kabakčiev 2018). Apart from that, the term “quantity” is, just like “space”, totally inappropriate. The practice of associating determiners and other quantifiers with bounded “quantity” and spatial features in general is a mistake characteristic of the so-called incremental-theme approach (among other approaches) – which is an atemporal one (see Kabakčiev 2018, 2019). As already demonstrated, *a beer* in (1c) is not “a quantity of beer”. It is a non-bounded temporal concatenation of beers: a multiple temporal entity, a kinetic object re-appearing in the minds of speaker and hearer.

This point, described exhaustively in Kabakčiev (2000), is systematically sidestepped by the adherents of the spatial approach (Krifka 1992, Filip 2000, 2017, Padučeva 2004, Czardybon and Fleischhauer 2014, Fleischhauer and Czardybon 2016, Ihsane 2020) – one that leads research endeavors straight into a dead end (Kabakčiev 2018, 2019, pp. 214–218). But, interestingly, it was a follower precisely of the spatial approach who identified its *huge intrinsic problem*. Krifka (1992, p. 44) honestly admitted that if in *X read a book* there is some correspondence between a book and its reading to the end, there is no such correspondence between parts of the person reading and the reading event. The development of the spatial approach can also be regarded as a result of Verkuyl’s decision to give up the temporality of verb arguments he followed in Verkuyl (1972) and replace it with atemporality in Verkuyl (1993).<sup>14</sup> In a strictly temporal approach, the problem, revealed by Krifka, of how to interpret *a beer* in (1c) – as a spatial or a temporal entity, *simply does not exist*. *A beer* is a temporal object, a non-bounded recurring picture of a beer in the minds of speaker and hearer. *A beer* in *John drank a beer*, extracted from (1b), is also a temporal entity. But now it is a bounded one, a single occurrence of *a beer*, with a clear starting-point and a clear end-point, just like the entity “John” here is also a single and bounded occurrence in time of the referent of *John*.

Last detail to take into account: where does the non-bounded recurrence in (1c) stem from? It arises from the non-bounded recurrence of *holiday makers*, which is mapped onto the referent of *drank* and renders it imperfective (iterative,

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<sup>14</sup>See the lengthy discussion in Kabakčiev (2000, 2019). In his latest publication, Verkuyl (2022) goes further, refusing to assign temporality even to verbs. Verbs are “atemporal creatures” that only become tensed (temporalized) at the level of the sentence. In other words, temporality is tightly narrowed down to the notion of a verb being tensed.

non-bounded). And then the already non-bounded recurrence status of *drank* is transferred onto *a beer* (Kabakčiev 2000, pp. 123–152, 2019, pp. 210–214).

The temporality of situation participants is discussed again below, where sentences with three situation participants are dealt with, each capable of changing the aspectual value of the initial sentence. The concept of the temporality of situation participants eliminates all obstacles to the correct explanation of CA and is held here to be *the only possible way* of understanding CA-AAI properly. However, in view of its complexity, exactly how it should be incorporated into CEGs should be decided by their authors, after careful consideration.

### Aspect: A Universal Distinction between Perfectivity and Imperfectivity

Aspect here is understood as either: (i) the direct (overt/outward/surface/superficial) expression (signification/denotation/encoding) of perfectivity and imperfectivity, which takes the form of a lexico-grammatical distinction between temporal boundedness and non-boundedness in verbs, with sub-features such as iterativity, singular occurrence, etc., found prototypically in languages such as the Slavic ones, Greek, Georgian, or; (ii) the signaling/ explication, i.e., indirect (hidden/covert) expression of perfectivity/ imperfectivity, a semantic distinction between temporal boundedness and non-boundedness, again with sub-features such as iterativity, singular occurrence, etc. at the sentence/clause level – prototypically observed in languages such as English, many Germanic and Romance languages, etc. Thus aspect, widely recognized to be a perfectivity/imperfectivity contrast, is taken to exist in all languages – a circumstance confirmed in hundreds of aspectological studies.

Proof, albeit indirect, of the thesis that perfectivity and imperfectivity will be found in every language around the world can be demonstrated easily. Consider everyday singular actions performed by a human being and expressible in any language: *ate an apple, opened the door, read a book, wrote a letter*. In European VA languages such as Russian, Bulgarian or Greek, the perfectivity of these situations is directly encoded in the perfective lexical verb:

- (10) a. Maria prochital<sub>PFVPAST</sub> knigu [Russian]  
 Maria read book  
 ‘Maria read a/the book’ [completely, to the end]
- b. Maria prochet<sub>PFVAOR</sub> knjigata [Bulgarian]  
 Maria read book-the  
 ‘Maria read the book.’ [completely, to the end]
- c. I María diá vase to vivlío [Greek]  
 The Maria read<sub>AOR</sub> the book  
 ‘Maria read the book’ [completely, to the end]

Imperfectivity is also directly expressed – grammatically encoded in the lexical verb:

- (11) a. Maria chitala<sub>PFVPAST</sub> knigu [Russian]  
 Maria read book  
 ‘Maria read [habitually]/used to read/was reading a/the book’
- b. Maria cheteshe<sub>IMPFVIMP</sub> knigata [Bulgarian]  
 Maria read book-the  
 ‘Maria used to read/read habitually/was reading the book’
- c. I María diávaze<sub>IMP</sub> to vivlío [Greek]  
 The Maria was reading the book [or: used to read]  
 ‘Maria used to read/read habitually/was reading the book’

In Bulgarian and Greek the imperfectivity of *cheteshe* ‘read’ (Bulgarian) and *diávaze* ‘read’ (Greek) is somewhat specific in that it is complemented by the imperfect grammeme, which amplifies the imperfectivity of the lexical verb (Dimitrova and Kabakčiev 2021).

This is the way aspect is directly expressed in the verb in the Slavic languages, Greek, etc. It can be hypothesized here that aspect as a cross-language and universal phenomenon would have never been explained – in all probability – without Verkuyl’s discovery of CA. In other words, linguistics owes Verkuyl the discovery that aspect can be effectuated at the level of the whole sentence, not solely by the verb. It would not be just difficult, it would probably be *practically impossible* for a linguist and a native speaker of a Slavic language or Greek to guess, having no knowledge of compositional aspect, that the aspect of a Slavic or Greek verb actually governs the temporal range of the accompanying situation-participant NPs in the sense of Vendlerian situations (state, activity, episode, accomplishment, achievement),<sup>15</sup> of single vs repeated occurrence (which can be bounded or non-bounded), of iterativity (which can also be bounded or non-bounded) and of interpretations of situation-participant NPs in terms of definiteness-indefiniteness, specificity and non-specificity, genericity and non-genericity.

In European languages predominantly featuring CA, not VA, such as English, German, Finnish, aspect is not directly denoted by the verb but is explicated/signaled compositionally – at the level of the sentence/clause, within Verkuyl’s perfective schema, or through the impact of the context (a point not discussed here). Compare how perfectivity is explicated compositionally in English, German and Finnish in sentences such as (12) below. In English and German it is effectuated through AAI (12a,b,c), where neither the English preterit, nor the German present perfect or the preterit play any part in encoding perfectivity – for English see Verkuyl (1972, 1993, 2022); Kabakčiev (2000, 2019); Bulatović (2020, 2022). The English preterit is “an empty bag” capable of accommodating any aspectual meaning arising in a sentence/clause (Kabakčiev 2017); *mutatis mutandis* the same is valid for the German preterit and the present perfect. In Finnish, a language with no VA and no articles, CA is effectuated through the accusative-partitive case interplay, see (12d) where the preterit again plays no aspectual role, cf. (13d) below:

<sup>15</sup>On the “episode”, see below.

- (12) a. Maria read the book  
 b. Maria hat das Buch gelesen [German]  
 ‘Maria read the book/has read the book’ [completely, to the end]  
 c. Maria las das Buch [German]  
 ‘Maria read the book’ [completely, to the end]  
 d. Maria luki kirjan<sub>ACC</sub> [Finnish]  
 Maria read book  
 ‘Maria read a/the book’ [completely, to the end]

Imperfective aspect in the three languages is also explicated compositionally at the sentence level within Verkuyl’s imperfective schema, through AAI in English, cf. (13a,b). In German (13c) and especially Finnish (13d), case comes into play (nominative-accusative vs dative-partitive). For Finnish, see Heinämäki (1984, p. 154), Lindstedt (1985, pp. 56–57).

- (13) a. Maria read books  
 b. Children read books  
 c. Maria las aus dem<sub>DAT</sub>Buch [German]  
 Maria read out-of [from] the book  
 ‘Maria used to read/read habitually the book’  
 d. Maria luki kirja<sub>PART</sub> [Finnish]  
 Maria read book  
 ‘Maria used to read/read habitually/was reading a/the book’

As can be seen in (12d), (13d), the perfective-imperfective contrast in Finnish is explicated in compositional terms within Verkuyl’s schemata. The accusative case explicates temporal boundedness in the referent of the NP, while the partitive explicates temporal non-boundedness. Note, however, that case alternation is only the first step in the aspectual buildup. The temporal boundedness or non-boundedness of the relevant object-NP is then mapped onto the verb, making it explicate boundedness or non-boundedness, and then onto the remaining NP and the sentence. In German the unbounding effect can be accomplished by phrases such as *las aus dem Buch* (lit. ‘read from the book’), sometimes called partitive like *luki kirja<sub>PART</sub>* in Finnish. Note the key circumstance that the preterit in English and Finnish has no impact on the aspectual value generated in the perfective or imperfective sentences.

But imperfectivity in English can also be directly expressed (signified/denoted/encoded) by the verb as a syntactic entity (not a lexical one as in the Slavic languages): with the progressive (*was reading*), see (14a), through imperfective habitual constructions such as *used to* + infinitive and *would* + infinitive, as in (14b,c), or by adverbials of non-bounded repetition (indefinitely iterative) that take the upper hand over the boundedness of NPs in building the aspectual value, cf. (14d):

- (14) a. Maria was reading the book  
 b. Maria used to read the book  
 c. Maria would read the book  
 d. Maria habitually/regularly/often read the book

These examples from several European languages (English, Russian, Bulgarian, Greek, German, Finnish) clearly demonstrate that the perfective-imperfective distinction represents the general category of aspect as a cross-language and universal phenomenon realized in two different ways: directly and solely through the verb as a syntactic or lexical entity; through a complex interplay between different components at the level of the sentence/clause/ context.

There is no doubt that these cross-language and universal aspects of the CA theory are significant but they have never been part of CEGs. They must be included in all CEGs – in an appropriate manner, with appropriate explanations. As already demonstrated, English aspect can hardly be understood without good parallels with other languages. Of key importance is the thesis that aspect is realized in two different structural types, VA and CA – both in individual languages and in cross-language terms.

### Other Issues in the CA Theory

It is normal for a complex and intricate theory such as CA to have various issues surrounding it, including defects, deficiencies, deviations, etc., arising as a result of the different understanding of CA by the different researchers.

#### *On Default Aspectual Values of Sentences*

In his model of CA, Verkuyl ascribes to every sentence an aspectual feature determined by the schema it belongs to – perfective or imperfective, and regards the aspectual feature thus obtained as firmly fixed. For example, he insists that a sentence such as *Judith ate sandwiches*, with a de-quantified object, can never be perfective (Verkuyl 1993, p. 182, 2022, p. 123). If this were true, and given that sentences like (15a,b) with de-quantified objects or subjects belong to Verkuyl's imperfective schema, then sentences like (16a,b) would *also* have to be *always* regarded as imperfective:

- (15) a. John sold beer/flowers  
 b. Generations have changed<sup>16</sup>  
 (16) a. John bought beer/flowers  
 b. Things have changed [Bob Dylan song]

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<sup>16</sup>This sentence may appear ambivalent but it certainly tends towards imperfectivity, as if complemented by *always*.

However, we *simply know* that sentences like (16a,b) are perfective, despite their de-quantified NPs. It is clear that there are thousands of such sentences in English: “exceptions” manifesting aspectual values in violation of Verkuyl’s schemata. As argued in Kabakčiev (2000, pp. 309–326), these supposedly deviant sentences, breaking basic CA rules, manifest an opposite aspectual value because of the so-called “knowledge of the world” factor. The possibility of having perfective readings in sentences with de-quantified situation-participant NPs is also discussed by Bulatović (2022), who argues that sentences such as (17a,b) can be perfective because they contain a “silent” (dropped) *some*:

- (17) a. Passers-by signed the appeal  
 b. Children found a bird

Bulatović offers, however, no proposal for a systematic solution. The most natural one would be, first, the positing of default aspectual readings. Second, it can be assumed that a sentence identified as perfective or imperfective in CA terms can sometimes change its aspectual value due to the factor called “knowledge of the world” – a pragmatic one (not semantic), cf. again (16).

Therefore, the necessity for offering an adequate description of CA in CEGs dictates that an advanced model of CA theory should include a rule that the aspectual values of sentences are initially read through Verkuyl’s two schemata but the aspectual readings thus obtained *must not* be regarded as fixed once and for all. These are *default readings only* (Kabakčiev 2019, pp. 205–206). In the presence of elements in a sentence or context that point to an aspectual reading different from the one obtained through the relevant Verkuylian schema, the sentence receives an opposite aspectual reading. The same happens when “knowledge of the world” interferes with the aspectual reading of a sentence. An aspectual value opposite to the one obtained from the relevant Verkuylian schema must be ascribed to it. These two concepts, viz., that sentences built according to the CA mechanism have default, not firmly fixed aspectual meanings and that there is a pragmatic factor called “knowledge of the world” capable of changing default aspectual meanings, are unproblematic, not so difficult to explain. They must hence be used in all CEGs.

### *Negativity and Imperfectivization*

Verkuyl (1972, 1993, 2022) has always, surprisingly, maintained that negative verb arguments (situation participants) and negative verb forms imperfectivize previously perfective sentences. For example, his sentence (18b) with three situation participants is interpreted by him as having developed a leak vis-à-vis the perfective (18a). The leak consist in the negativity of *nobody*, sentence (18b) is hence imperfective and belongs to the imperfective schema (Verkuyl 1993, p. 18). The same with the negative form of the verb in (18d) that imperfectivizes the corresponding positive sentence *Mary has written the letter* (Verkuyl 2022, p. 90):



- (18) a. Den Uyl gave a badge to a congress-goer  
 b. Nobody<sub>LEAK</sub> gave a badge to a congress-goer  
 c. Den Uyl gave the Labor Party badge to congress-goers<sub>LEAK</sub>  
 d. Mary hasn't written the letter

This means that the leak in (18c), due to a de-quantified indirect object, is of the same kind as a leak triggered by negativity. In other words, all sentences with negative situation-participant NPs or with negated verb forms are always imperfective – simply because of the negativity. Such a claim completely ignores the fact that verbs in such sentences in aspect languages (Slavic, Greek) are *invariably perfective*, despite the presence of a negative NP or a negative verb. Compare (18b) with *nobody* as subject and the equivalents in six languages – five Slavic plus Greek. They invariably contain perfective verb forms:<sup>17</sup>

- (19) a. Nikto ne vydal<sub>PFVPAST</sub> značok odnomu  
 posetitelju kongresa [Russian]  
 Nobody not gave badge to-one  
 congress-goer  
 b. Nikdo neposkytl<sub>PFVPAST</sub> označeni ná  
 vštěvníku sjezdu [Czech]  
 Nobody not-gave badge to  
 congress-goer  
 c. Niko nije da<sub>OPFVPAST</sub> bedz polazniku  
 konferencije [Montenegrin/Serbian]  
 Nobody is-not given badge congress-goer-to  
 d. Nikoj ne dade<sub>PFVAOR</sub> značka na edin  
 posetititel na kongresa [Bulgarian]  
 Nobody not gave badge to one  
 congress-goer  
 e. Kaneís den édos<sub>PFVAOR</sub> éna síma se éna synédrio [Greek]  
 Nobody not gave one badge to one congress-goer

Arguing that English sentences such as (18b) are imperfective due to the negated subject amounts to an assumption that natural language conforms to the laws of some formal logic that interprets referents of negative NPs as “leaks” – instead of obeying its own laws, of the natural development of language, throughout which it was under the control of the collective human brain for millennia.

This issue could be considered in need of further research. But the idea that negation simply, as it were, erases the relevant NP referent appears wrong (see Kabakčiev 2000, pp. 263–278) – because it is categorically refuted by cross-language data. Therefore, the conjecture that negative NPs representing situation participants and negative verb forms imperfectivize previously perfective

<sup>17</sup>The translations in (19) with perfective verbs are the natural ones. Imperfective verbs are not impossible but they trigger specific and unnatural renditions of (18b).

sentences *should not* be incorporated into CEGs – unless additional research happens to prove otherwise.

#### *How do Adverbials Impact Aspectual Readings?*

This is an easy question but its answer is difficult. Generally, temporal adverbials ought to be the first to have an impact on aspect. It would be banal to explain that *in*-time adverbials are associated with perfective VPs/sentences, as in (20a,b), or force perfective interpretations onto sentences that are aspectually somewhat ambiguous, as in (21a,b):

- (20) a. John arrived  
b. John arrived in five minutes
- (21) a. John climbed the hill  
b. John climbed the hill in an hour

Conversely, *for*-time adverbials combine with both imperfective sentences such as (22a) and perfective sentences such as (23a), forcing a specific temporal meaning onto both types. Imperfective sentences become quasi-perfective, cf. (22a), in which *taught grammar* is non-bounded, and (22b), in which the Vendlerian situation is bounded but not truly perfective. Conversely, in (23a) the situation is bounded and perfective, while in (23b) it is again bounded but no longer perfective. It is now quasi-perfective:

- (22) a. John taught grammar  
b. John taught grammar for twenty years
- (23) a. Maria read the text  
b. Maria read the text for an hour

The specific aspectual reading in (22b) and (23b) arising as a result of the impact of the *for*-time adverbial is an episode (see Kabakčiev 2000, pp. 279–308). It is a temporally bounded situation but without the pragmatic result present in the two perfective Vendlerian situations, accomplishments and achievements. As for place and instrumental adverbials in general (see below on place adverbials), many of these take part in CA explication (Kabakčiev 2000, pp. 241–262). However, an exhaustive description of their aspectual role would require not simply a separate paper but a whole monograph.

It is clear from this brief description of adverbials vis-à-vis the CA theory that they are extremely important for the correct conceptualization of CA-AAI, hence any reliable CEG would have to provide an appropriate and detailed description of them.

#### *Sentences with Three Situation Participants*

As already argued, the proper explanation of CA requires suitable sentences. Consider (24) – constructed sentences, each with three situation participants. They

are rare, hard to find or invent. The first one is perfective (24a), the rest imperfective, belonging to Verkuyl's imperfective schema, having developed a Verkuylian leak through a zero article:

- (24) a. The valet parked our car in the nearby garage  
 b. The valet parked cars<sub>LEAK</sub> in the nearby garage  
 c. The valet parked our car in nearby garages<sub>LEAK</sub>  
 d. Valets<sub>LEAK</sub> parked our car in the nearby garage  
 e. The valet often parked our car in the nearby garage

The perfective (24a) contains three quantified/bounded situation-participant NPs. Each of these can develop a Verkuylian leak for the resulting sentence to become imperfective. Sentence (24b) has a leak in the direct object. The NP *cars* is de-quantified by the zero article and the sentence is imperfectivized. Now it describes a repeated activity performed by the agent in the past. The referent of the subject is, hence, an indefinitely recurring entity that can be identical in everyday terms (the same person) or not.<sup>18</sup>

Sentence (24c) has a leak in the place adverbial. While (24a) describes a perfective past situation, an accomplishment, (24c) describes the event as repeated a non-bounded number of times – the accomplishment *parked our car* is indefinitely iterativized. The situation turns into a habitual one, a Vendlerian state consisting of recurring accomplishments. As in the previous case, the referent of the subject is a recurring kinetic entity that in everyday terms can be identical (the same person) or not.

Sentence (24d) has a leak in the subject. While the VP *parked our car in the nearby garage* refers to a bounded, perfective (accomplishment) situation when used independently, in (24d) it does not. Here the action performed is by a recurring non-bounded agent whose plurality and non-boundedness are, of course, temporal (not spatial, recall the stones in the Great Wall). The non-bounded recurrence of *valets* is transferred onto the VP *parked our car in the nearby garage* (which is perfective in isolation), whereby the VP loses its perfectivity and becomes imperfective. The referent of the verb *parked* (initially a Vendlerian accomplishment) is multiplied an indefinite number of times and is now read as a non-bounded recurring event. As a following step, the referent of the NP *the nearby garage* loses its initial singularity and boundedness – single occurrence in (24a), and is, in turn, also read as a recurring kinetic object. *In the nearby garage* now means “every time in the same nearby garage”. Note that if (24d) is changed into *Valets<sub>LEAK</sub> parked our car in a nearby garage* (using *a* instead of *the*), the reading “in the same garage every time” cannot be maintained any longer and a possibility arises for the referent of *a garage* to be not a single garage, the same garage, but a new garage every time.

It is worth asking whether plurality and non-boundedness in (24d) could not, perhaps, be interpreted in non-temporal terms too. The answer is no. Because a car is normally parked on a single occasion by a single person, not by a group of

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<sup>18</sup>Indefinitely recurring means not “for ever” but within an unknown, non-bounded period.

drivers. And if the agent is a plural entity, the plurality can only be interpreted temporally, as a non-bounded series of occurrences of a valet parking every time the car in the garage. Hence *valets* necessarily refers to different persons on different occasions, not to a single group of valets on a single occasion.

Note that earlier, in (24c), what stands for *the valet* is not necessarily a single entity. *The valet* could be the same person, but it could also be a different one every time. Analogously, *our car* could be “the same car”, but it could also be a different car every time. This interpretation is, of course, not available in the default reading of (24a), where a single event is referred to, hence the valet, the car and the garage are unique entities. But again even here, if a non-bounded, indefinite iterative reading is forced onto a sentence such as (24a), e.g., by adding the adverbial *often*, cf. (24e), the entities *the valet*, *our car* and *the nearby garage* acquire the possibility for a reading in which these are physically different entities, despite the singularity of the relevant NPs (*the valet*, *our car*, *the nearby garage*). According to the concept proposed above about the need to distinguish default and non-default readings of sentences within Verkuyl’s aspectual schemata, a sentence such as (24a), which is perfective by default, can actually also be read as imperfective if there are indications that the context it is used in contains an adverb of indefinite repetition such as *often*, *regularly*, etc. In such a case, i.e., in a non-default reading of (24a), imperfective, the three situation participants *the valet*, *our car* and *the nearby garage* may again lose their physical identity (sameness), becoming indefinitely recurring temporal entities with a possibility for representing different physical identities. Thus the need to posit two different meanings for every sentence in Verkuyl’s schemata, a default and a non-default one, is now re-confirmed, and this also demonstrates the huge complexity and intricacy of CA-AAI.

The analysis of the possibilities for various physical (same or different identity) and temporal configurations (the manner in which the entity is deployed on the time axis) featured by the referents of the NPs in (24) can continue until all the possibilities are exhausted. What is striking is that, first, each of the five sentences provides several opportunities for physical and temporal interpretations of the separate NP referents, their combinations and the combinations of the separate NP referents with the verb referent. Second, there is no doubt that the human brain calculates within fractions of a second all these numerous possibilities and takes the right decision exactly which possibility is at play – meanwhile also taking into account the impact of the context in which the relevant sentence is located.

The analysis in this subsection confirms the thesis that CA is an immensely intricate phenomenon that would be extremely difficult to understand without the employment of an approach well thought-out in advance. It also demonstrates that the concept of the temporality of situation participants – viewed as bounded/non-bounded not in spatial terms but on the time axis, is the appropriate one for understanding their “quantitative status” and that any atemporal approach invariably leads into a dead end. As for whether analyses of sentences with three situation participants each capable of interfering with the aspectual meaning ought to be included in presentations of CA in CEGs, the answer is positive. Sentences of this type demonstrate both the CA mechanism and AAI *in the most suitable*

*manner*. Not only that, they offer a brilliant way of making sense of the temporality of situation participants vis-à-vis their physical status of being either singular and identical (the same physical object, the same person) or different (*not* the same physical object, *not* the same person). To sum up, *the temporality of situation participants is an indispensable tool for the conceptualization of CA*.

## Conclusion

CA&AAI are hugely important cross-language and universal phenomena that represent a major cognitive function, a product of the human brain, consisting in marking nominal entities as temporally bounded in languages like English – mainly through the use of an article (definite/indefinite), or as temporally non-bounded, respectively – by using a zero article. It is actually a product not exactly of the human brain (individual) but of something rather more complex – the collective human brain that governs the development of natural language. This marking of nominal entities as temporally bounded or non-bounded is effectuated within Verkuyl's relevant schema – perfective or imperfective, and can only be understood through the two schemata, on the basis of an appropriate conceptualization of CA. As for CEGs, textbooks and other teaching materials, it is high time for CA-AAI to enter their contents – for readers and learners with relevant language acquisition levels and appropriate knowledge.

Why have CA-AAI been so grossly sidestepped in applied linguistics? Among the main reasons is the circumstance that they remain not simply hidden but deeply hidden, as shown above, for the ordinary speaker of a language, who sticks to the conceptualization of most nominal referents as spatial (physical/material) entities. An appropriate analysis, such as the one here, reveals that all nominal referents within clauses, sentences and larger contexts are processed by the human brain as temporal entities. Indeed, linguists and neurolinguists may not yet know what *exactly* goes on in people's heads when they use language. But they do have certain analytical devices at their disposal and their employment points to the human brain as a tool for processing reality as in a film, with the players in motion, not as in separate frozen photographic shots.

It is common knowledge, worth recalling here, that there is an enormous difference between language ability and knowledge of language. It is one thing to use language perfectly and quite another to know facts, rules and regularities of grammar. Few native speakers have good knowledge of grammar. The majority have either scanty knowledge or none at all. Many people do not have the slightest idea what grammar is. But they speak their native languages *perfectly*, obeying thousands of complex and extremely complex grammatical and other rules – some of which are unknown even to the linguist. It is, however, an unavoidable obligation of linguists to analyze and reveal these regularities, especially major ones like CA-AAI. In this case applied linguists are expected to learn them first and then include them, as soon as practically possible, in CEGs, language textbooks and other ELT materials.

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