Time Adverbials and Aspect Marking: a Long-Neglected Problem Revisited

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A starting point for the thesis in this paper is the reason behind the impossibility to construct certain sentences in Bulgarian. Bulgarian is chosen not only as the native language of the author, but also as a language highly illustrative of certain relationships between referents of verbs and nouns in the sentence. Some of these relationships can be analysed in cross-language terms, but while they are, unfortunately, covert in many languages, in others, in this case Bulgarian, regularities conveniently manifest themselves as ungrammaticalities. Thus if (1a) is a normal sentence, (1b) is not just ungrammatical, it is entirely ungrammatical, i.e., impossible:

(1) a. Izigrah edin gejm tenis
   Played-\text{pf}Aor one game tennis
   'I played a game of tennis'

b. "Izigrah tenis
   Played-\text{pf}Aor tennis
   'I played tennis'

Similarly, if (2a) is acceptable, (2b) is unacceptable, or even ungrammatical:

(2) a. Demokratite os\u015dkha komunističeskie prestuplenija
   Democrats-the condemned\text{pf}Aor communist-the crimes
   'The democrats condemned the communist crimes'

b. (?!)Demokratite os\u015dkha komunističeski prestuplenija
   Democrats-the condemned\text{pf}Aor communist crimes
   'The democrats condemned communist crimes'

The ungrammaticality of sentences like (1b), in contrast to (1a), is due to the fact that while a game of tennis is a temporal object with a bounded interval tennis is an object with a nonbounded interval. Since izigrah 'played' is a temporal object with a bounded interval (by virtue of its being a perfective aorist), it resists combining with the nonbounded object tennis. Similar is the relationship between the referents of the verb and the object in (2a) and (2b). However, the analysis of sentences of type (1) and (2) is, generally speaking, very difficult (cf. Kabakčiev 1989; Stankov 1993/1994), and native speakers' opinions vary widely with respect to them. Many factors — grammatical (aspect, Aktionsart, nominal determination), semantic (lexical, within the sentence) and pragmatic (context of sentence, the setting of the event) come into play to decide the grammaticality/ungrammaticality or acceptability/unacceptability of sentences of this kind. Thus sentence (2b) with a nonbounded object and a perfective verb in the aorist is unacceptable rather than ungrammatical — it could be used in some special contexts or in newspaper titles. Unacceptability or ungrammaticality
of sentences of this kind, though rare in a language like English, is present in many languages that feature simultaneously articles and a tense-aspect system similar to the one found in Bulgarian, Greek or the Romance languages.

Ungrammaticalities in a language like English similar to the ones described above, although they seem to be less frequent, have not escaped the attention of linguists: sentence (3a) was constructed and analysed by Ridjanovic (1976); many sentences of type (3b), ungrammatical in at least their non-iterative reading, were constructed and analysed extensively by Verkuyl (1972):

(3) a. *He drank up milk for breakfast
    b. *Greetje walked from the Mint to the Dam for hours!

They amount to a similar incompatibility between bounded and nonbounded objects/intervals of objects. However, since English lacks grammatical markers of perfectivity in the verb (up, as in drink up the milk, is only a peripheral lexical device), it is obvious that at least some of the regularities discussed here could be revealed through the incorporation of adverbials explicating boundedness into simple sentences explicating nonboundedness, and vice versa.

An observation that in-time adverbials in English are used in association with perfective expressions, to the exclusion of imperfective ones (to be henceforward called the in-time rule), and that for-time adverbials are used in association with imperfective expressions, to the exclusion of perfective ones (to be henceforward called the for-time rule), was made more than two decades ago by Mittwoch (1971), on the basis of the grammatical sentences (4) and (5) and the ungrammatical (6) and (7):

(4) a. He drank a bottle of beer/the bottle of beer/the beer in two hours
    b. He ate an apple/two apples/the apple/a piece of cheese in thirty seconds

(5) a. He drank (beer) for two hours
    b. He ate apples/cheese for thirty seconds

(6) a. *He drank (beer) in two hours
    b. *He drank a bottle of beer/the bottle of beer/the beer for two hours

(7) a. *He ate (apples/cheese) in thirty seconds
    b. *He ate an apple/two apples/the apple/a piece of cheese for thirty seconds

‘Perfective’ and ‘imperfective’ here stand for ‘bounded’ and ‘nonbounded’ — which are but other terms for the same notions. The inconsistency in the use of these terms in the literature need not concern us in this short article and the essence of perfectivity and imperfectivity is to be made clear henceforward. Probably Vendler’s (1957) popular notions state, activity, accomplishment and achievement, the first two being perfective/bounded and the second two being imperfective/nonbounded, will be more familiar to those who are not well versed in the literature on aspectology. Compare, furthermore, sentences (8) and (9) patterned to the in-time rule and the for-time rule, respectively:

(8) a. She played/sang/swam/knitted/laughed/painted/walked for half an hour
    b. She played tennis/played the guitar/sang songs/swam the crawl/knitted sweaters/painted pictures for half an hour
    c. She played a game of tennis/played a sonata/sang a song/swam to the
other bank/knitted three sweaters/painted the pictures in half an hour

(9) a. *She played/sang/swam/knitted/laughed/painted/walked in half an hour
   b. *She played tennis/played the guitar/sang songs/swam the crawl/knitted
      sweaters/painted pictures in half an hour
   c. (*?) She played a game of tennis/played the sonata/sang a song/swam to
      the other bank/knitted three sweaters/painted the wall for half an hour

While there seems to be a consensus that sentences of type (9a) and (9b) are ungrammatical and unacceptable, not all sentences of type (9c) are ungrammatical to the native speaker, if they are ungrammatical at all – the judgement being similar to the way Bulgarians interpret sentences of type (2b).

Clearly, the association between in-time adverbial and perfectivity and for-time adverbial and imperfectivity would not always be so straightforward as is in the original sentences in question, i.e., in (4), (5), (6) and (7), or in the supporting ones in (8) and (9). Language provides opportunities to express hosts of various states, activities or events and any attempt at a rigid description of the applicability of the two rules in question is to face problems. Thus if sentences (10a) and (10b) conform to the in-time rule, the sentences in (11) and (12) do not, since they contain an in-time phrase and are associated with expressions (fly/swim and will be flying/swimming) that are imperfective, some of them at least at first sight.

(10) a. Maria will fly to Thessaloniki in an hour
   b. Maria will swim to the other bank in an hour

(11) a. Maria will fly in an hour
   b. In an hour, Maria will be flying to Thessaloniki

(12) a. Maria will swim in an hour
   b. In an hour, Maria will be swimming to the other bank

The difference between (10), on the one hand, and (11) and (12), on the other, is in the difference of time scope of the in-time phrase. It falls entirely (and necessarily) within the referent of the bounded expression in (10), while in (11) and (12) it is either outside the time scope of the referent, immediately preceding it (11a), (12a), or within it – representing a point within an interval, as in (11b), (12b). In other words, in (11a), Maria’s flight or flying covers a period succeeding a whole hour of non-flying, whereas in (11b) there is a point of relevance referred to which is within the flying interval. As far as the aspect of the verb phrase is concerned, it is undoubtedly imperfective (being even marked grammatically) in (11b) and (12b), whereas in (11a) and (12a) it depends on the general intent of the speaker and will be revealed in context – primarily as perfective, designating the beginning of the flight/flying, or (perhaps more rarely) as imperfective, designating the essence of the action to take place.

However, although the sentences in (13) below ought to refer to perfective actions, since to-place phrases imply telicity (cf. Quirk et al 1985: 677), their meaning is not actually incompatible with the meaning of (11a) and (12a). The in-time phrase does neither ban, nor preclude imperfectivity, as is the case with sentences (6a), (7a), (9a) (9b), and, furthermore, the perfective and the imperfective readings are equally legitimate:
(13) a. Maria will fly to Thessaloniki
b. Maria will swim to the other bank.

Again, the beginning of the flight may be designated in a perfective reading, as in (11a) and (12a), or the essence of the action about to take place in an imperfective one. It is to be noted, however, that the in-time phrase is essential to the explication of perfectivity (when it is there) in (11a) and (12a), because if the adverbial is omitted the resulting sentences become less susceptible to a perfective interpretation, cf. (14):

(11) a. Maria will fly in an hour
(12) a. Maria will swim in an hour
(14) a. Maria will fly
b. Maria will swim

The fact that the to-place adverbial, as in (13), does not necessarily impart perfectivity to the basic (and primarily imperfective) sentences of type (14), is somewhat strange, in view of the transformation of imperfective sentences of type (15) into perfective (16) through a to-place adverbial – the two sentences in (16) are much more likely than those in (13) to be conceived of as perfective and non-inchoative, i.e., as wholes with a beginning and an end:

(15) a. Maria flew
b. Maria swam
(16) a. Maria flew to Thessaloniki
b. Maria swam to the other bank

The aspectual ambiguity of (13), in contrast to (16), is apparently due to the semantics and pragmatics of tense – which falls beyond the scope of this paper. It is usually assumed, however, that tense should, ideally, be excluded from the aspect analysis, and thus fly to Thessaloniki and swim to the other bank are viewed as perfective in isolation. The action can be imperfectivized by the preposition towards, as in (17):

(17) a. Maria flew towards Thessaloniki
b. Maria swam towards the other bank

The incorporation of the in-time phrase into the past tense sentences (16), resulting in (18a), (18b), does two things: it precludes the inchoative (perfective) reading (or at least makes it highly improbable), but at the same time, more importantly, perfectivizes the resulting sentence to a degree where it can be read imperfectively only as a nonbounded iterative – for which a strong iterativizing unbounding context would be required, as in (18c):

(18) a. Maria flew to Thessaloniki in an hour
b. Maria swam to the other bank in an hour
c. Maria swam to the other bank in an hour whenever she was in good shape

To sum up, the analysis of in-time adverbials complemented to various expressions explicating perfectivity or imperfectivity shows that the in-time rule is valid only in general terms. But if in-time adverbials do not always ban imperfectivity to make the sentence ungrammatical and do not always impose a perfective interpretation to the sentence, they
certainly tend to impart perfectivity to it – which may then be overridden by the semantics or pragmatics of the whole sentence.

There are other important exceptions to the rule of perfective \textit{in}-time and imperfective \textit{for}-time association that anyone dealing with English aspect, lexical semantics (semantics and use of prepositions) or translation into Slavonic languages will be aware of. The most obvious one is with verbs and verb phrases whose meaning permits or even presupposes time scope of the adverbial outside the scope of the action, as in (19):

(19) a. The patient left the hospital for an hour
    b. The patient returned home for an hour

In this case the \textit{for}-time adverbial combines freely with a phrase (\textit{left the hospital, returned home}) that is undoubtedly perfective – as shown in the sentences in (20) in which \textit{in}-time association is also allowed. It is also interesting to note that after a \textit{for-in} shift if \textit{returned home} is ambiguous between the achievement and the accomplishment meaning, \textit{left}, at least in \textit{left the hospital}, is not, reading only as an achievement:

(20) a. The patient returned home in an hour
    b. The patient left the hospital in an hour

The second, less obvious, exception, is when a bounded expression which easily combines with an \textit{in}-time phrase (21a) is made indefinitely iterative (22a) – this case was peripherally dealt with in (18c) above. If the \textit{in}-time adverbial in (21a) is the expected one, the \textit{for}-time adverbial in (21b) yields an unacceptable sentence in the achievement reading of \textit{recovered from the effect of the drug/restored his pulse}. In the accomplishment sense, however, though less typical, the sentence is normal. The action (read as an accomplishment or an achievement) can be transformed into an indefinite iterative, as shown by the expansion of (21b) into (22b):

(21) a. The patient recovered from the effect of the drug/restored his pulse in half an hour
    b. (?) The patient recovered from the effect of the drug/restored his pulse for half an hour

(22) a. Whenever given an overdose, the patient recovered from the effect of the drug/restored his pulse in half an hour
    b. Whenever given an overdose, the patient recovered from the effect of the drug/restored his pulse for half an hour

It is to be noted that the bounded-nonbounded/nonbounded-bounded shift potential (called nested aspects) was described for the first time and elegantly dealt with on Bulgarian data and in cross-language terms by Jouko Lindstedt in his monograph on Bulgarian tense and aspect (Lindstedt 1985). The shift can be carried out as a single or a recursive operation.

To sum up, though it may seem that the characteristics of the \textit{for}-time phrase are clear-cut and that the \textit{for}-time rule is imposed in English as rigidly as the \textit{in}-time rule, there are cases in which the \textit{for}-time rule fails to take effect – due to the semantics of the verb as a lexical entry or to the function of the \textit{for}-time phrase to "expand" achievements into (a sort of) accomplishments.
What seems rather strange, at least at first sight, is that a basic rule for an adequate grammatical description of a language, in this case the most deeply and widely investigated one, should remain neglected in grammars. Even the most detailed grammar of English available today (Quirk et al 1985) lists just a handful of examples of the basic uses of for-time and in-time adverbials without establishing any special relationship between them. On the other hand, although the concept of completed action, as well as Vendler's notions of state, activity, accomplishment and achievement are occasionally made use of in it, in connection with nonprogressive tense forms, lexical semantics, adverbials like up (as in drink/eat up), a coherent explanation of the aspect mechanism is absent.

Since in English and in other related languages there are many sentences of type (4) and (5), it is obvious that they can be classified into certain semantico-syntactic schemata. It was Verkuyl (1972) who managed to build up such schemata and incorporate them into an all-round theory of compositional aspect. Now it is perfectly clear why this theory, possessing an enormous explanatory power, remained grossly misunderstood for a long time (see Kabakčiev 1984a). It was not so much the fact that Verkuyl did not take into account the implications of Slavonic data. It was the dogma, shared by most, if probably not all, linguists at that time, that aspect in a language like English is something entirely different from the Slavonic phenomenon that could not be overcome.

Aspect in English, and in many other languages, is explicated primarily at the level of the sentence. The major rule has already been given here: sentences like (23), in which the object is bounded, explicate perfectivity, whereas sentences like (24) in which the object is nonbounded explicate imperfectivity (cf. Vendler 1957; Mittwoch 1971; Verkuyl 1972, Ridjanović 1976). These are very simple sentences and the schemata are, of course, rather more complex (they also include requirements with respect to verbs as lexical entries) but they are without any doubt applicable to an immense number of sentences.

(23) a. He drank a bottle of beer/the bottle of beer/the beer
   b. He ate an apple/two apples/the apple/a piece of cheese

(24) a. He drank beer
   b. He ate apples/cheese

Among the aspectologists who dealt with these problems at the time, Verkuyl was the first to include the quantitative specification of the subject (not only of the object) into the bounded-nonbounded (perfective-imperfective) relationship. This enabled him to build the theory of compositional aspect. Compare the perfective (25a), which features a bounded subject, with the imperfective (25b), which features a nonbounded subject:

(25) a. The/some/five tourists climbed the peak
   b. Tourists climbed the peak

Compare, furthermore, the grammaticality of the perfective (26a), i.e., (25a) complemented by an in-time phrase, and the grammaticality of the imperfective (26b), i.e., (25b) complemented by a for-time phrase, with (26c), which, if not exactly ungrammatical, sounds strange:

(26) a. The/some/five tourists climbed the peak in a week
   b. Tourists climbed the peak for a week
   c. ? Tourists climbed the peak in a week
Although, as already mentioned, native speakers' opinions seem to vary with respect to the degree of acceptability or unacceptability of sentences like (26c), it can certainly be assumed that nonboundedness of the subject is not the best match for an in-time adverbal. Conversely, sentence (27a) with a bounded subject seems to permit a for-time phrase but the meaning is transformed from a true perfective to one that is equivalent to the Bulgarian imperfective aorist (27b), i.e., an action which terminated before achieving its inherent result:

(27) a. The/some/five tourists climbed the peak for a week
    [but they either did not reach it or reached it repeatedly in an attempt at
    something else which was not achieved]

   b. Turistite/njakolko turist/i/pet turist/i izkači vaha v arta prodažlenie na edna
    sedmica
    [no te ili ne go dostignaha, ili go dostigaha mnogokratno v opit da
    postignat drugo, koeto ne beše postignato]

For detail concerning the aorist/imperfect opposition, see Kabakčiev (1984b).

There are two crucial points for the proper understanding of aspect. The first is that boundedness of the subject or object should be viewed not in abstract quantitative but in temporal terms. The second is that the explication of the aspect of a sentence is a result of an interplay between mainly verbal and nominal components in the sentence through the mechanism of (so-called) mapping the temporal parameters of the components. To clarify these two points, two examples already given in the literature will be repeated here – accompanied by diagrams and a short explanation.

Just as edin gejm tenis 'a game of tennis' in the Bulgarian example (1a) was (naturally) referred to as a bounded interval (in contrast to tenis 'tennis'), so can the subject and the object in perfective sentences of type (28a) – although they are "physical entities":

(28) a. The boy threw a stone

   b. The boy threw stones

Viewing physical entities like the subjects and the objects in (28) as time slices is not in itself a novel approach (cf. Quine 1960; Carlson 1980). However, as is clear from the diagram below, the boy and a stone in (28a) are to be conceived of not only as time slices, but also as bounded ones, in contrast to, for example, stones in (28b) which constitutes an indefinite series of stone-throwings, i.e., not only an indefinite number of (physical) stones, but also an indefinite sequence of temporal stretches as perceived by the speaker and/or hearer. The (referents of the) subject and the object the boy and a stone in (28a) map their boundedness and their temporal singularity onto the aspectually unmarked verb, making it and the whole sentence explicate perfectivity. Conversely, the (referent of the) object stones in (28b) maps its indefinite iterativity onto the subject the boy making it an indefinite sequence of occurrences of the (otherwise) physical singular entity the boy:
For further detail concerning the mechanism of mapping, see Kabakčiev (1984b; 1993a; 1993b).

It can be argued that no adequate description of aspect in English, or in any language for that matter, can be made without taking into account the temporal features of referents of both verbs and nouns and the language-specific characteristics of the mapping mechanism (for detail, see Kabakčiev 1984b; 1993a; 1993b). Apart from the semantics of lexical and grammatical entities, pragmatic factors also bear on the ultimate aspectual interpretation of a sentence (Kabakčiev 1993c). Aspect is a universal phenomenon explicated either compositionally or directly marked through the verb, and English, Russian, Bulgarian or Greek are some of the languages that provide ample illustrations of this cross-linguistic regularity (Kabakčiev 1984a; 1984b). But even in a language where aspect is explicated compositionally, many verbs and verb phrases viewed in isolation have their own prototypical aspectual characteristics – it was as early as the fifties of this century that this was shown in a remarkable fashion by Vendler (1957) and some other scholars belonging to the same philosophical trend. It is logical that if verbs and verb phrases have their aspectual values, many meaningful sentences in English, and probably in most languages, will display definite prototypical aspect values explicated through an interplay between the temporal features of the (referents of the) components of the sentence.

It seems, however, that the present approach, developed on the basis of theses and theories dating as far back as the fifties of this century, is not in fashion even nowadays: a different understanding of aspect still dominates many studies on aspect taking English or similar allegedly aspectless languages as a starting point. Based on the specificity of a particular tense-aspect system – e.g. the English one in which the progressive-perfect similarity of form lures linguists into easy conclusions about the aspectual nature of the perfect – the prevailing approach usually focuses on the verb and totally disregards relationships between referents of verbs and nouns in the sentence. It neglects typological data (Dahl 1985), treating “true” aspect as an exotic phenomenon inherent to some languages (e.g. Slavonic, Finno-Ugrian, Balkan) and nonexistent in others – or observable only in broad semantic terms. It takes no account of certain generalisations concerning the distribution of aspect markers and their functions (Kabakčiev 1984b) and is thus incapable of defining the place of a particular language-specific aspectual entity and its major
parameters (cf. the treatment of the progressive in Kabakčiev 1984b) within the general language phenomenon of aspect.

**Conclusion**

The *in-time*/for-time* rule, originally posited by Mittwoch, is valid in general terms, though it is not a universal rule for English. Whatever the aspectual characteristics of the sentence or phrase they are complemented to, time adverbials strongly influence aspectual interpretation. Furthermore, they can serve as an important tool in linguistic analysis to assign aspectual values to verbs, verb phrases and sentences. It seems fully justified to maintain that any description of the grammar and semantics of English which takes no proper account of the behaviour of time (including *in-time* and *for-time*) adverbials is doomed to be inadequate. Finally, the failure to formulate properly the general *in-time*/for-time* rule, along with its specific subrules and exceptions, manifested in different linguistic analyses and grammars is apparently due to the lack of understanding of the global aspect mechanism to which the rule in question ultimately belongs.

**Notes**

1 As Verkuyl notes, observations concerning similar sentences can be dated back at least as early as the beginning of the century (Leskien 1919).

2 The dogma was most strongly worded by Zandvoort (1962).

3 It only stands to reason, since most objects can easily be transformed into subjects through passivation.


5 Cf. Danchev (1976) who maintains that the adverbial is the most powerful aspectual marker.

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