

On the Turkish transnumeral as an aspect effectuation device

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Abstract. This paper deals with the phenomenon of the Turkish transnumeral and its interplay with aspect. The transnumeral is a nominal/noun-phrase form interpreted as either singular or plural – i.e., numerically ambivalent and thus different from the standard singular-plural numerical form. Despite the high prevalence of transnumerality in Turkish, its grammatical and semantic description in the literature lags behind the need for a more thorough explanation. The transnumeral form is regarded, on the one hand, as an element which, in its interaction with noun phrases and other sentence components, tends to explicate a certain value in terms of the compositional aspect theory and, on the other hand, as a phenomenon in need of an analysis not paradigmatically vis-à-vis the standard numerical nominal form but in its features and impact at the sentence level. The analyses carried out of the different types of uses of transnumerals in different sentences – as subjects, direct and indirect objects and as certain types of adverbials (instrumental ones)- show that transnumerals cannot be regarded as solely related to the effectuation of imperfectivity, as conjectured by some authors. Transnumerality must necessarily also be interpreted in terms of cognitive processes taking place in the human brain, reflecting the need for language economy and precision. However, the paper shows that, as a general rule, while cognitive processes underlie the effectuation of both number and aspectual values, the system of distribution of the devices responsible for the realization of these values in grammars of different languages does not directly result from cognitive processes. Rather, it is the work of the collective human brain in the construction of language-specific paradigms, such as the singular-plural distinction – as in English, pure transnumerality – as in Chinese, or hybrid systems with simultaneously a singular-plural contrast and transnumerality – as in Turkish.

Keywords: *transnumerality, the Turkish transnumeral, category of number, noun morphology, grammatical semantics, compositional aspect.*

Куцарова Сема. Турецкий транснумерал як засіб вираження аспекту.

Анотація. У цій статті авторка аналізує явище транснумеральності в турецькій мові та його взаємодію з категорією аспекту. Транснумеральна форма — це іменна фраза, яку мовці інтерпретують і у формі однини, і множини, тобто вона має числову амбівалентність і різниться від стандартного розмежування "однина-множина". Хоча

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транснумеральність широко представлена в турецькій мові, більшість дослідників ще не надали їй достатньо чіткого граматичного й семантичного опису. Авторка тлумачить транснумеральну форму, з одного боку, як елемент, що у взаємодії з іменними фразами та іншими компонентами речення дає змогу виявити певне значення в межах композиційної теорії аспекту, а з іншого – як явище, що потребує аналізу на рівні речення, а не лише в межах парадигматичного порівняння зі стандартною числовою формою. У межах дослідження авторка аналізує різні типи вживання транснумералів у ролі підмета, прямих і непрямих додатків, а також обставин (зокрема, інструментальних). Ці приклади показують, що транснумерали не зводяться лише до засобів реалізації імперфективності, як це припускають деякі дослідники. Підкреслено, що для пояснення транснумеральності необхідно враховувати когнітивні процеси, які тривають у людському мозку, відповідаючи за прагнення до економності та точності мовного вираження. Водночас авторка стверджує, що хоча когнітивні процеси лежать в основі формування числових та аспектуальних значень, граматичні системи мов розподіляють засоби їх вираження не прямо, відповідно до когніції. Натомість колективна мовна свідомість формує мовно-специфічні парадигми, наприклад, протиставлення "однина-множина" (як в англійській мові), чисту транснумеральність (як у китайській) або гібридні системи, що поєднують обидві ознаки (як у турецькій).

Ключові слова: транснумеральність, турецька транснумеральність, категорія числа, морфологія іменника, граматична семантика, композиційний аспект.

Introduction

On the Phenomenon of Transnumerality, the Transnumeral Itself and the Effectuation of Compositional Aspect in Turkish

The idea for an investigation of transnumerality and the Turkish transnumeral form arose from the results in a recent publication in which a description of the devices in Modern Turkish was proposed for the effectuation of compositional aspect (CA) in its two instantiations: perfectivity, imperfectivity (Kutsarova, 2025). It is common knowledge that transnumerality is a phenomenon observed in many languages, see, e.g., Acquaviva (2005; 2008), Manzini (2020) in different forms and in various degrees of prevalence of use. It is especially characteristic of Modern Turkish and of many other Turkic languages.

I take aspect across languages to be represented in two archetypes – verbal aspect (VA) and CA (see Kabakčiev, 2000, pp. 3–6; 2019; 2023). VA has been known for a long time from the study of Slavic languages where, intriguingly, it resides in the semantics of verbs as lexical entries but is grammaticalized. Almost every separate verbal lexeme in the vocabularies of these languages is recognized as either perfective or imperfective, with the exception of biaspectual verbs, which are aspectually ambivalent. The percentage of biaspectual verbs in the different Slavic languages varies around 10% of all

verbs. CA comes in different disguises in the languages around the world from the formal point of its effectuation, though not from the semantic one. Aspect can be realized through the regular pattern of articles: definite, indefinite and zero, as known in English. In most, or even all, other Germanic and Romance languages it appears in a similar way. In languages outside these two groups it is realized differently, for example, through the case system, where two cases, the nominative and the accusative, effectuate perfectivity, and imperfectivity is effectuated through the partitive. CA is a very important sentence-level phenomenon from the theoretical linguistic point of view. It is a cross-language one, obviously universal and extremely intricate. It was discovered by Henk Verkuyl in his 1971 dissertation (Verkuyl, 1972). The discovery gave rise to the establishment of the theory of CA, whereby CA itself is realized through Verkuyl's two aspectual schemata, the perfective and the imperfective one (see it described in Verkuyl, 1993; Kabakčiev, 2019, pp. 202–207, etc.).¹

A General Preliminary Description of the Turkish Transnumeral

Turkish features this specific nominal form, also known as noun/NP form or declension form, different from the forms of nouns/NPs in English and most other European languages: Germanic, Romance, Slavic. While the relevant standard nominal forms in these languages are based on the singularity-plurality distinction, the Turkish nominal form at issue is numerically neutral and used to signify *either* singularity or plurality. As in other specific areas in the grammar of Modern Turkish and similar languages, the literature does not offer a standardized terminology and abounds in names to refer to the phenomenon: “number-neutral”, “general number”, “bare singular”, “transnumeral” (as regards Turkish see Schroeder, 1999; Corbett, 2000; Göksel & Kerslake, 2005; Acquaviva, 2005; 2008; Görgülü, 2018; Sağ, 2022), or “low number” (as regards Italian – *-a* plurals) and Albanian (neuters), see Manzini (2020). To me, “transnumeral” seems to be the most appropriate term and will be used in the paper. Here are two typical examples of sentences with transnumerals:

- (1) a. Kedi köpekten daha nankör
 Cat^{TRANSNUM} dog^{TRANSNUM} more ungrateful
 ‘The cat is more ungrateful than the dog’
 b. Pazardan yumurta aldım
 Market egg^{TRANSNUM} bought
 ‘I bought eggs from the market’

¹ The initial theoretical model of CA was gradually developed further by Verkuyl and some other aspectologists (Verkuyl, 1972; 1989; 1993, Kabakčiev, 1984; 2000; 2019, Bulatović, 2013; 2020; 2022).

Sentence (1a) features two nouns/NPs, *kedî* ‘cat’ and *köpek* ‘dog’, which look like standard ones in the singular. But they are not: they are transnumerals, encoding plurality and/or genericity of the entities denoted. Here the role of *kedî* is more important, as it is the subject. Such uses of transnumerals are highly characteristic of Modern Turkish. In the subject position, the transnumeral often signifies genericity. One might reason that it would also be natural for *kedî* and *köpek* to acquire a plural affix and for the sentence to be structured in this way: *Kediler köpeklerden daha nankör* ‘Cats are more ungrateful than dogs’. In any case, (1a) is to be rendered in English either as ‘The cat is more ungrateful than the dog’ or ‘Cats are more ungrateful than dogs’.² In (1b), the transnumeral *yumurta* is a direct object and in this context it tends to signify plurality. The capacity of the transnumeral to encode plurality plays an important role in the realization of aspect meanings but it happens not by itself or on the spur of the moment, it is the result of a complex interaction with other sentence elements, see below. The major aim of the examples (1a) and (1b) here is to illustrate the typical uses of transnumerals: as subjects (1a) and as direct objects (1b).

Transnumerality as a Cross-Language Phenomenon; Transnumerals in Languages Other than Turkish in the Adjacent Area

This section, reviewing some areal characteristics of transnumerality, will show that although it is a very specific phenomenon characteristic of Modern Turkish, is far from being an exotic one, because it exists in the region comprising Eastern Europe, the Balkans, Asia Minor.

Are there transnumerals in Greek?

As an important language Greek ought to be the first one to check out in the surrounding area when looking for transnumerals. But, according to personal communication with linguists who are native speakers of Greek (Vasilis Symeonidis, Desislava Dimitrova), Greek does not seem to feature transnumerals. Let us check out other languages nearby.

Transnumerality in Georgian

Georgian is a language with no genealogical links to other languages in the world, yet it is one that has been in contact with Turkish for a long time. Transnumerality is highly prevalent in Georgian. Here is an example (Shabashvili & Kabakčiev, 2021, p. 379), in which *bevri vashli* is literally ‘many apple’:

² The transnumeral as subject will be analyzed in further detail below.

- (2) Chemma k^halishvilma_{ERG} gushin bevri vashlin_{NOM} shech'ama_{PFVAOR3SG}
 My daughter yesterday many apple_{TRANSNUM} ate
 'My daughter ate many apples yesterday'

Similarly to Bulgarian (see below), the Georgian transnumeral could hardly be conjectured to serve the effectuation of aspect, because Georgian is a VA language (Shabashvili & Kabakčiev, 2021), having an aspect system similar to the Slavic one where aspect is directly effectuated by verbs and it does not, in principle, need assistance from nominals.

The transnumeral in Crimean Tatar, a Turkic language/dialect

Transnumerality is a common phenomenon in Crimean Tatar (personal communication with Oksana Tyschenko-Monastyrskaya, researcher of Crimean Tatar at the Kyiv Institute of Linguistics). Words or phrases referring to number such as *çoq* 'a lot', *az* and *biraz* '(a) little, (a) few', *bir qaç* 'some' do not require a plural marker in Crimean Tatar: cf. *biraz qartop* 'some potatoes', *bir qaç yıl* '(a) few years', *az adam* '(a) few people', *çoq student* 'many students'. The same is valid for quantifiers, as in *eki dost* '(literally) two friend'. Phrases such as *eki dostlar* 'two friends' with a plural suffix *-lar*, are non-grammatical in Crimean Tatar – but they are encountered in the colloquial register, due to influence from Ukrainian and Russian. A possible role of transnumerals for the effectuation of aspect (as in Turkish, see below) could be conjectured for Crimean Tatar – subject to future research.

Transnumerality in Albanian

Albanian is an Indo-European language in the Balkansprachbund similar in its grammatical structure to the Romance languages and transnumerality exists in it. Albanian is known to have been influenced by Turkish, though predominantly in the lexical domain. Sentence (3a) below is from the Internet. The phrase *mace e qen* '(literally) cat and dog' means 'cats and dogs', i.e., these two nominals are transnumerals. However, grammars and specialists in Albanian tend to interpret such nominals as standard ones, insisting that these are forms coinciding for singular and plural (personal communication with Hysnie Haxhillari and Ekaterina Tarpomanova):

- (3) a. Sa ka si kjo sot ne kete Shqiperine tone, ku ca s'kanë bukë me ngrënë e ca s'kane ku i harxhojne parate, por ushqejne mac_{TRANSNUM} e qen_{TRANSNUM}
 'How many people are like this today in our Albania, where some don't have bread to eat in the morning and some have nowhere to spend their money, so feed cats and dogs [literally feed cat and dog]'

- b. Fëmija ushqeu mace
The kid fed cat^{TRANSNUM}
‘The kid fed cats’

Apart from that, Haxhillari, who recently described Albanian as a CA language – for the first time in linguistics, lists sentence (3b) above as imperfective with the object-NP *mace* ‘cat’ in it (Haxhillari, 2024, pp. 334). As the meaning of (3b) is ‘the kid fed cats’ (not one cat), *mace* ‘cat’ is obviously a transnumeral. It resembles English *cattle* as in *The kid fed cattle*³ – an imperfective sentence with a nonbounded object-NP.

A more precise analysis of Albanian transnumerality and its relation to aspect – which seems highly probable, is to be done by specialists in Albanian.

Transnumerality in Bulgarian

Vestiges of a phenomenon similar or analogous to Turkish transnumerality are observed in Bulgarian, an Indo-European language (unlike Turkish) in the Balkansprachbund. Bulgarian has been in contact with Turkish for many centuries and still is. For this reason, what is called a Bulgarian transnumeral here is, in my view as native speaker of both languages, clearly the result of contact, Turkish-Bulgarian influence.

Listed below are three typical examples with transnumerals in Bulgarian. Sentence (4a) can be said by someone who saw many cat prints in the snow but does not use the standard plural form. In (4b), conversely, the standard plural form is used. Sentence (4a) is produced when an observer/speaker sees many cat prints on the snow. Why not use (4b) here, a perfect sentence with the plural form *kotki* ‘cats’? Because, actually, the real-life possibilities are two: (i) there was only one cat in the snow but it left many paw prints; (ii) there were many cats on the snow leaving traces. If (4b) is produced – with the plural *kotki* ‘cats’, then it is *only* the case that many cats passed. In (4a) it is different: the observer/speaker does not know whether only one cat or many cats passed – and uses, therefore, the ambivalent form. Thus the use of a transnumeral, despite its idiosyncrasy, turns out to reflect in a more precise way the subtleness of situations in reality as perceived by an observer/speaker. Compare also Bulgarian (4c), a very popular jokular expression with two transnumerals – meaning that there are many people who love to boss around and few people willing to work hard. As for the observations about (4a) below, they are also valid for Turkish – because Bulgarian (4a) directly translates into Turkish (4d), see analysis further below:

³ Cf. *The kid fed the cow*, a perfective sentence (see below).

- (4) a. Mnogo kotka e minala ot tuk
Many cat^{TRANSNUM} has passed through here
'Many cats have passed through here'
- b. Mnogo kotki sa minali ot tuk
Many cats have passed through here
'Many cats have passed through here'
- c. Mnogo vozhd, malko indianets
Many chief^{TRANSNUM} few Indian^{TRANSNUM}
'Quite a few chief, too few Indian'
- d. Buradan çok kedi^{TRANSNUM} geçti
From here many cat(s) passed
'Many cats have passed through here'

Finally, it is worth emphasizing that although the use of transnumerals in Bulgarian in sentences such as (4a) and (4c) is rare, restricted to the colloquial register and has obviously arisen from contact with Turkish, it does not strike Bulgarian speakers as some foreign or strange jargon. Nevertheless, it is also logical to argue that the existence of transnumerals in Bulgarian could hardly have arisen due to a necessity to assist the effectuation of aspectual values – because Bulgarian is a VA language with aspectual values easily realized through the verb system.

To sum up from the geographical point of view, the existence of transnumerality in three Balkan languages – Turkish, Albanian, Bulgarian, allows regarding it not simply as a Balkansprachbund feature but as a major one. Its inclusion in the list of Balkansprachbund phenomena appears necessary,⁴ and future research into it could prove promising for revealing the *raison d'être* of transnumerality across languages.

Method

Aims of the Investigation

This investigation of Turkish transnumerality uses a mixture of methods: (i) analysis of Turkish data – the morphology and semantics of Turkish transnumerals; (ii) comparisons in cross-language terms of data from other languages (including genealogically different) concerning the existence or absence in them of transnumerals; (iii) use of English and partly Bulgarian as metalanguages for understanding the *raison d'être* of transnumerality; (iv) analysis of the possible aspectual function of the Turkish transnumeral, following the theory of compositional aspect as represented in Verkuyl (1972; 1993; 2022), Kabakčiev (1984; 2000; 2019), Bulatović (2013; 2020; 2022);

⁴ This has hardly been the case so far, to the best of my knowledge as author.

(v) employment of a deductive approach to the Turkish data, best described in Dimitrova (2021) – which initially formulates universal features that are supposed to be present in a particular language, and a search for them is then carried out in the relevant language. This approach is also good for the Turkish data. In the opposite approach, inductive, typical of mainstream grammars and grammatical writings, formal devices in a certain language are found and listed first and then attempts are made to discover their functions; (vi) finally, the transnumerality phenomenon must also be analyzed through the prism of psycholinguistics, whereby questions arise and attempts to answer them are made concerning the transcoding of what is perceived by the speaker as objective reality and the mechanism generated in people's heads governing the encoding of number.

Of course, the major aim of this paper is a little different, namely, to investigate and try to foster a better understanding of the specificity of the Turkish transnumeral in the light of the CA theory, as well as to reveal, as much as possible, the general mechanism of its relationship with aspect. This major aim is also related to the circumstance that there exist certain publications, albeit rare (Sağ, 2022, p. 754), which assert that transnumerality is in a direct relationship not simply with aspect in general, but with imperfectivity in particular. This work will try to offer a preliminary answer to the question whether transnumerals generally function as aspectual devices and whether they must be solely associated with the effectuation of imperfectivity.

Transnumerality Results from Man's Cognitive Apparatus; But Are Grammatical Differences Between Languages Explainable Through Man's Cognitive Apparatus Only?

Objective reality cannot be said to comprise single and multiple entities. This is a contrast generated by man's cognitive apparatus, the result of man's inborn capacity to differentiate between one thing and many things. As argued for Bulgarian by Stoyanova (2021, p. 278), the cognitive basis of the category of number in nominals is the contrast between singularity and plurality – which is standardly formally marked, morphologically. Within the singular-plural contrast in languages like English, Langacker (2008, p. 105) also describes man's capacity to “manipulate a group as a unitary entity for higher-order cognitive purposes”. He calls this reification. But the mechanism of realizing the singular-plural contrast is represented differently in the different languages, and these fall roughly into three types: (i) “purely transnumeral” (of the Chinese type), where number is not at all grammatically realized in nominals; (ii) hybrid (as in Turkish and genealogically related languages) where grammatical transnumerality co-exists with nominal forms for singular

and plural; (iii) languages of the European type like English (Germanic, Romance) and the Slavic languages, where there is no transnumerality of the Chinese type or hybrid transnumerality of the Turkish type.

Here comes a point where some reasoning is necessary about the difference that exists between man's cognitive apparatus as such (explained by Langacker, 2008), and the different ways languages are architected, otherwise based on exactly the same cognitive apparatus, man's. Recall the situation in Bulgarian sentences such as (4a) and (4b) above in which a transnumeral is used in (4a) and a standard plural nominal in (4b) to realize two different real-life situations. The fact that transnumerality exists in a language, Turkish in the present case under study, which, apart from transnumerals, also has full paradigms of standard nominal forms carrying the singularity-plurality contrast, calls for an explanation. Why must two different systems of nominal forms for encoding number exist in one and the same language?⁵ Is this not a violation of the general principle for language economy, as described, e.g., in Symeonidis (2020)? A more accurate scrutiny of the semantic and pragmatic constitution of Bulgarian sentences such as (4a), (4b) and (4d) above would tend to interpret the employment of two separate paradigms for encoding number as an overkill. It is effectuated in a paradoxical breach of the morphologically realized singularity of the relevant NP referent – with a result in which two diverging complex situations arise, and these have to be processed accordingly in the minds of the observer-speaker and the hearer.

A long time ago, Galton (1967, p. 98–99) insightfully noted that grammatical categories and grammemes in a language are not to be regarded as *membra dissecta*, because they, he insisted – using a specific phrase, *hang together*. Using Galton's conception of grammatical entities hanging together, Dimitrova et al. (2025) argue that in Greek and in Bulgarian it is the definite article and the imperfect as grammemes that hang together (i.e., are interdependent) and, furthermore, the aorist arises as a by-product of the interdependence. Another case of hanging together of grammemes is that between preterits (aorists and imperfects) and the perfect. These three grammemes are found in each of the following three languages – Greek, Bulgarian, Georgian – despite their different genealogies. Similarly, Kabakčiev's (2023) description of the use of aorist and imperfect participles with the Bulgarian perfect grammeme shows that these two participles hang together. If the perfect grammeme can have an aorist participle, it must also have an imperfect participle, so that a distinction can be made between situations that are temporally non-bounded (when using an imperfect participle) and temporally bounded with a natural telos reached (when using a perfective aorist participle), and temporally bounded with no natural telos reached (when

⁵ Valid for Turkish in the examples above and not so much for Bulgarian – where transnumerality is rare.

using an imperfective aorist participle). Thus Galton's principle of *hanging together* can be said to be valid also for the Turkish system of transnumerality in the sense that transnumerals exist alongside standard singular-plural forms. This means that obviously the language system relies on both forms for its functionality.

To sum up, on the one hand, future research would be necessary to further pinpoint the reasons for the need of both systems in Turkish simultaneously: transnumerals *and* standard singular-plural forms. On the other hand, importantly, the analysis shows that transnumerality is not simply and always *a result of the workings of man's cognitive apparatus*. This apparatus produces certain fundamental rules and regularities. But the final result of its work also crucially depends on the way the collective human brain "has decided to distribute" the final parameters of the grammatical entities at issue in the relevant language(s). As already shown, a certain language (English) may have a "standard" nominal system of singularity-plurality. Another (Chinese) may totally lack such a system. A third, Turkish, may have a hybrid system embracing both a "standard" nominal system of singularity-plurality *and* a transnumeral system, with nominals unmarked for the singular-plural contrast.

A More Detailed Description of the Turkish Transnumeral

One of the problems in understanding the Turkish transnumeral is that in terms of the singularity-plurality dichotomy this grammatical entity can hardly be said to have its own representation – formal, morphological, as does the numerical form in many (actually in most) other European languages. The standard numerical form in these languages is: singular and plural forms (singulars, plurals). In English, the standard dichotomy is neatly morphologically represented: the singular by a zero marker – *book*; plurals are marked with a special post-positioned morpheme, and in the enormous majority of cases it is *-s* (*books*). In Turkish also, nouns are similarly marked for singularity and plurality, generally in the same way as in English, with a zero morpheme for singular and an affix for the plural: *kedî* [singular] 'cat', *kediler* [plural] 'cats', *araba* [singular] 'car', *arabalar* [plural] 'cars'. But this picture of nominal forms for number in Turkish must be complemented by the system of transnumerality.

It will be seen below that the definiteness-indefiniteness distinction in the article system of English also touches upon the phenomenon of transnumerality. It is well covered in mainstream grammars and other grammatical writings on English and similar languages in general. Forms such as *the cat* and *the cats* – with count nouns, and *the sand*, *the water* – with non-count nouns, are called definite. Conversely, forms such as *a cat*, *cats* and *sand*, with either an indefinite article or a zero article, are called indefinite. But there

is also a distinction between boundedness and nonboundedness, and in the enormous majority of cases it is conceptualized “in general spatial terms” (according to all mainstream grammatical descriptions). It is effectuated through the use of the articles *the* and *a/an* versus the non-use of articles (use of a zero article/a bare NP); compare *a cat*, *the cat*, *the cats*, *the sand* and *the water* versus *cats*, *water*. However, bare NP forms such as *sand* and *water*, which signify non-boundedness, receive much less attention in the literature. As argued by Bulatović (2013; 2020; 2022), grammatical writings on English data are actually poor and inadequate in the descriptions of the difference between boundedness and nonboundedness.

The problem now is that the two distinctions definiteness-indefiniteness and boundedness-nonboundedness cannot be described in Turkish in the same manner as it is done in English – or in a similar generalized manner. The main reason is that a formal definiteness-indefiniteness contrast in Turkish is observed in a single case only: in the direct (syntactic) object, where definiteness is morphologically marked through the accusative case and indefiniteness through the non-use of the accusative case (i.e., the sometimes so-called “general case marking”). Furthermore, indefiniteness, i.e., lack of definiteness, in English does not exactly equal nonboundedness. This is because if non-count nouns with no definite article (*sand*, *water*) explicate nonboundedness, count nouns with no definite article (*cat*, *book*) do not follow suit, they do not (standardly) explicate nonboundedness. They are considered to be in need of an indefinite article – and when they acquire it, it makes them bounded. As already shown and as will also be seen below, this regularity in English is not valid for Turkish. And it is not observed in Turkish also because of (perhaps mainly and precisely) the phenomenon of transnumerality.

In Kutsarova (2025, pp. 65–66) I argued that in Turkish sentences such as (5a), demonstrating the use of a transnumeral, for the NP *kedi* ‘cat’ to be recognized as non-quantified, nonbounded and corresponding to English *cats*, this form is stripped of the accusative marker – which effectuates definiteness and hence boundedness. The NP *kedi* acquires a special form, unspecified for number and ambivalent between singular and plural, and *is not* placed in initial sentence position, where it might perhaps be recognized as definite, (i.e., as if with a definite article) – which in turn, would probably lead to the explication of perfectivity, in accordance with Verkuyl’s perfective schema.

- (5) a. Çocuk kedi besledi⁶ [IMPERFECTIVE]
 Kid_{NOM} cat_{TRANSNUM} fed

⁶ Turkish verb forms that could be thought of as coming closest to perfectivity are the preterits *-DI* and *-mİş*. But these certainly **do not express perfectivity**. In my understanding (Kutsarova, 2025), *-DI* and *-mİş* forms are **aspectually unmarked**, they **only allow** the signalling of perfectivity – which is realized compositionally, at the sentence level.

Literally: 'The kid fed cat' (meaning 'The kid was feeding/used to feed cats')

Correct English translation: 'The kid fed cats'

- b. Kedi besleyen çocuklar [IMPERFECTIVE]

Cat^{TRANSNUM} fed^{SbjP} kids⁷

Literally: 'Kids fed cat' (meaning 'Kids were feeding/used to feed cats')

Correct English translation: 'Kids fed cats'

Compare now (5b). Turkish is a language of the SOV (Subject-Object-Verb) type, i.e., it has a standard SOV word order, although OSV sentences are not outside the norm. In the case of (5b), there is a specific change of word order in which the verb form *besleyen* is non-finite and *çocuklar* 'kids' is in final sentence position – where it is easy to be recognized as unquantified, hence nonbounded. But this is not only because of its own morphological and semantic features and its final sentence position. It is *also* because of this special nominal form *kedi* 'cat/cats' in the adjacent position, of a syntactic object ambivalent between singular-plural, a transnumeral. All these circumstances seem to rule out the recognition of *çocuklar* 'kids' in the subject (which is in final sentence position) as quantified and hence bounded, also because of the final position itself – which is rather untypical for definite NPs (Kutsarova, 2025, p. 65). This special form labelled in my previous publication "unspecified for number and ambivalent between singular and plural" is what here is termed a transnumeral.

The significant difference with English and other similar CA languages is that in Turkish, beside the standard numerical entity with two representatives – singular and plural, there exists this third numerical form, transnumeral, which coincides formally with the singular. Consider again the Turkish word for "cat". The singular is *kedi*, the plural *kediler*. The confusing thing is that the transnumeral form is again *kedi*, the same as for the singular form for 'cat'. Hence, when English sentences such as *Kids fed cats* must be translated into Turkish, they yield sentences such as *Kedi besleyen çocuklar*, see again (5b) above, where *kedi* is a transnumeral, and the literal translation into English is something approximating 'Cat-feeding kids' [repeatedly, imperfectivity is encoded]. And here *kedi* 'cat', despite its outward singularity, is processed in the hearer's mind as 'cats'. A question arises: as the transnumeral form *kedi* 'cat' coincides with the standard one for singular, does it make sense at all to assert that the Turkish transnumeral has formal representation? Why not treat it simply as a case of grammatical homonymy? Isn't it better to characterize *kedi* as carrying two separate values: *kedi*^{One} – singular, meaning 'cat'; *kedi*^{Two} – transnumeral, meaning 'cat' or 'cats', whereby the second form is to be recognized as singular or plural according to the type of use in concrete expressions, especially whole sentences. These issues have been dealt with in

⁷ SbjP is a special non-finite form meaning "subject participle" (Kornfilt, 1997, p. 420).

the literature, e.g., in Acquaviva (2005; 2008) and Manzini (Manzini, 2020) – but not in terms of the possible interaction with the realization of aspectual values.

Thus the problem with *kedi*^{Two} is serious and two-fold. On the one hand, as a transnumeral, *kedi* will be processed accordingly in the mind of the observer-speaker – and, of course, also in the mind of the hearer, as a form which is numerically neutral. On the other hand, the standard form *kedi*^{One}, when processed in the mind of the observer-speaker, will be read as singular only. The result thus appears to be that *there is no special difference in essence between the two forms kedi*^{One} and *kedi*^{Two} and that the true difference between them lies solely in the way they are used in concrete sentences – and can only be recognized in such sentences. This means that analyzing and comparing *kedi*¹ and *kedi*² as separate nominal forms is *of little value*, although there are publications (Sağ, 2018; 2022; Turgay, 2020), which follow the path of focusing on the paradigmatic aspects of the transnumeral and not on the reasons for its emergence and existence and its behavior. The fact that the transnumeral as a grammatical entity is used in the encoding of *either* singularity or plurality calls for a convincing explanation of *how exactly* the encoding takes place, in view of the fact that there exists no morphological or some other conformation of the transnumeral.

More on the Functional Features of the Turkish Transnumeral and Its Relation to Aspect

In sentences like (5a) above, where the transnumeral *kedi* ‘cat’ is used as a direct object, it is also possible to use the standard plural *kediler* ‘cats’ instead of the transnumeral *kedi* ‘cat/cats’, see (6a). However, first, the presence of a standard plural *kediler* in (6a) does not sound natural for Turkish and, second, if used, it introduces certain nuances. The rule is that the more to the left the relevant NP, the more accusative case marking necessary. Phrased otherwise, if the NP is in a contact position with the verb,² non-accusative case marking is natural. If the NP is in a distant position to the verb, the more distant the position, the more accusative case marking needed. The non-native speaker of Turkish would tend to ask here whether non-accusative versus accusative marking is possible in the plural in this syntactic position – as it is in the singular. The answer: it is possible. But a question arises: if there is a non-accusative versus accusative case distinction in the plural direct object, what would it correspond to in English as a metalanguage for the description of Turkish grammar? In contrast to the singular, where only one distinction is

² This is called *focus position* in Erguvanli’s (1984, p. 34) terminology; *contact direct object* in Scheka’s (2007, p. 113).

possible in the correspondences in English – *the cats* vs *cats*, where *cats* is prototypically nonbounded, in the Turkish plural direct object the accusative versus non-accusative case distinction has three correspondences: see (6a), (6b), (6c) below. There (6a) is a rare expression, with *kediler* meaning ‘(some) cats’ – indefinite but nonbounded, in (6b) *kedileri* is definite (marked by the accusative) and stands for ‘the cats’, and *keci* in (6c) stands for ‘cat/cats’, i.e., a transnumeral, number-neutral between singular and plural:

- (6) a. Çocuklar kediler besledi [IMPERFECTIVE]
 Kids_{SPL} cats_{SPL} fed
 ‘Kids fed (some) cats’
 b. Çocuk kedileri besledi [PERFECTIVE]
 Kid_{NOM} the cats_{ACC} fed
 ‘The kid fed the cats’
 c. Çocuklar keci besledi [IMPERFECTIVE]
 Kids_{SPL} cat_{TRANSNUM} fed
 ‘Kids fed cat/cats’

It can be concluded that, in a comparison with English as a metalanguage, *kedileri* ‘the cats’ – marked grammatically for plural definiteness, encodes boundedness according to the CA theory (Verkuyl’s perfectivity schema). As for ‘cats’, indefinite and nonbounded in CA theory, it is the transnumeral *keci* ‘cat/cats’ that encodes the two values in (6c). It is now worth asking what the Turkish correspondence of English *some cats* will be – i.e., when a bare plural such as *cats* is interpreted in a sentence *as if* containing a silent *some*. Sentence (6a) seems to correspond to this use of *cats* with a silent *some* in English.

On Number in Turkish Mainstream Grammars

The category of number in Turkic languages in its functional and semantic aspects has been widely studied: Kowalski (1936), Gronbech (1936), Kononov (1941), Dmitriev (1956), Sokolov (1970), Guzev & Nasilov (1975), Scherbak (1970), Lyubimov (1972), Scheka (2007), Shtanov (2010), Guzev (2015), Fattahova (2015), Oganova (2022). Researchers usually stress the polysemanticity of the zero form of the nominal (the singular form which mainly expresses singularity and is contrasted to the plural form with the *-lAr*⁹ affix (1972, p. 78). There are also certain uses of the *-lAr* affix denoting singularity in emphasizing higher social status, politeness and respect (Kononov, 1941, p. 42; Sokolov, 1970, p. 79; Shtanov, 2010, p. 196; Oganova, 2020, p. 95) but these – along with other specific cases, fall beyond the focus of

⁹ The plural suffix may appear as either *-lar* or *-ler* for phonological reasons. I will use *-lAr*, where the capital letter indicates vowel alternations, regulated by vowel harmony.

the present study. It is worth emphasizing that practically all nominals in Turkish can take the plurality affix *-lAr*, for example: *başarı* ‘success’ – *başarılar*, *hava* ‘air/weather’ – *havalAr*, *kan* ‘blood’ – *kanlar*, *kim* ‘who’ – *kimler*, *ne* ‘what’ – *neler*, *saygı* ‘respect’ – *saygılar*, *su* ‘water’ – *sular*, *şeker* ‘sugar’ – *şekerler*, *öfke* ‘anger’ – *öfkeler*, etc. Nevertheless, Kononov (1941) maintains that the formal expression of number in Turkish frequently fails to be effectuated in comparison with languages such as Russian. For example, the word *kuş* ‘bird’ may denote ‘bird’ or ‘birds’ – because the Turkish singular can express singularity, as well as what he calls “indivisible collective plurality” (1941, p. 40). In Scheka’s (2007, p. 90) terminology this is called “added plurality”. Dmitriev (1956, p. 68), too, emphasizes the difference between singular and plural in Turkish in comparison with Slavic and other European languages and argues that the noun *taş* ‘stone’ can function as both singular and plural. He calls this “collective indeterminacy” and maintains that special syntactic conditions for it are necessary in every particular case. Sokolov (1970, pp. 72–75) analyzes meanings signified by singulars and plurals, emphasizing the link between the category of number and the definiteness-indefiniteness contrast. In his synchronic and diachronic research on Turkic languages, Scherbak (1970, p. 96) emphasizes the “maximum economy of expression devices” and calls it a characteristic feature of Turkic languages: wherever the expression of plurality is not necessary, the *-lAr* affix is absent. This is a cognitive aspect of a problem which has so far been predominantly interpreted as grammatical and which calls for a much more profound explanation – based on future investigations of transnumerality across larger samples of languages.

In his Turkish grammar, Lewis (2000, pp. 23–26) describes in a detailed fashion the plural of nouns from the point of view of its formation and functions, also by taking into account certain specific uses. In another Turkish grammar, Korkmaz (2009, pp. 257–259) also describes the manner of formation and the location of the *-lAr* affix in the structure of the word, along with the major semantic values it carries. Oganova (2022) describes the concrete types of realization of the singular and plural forms, paying special attention to the specificity of the choice between them. Corbett (2000, p. 14) argues that in Turkish the word *ev* can mean either ‘a house’ or ‘houses’, while the plural *evler* means ‘houses’. Such languages demonstrate a “general/singular vs plural opposition” in which the general/singular form does not by itself establish a number for the noun. The singular form with no plurality indicator is numerically neutral and denotes either the category itself or an individual member of the category (Lewis, 2000, p. 23). Guzev argues that this form is indifferent to numerical quantity and that “the category of *plurality* turns out to be single-membered, which contradicts the widespread opinion in Indo-European studies about the category as a set, a series of forms”; however, it is in full accordance with the original properties of agglutinative languages, in

which the absence of a form-obtaining indicator means the absence of the corresponding category (Guzev, 2015, p. 47).

There are significant differences in the use of numerical nominals in Turkish compared to English, Bulgarian and other European languages, although, according to the traditional understanding, the category of number is represented by singular vs plural as grammemes. The transnumeral actually expresses various other meanings, some of which are beyond the present concerns and hence left for future research. One of the important differences between nominals in Turkish and in languages like English and Bulgarian is that if there are numerals/quantifiers such as *kaç* 'how many/how much' *birkaç* 'a few, several', *çok* 'a lot of, (too) many, (too) much', *birçok* 'quite a few', *az* 'not much, not enough', *biraz* 'a bit, a little', *hiç* 'at all' etc. inside the NP, the head noun itself does not get plural marking (see Underhill, 1976, p. 125; Gencan, 1979, p. 174; Banguoğlu, 1990, p. 353; Lewis, 2000, p. 24; Scheka, 2007, p. 124; Korkmaz, 2009, p. 390)¹⁰⁹. Cf.:

iki/	on/	elli/	kaç/	birkaç/	çok/	az/	hiç	sandalye
two/	ten/	fifty/	how much/	a few/	many/	few/	any	chair
'two/	ten/	fifty/	how much/	a few/	many/	few/	any	chairs'

In my recent investigation of the major ways CA can be realized in Turkish (Kutsarova, 2025), among the conclusions is that CA is located strictly at the sentence-level and not at the VP level. The compositional effectuation of aspect in Turkish takes place predominantly through: (i) the definite-indefinite contrast in direct objects; (ii) the impact of other case values; (iii) word order patterns according to functional sentence perspective (also known as theme-rheme contrast, etc.) in subjects, indirect objects and direct objects (when the latter are not marked with an accusative); (iv) various other means, subject to future research. The present paper deals with a Turkish nominal/NP form which appears rather specific from the point of view of English as a metalanguage, on the one hand. On the other, from the point of view of the Turkish language itself, it is a standard form with a high prevalence in real speech. The specific object of analysis here are the types of aspect values explicated at the sentence level, triggered as a result of an interplay between the transnumeral in a given sentence component and the other sentence components – or some of them.

There are many popular Turkish expressions containing transnumerals, such as (7a) and (7b), the latter resembling Bulgarian (4c) above:

¹⁰ There are exceptions to this rule of the use of a plural noun after a numeral, showing that the persons or things in question form a particularly well-known and distinct entity: *Yedi Cüceler* 'The Seven Dwarfs', *Kırk Haramiler* 'The Forty Thieves', *Üç Silahtarlar* 'The Three Musketeers' etc. (Underhill, 1976, p. 125; Lewis, 2000, p. 24).

- (7) a. Özel günlerde eşime hep çiçek ya da hediye aldım
[IMPERFECTIVE]
Special day wife always flower^{TRANSNUM} or gift^{TRANSNUM} bought
'I always bought flowers or gifts for my wife on special occasions'
- b. Sen gittin de aylarca yas tuttu, iki gözü iki çeşme
[IMPERFECTIVE]
You left and for months mourned two eye^{TRANSNUM} two fountain^{TRANSNUM}
ağladı¹¹
cried
'When you left, she mourned for months, her two eyes cried like two fountains'

They are correct and standard. They are not regarded as grammatically and/or semantically strange – as in Bulgarian where sentences with transnumerals such as (4a) and (4c) are sometimes perceived by the native speaker as unusual, albeit grammatically correct. Standard Turkish nominals do have forms for singular and plural, but forms such as *çiçek* 'flower' and *hediye* 'gift' in (7b) are different, not marked for singular/plural and ambivalent between the two values. Still, they fully conform to the grammatical and semantic norms of Turkish. Among the aims in this paper is to offer a hypothesis concerning their possible link to the explication of aspect. As already established (Kutsarova, 2025, pp. 65–66), they can be seen as helping the compositional effectuation of imperfectivity, as in the sentences (7) above. A similar position can be found in Sağ (2022, p. 754): "Number neutrality is dependent on aspectual specification. It is only available when the aspect supports atelic or habitual interpretations."

The analysis of the specificity of the Turkish transnumeral necessitates leaving the narrow domain of standard grammatical descriptions and placing the phenomenon into a broader context. Of essential importance in outlining the role of the transnumeral in CA terms is the study of number as a universal category with the meanings expressed by the transnumeral (the affixless form) and the standard form (with the *-lar* plural affix), including the category of definiteness/indefiniteness; the relationship between number and the functions of the NP as part of the sentence. A transnumeral can function as: subject, direct object not marked with an accusative, indirect object, certain types of adverbials. Among them, the instrumental adverbial will be analyzed here. Three approaches will be employed: (i) a deductive one, which posits the necessity for universal features found across natural languages to be formulated first, and then for a search for their realization across languages to be initiated; (ii) a descriptive one through which the essence of the category and its formal features are to be presented; (iii) a contrastive one through which examples in three languages are compared – Turkish as a CA language, English as a CA language and a metalanguage for the analysis of Turkish, Bulgarian as a VA language and a

¹¹ The quoted verse is by the poet Y. Kemal.

metalanguage – through which comparisons with Turkish can reveal subtle semantic and grammatical details in the realization of aspect.

Interplay Between the Transnumeral and (In)Definiteness. But Does Such an Interplay Really Exist?

The definiteness-indefiniteness contrast is effectuated in Turkish through a complex of lexical, morphological and syntactic means or, in other words, its connection with the category of number is realized through grammatical means and semantic interactions expressed both structurally and contextually. In its interaction with other components in the NP, the transnumeral helps in the expression of aspectual meanings related to the quantification or non-quantification of the NP – which forms the basis of the theory of CA.

Nouns in Turkish take an accusative case suffix when they are definite. See (8a) below where the noun *hayvanları* ‘animals’, accompanied by the accusative case suffix [-ı] indicates that it is a specific (not generic) entity, known to both speaker and hearer, definite. Without the accusative case suffix, the nominal loses its specificity and definiteness, turning into a transnumeral, see (8b), cf. Rocchi (2016). These are the reasons why (8a) is a perfective sentence, while (8b) is imperfective: sentence (8a) falls into Verkuyl’s (1993) perfective schema, (8b) into his imperfective schema. According to Kabakčiev’s (1984; 2000) extended versions of Verkuyl’s aspect schemata, *hayvanları* ‘the animals’ in (8a) is to be interpreted as a bounded temporal entity, with a definite beginning and a definite end on the time axis, the two points encoded by the accusative. Conversely, the transnumeral *hayvan* ‘animal/animals’ in (8b) is an entity with no known beginning on the time axis and no known end. This temporal boundedness of *hayvanları* ‘the animals’ in (8a) is mapped (transferred) from the NP onto the aspectually ambivalent verb *besledim* ‘fed’, forcing it into boundedness and perfectivity. Analogously, the temporal nonboundedness of *hayvan* ‘animal/animals’ in (8b) – understood *not* as animals standing together in the same place but as animals appearing on the time axis one after the other – is mapped (transferred) from the NP onto the aspectually ambivalent verb *besledim* ‘fed’, this time forcing the verb referent into imperfectivity, i.e., non-boundedness in the form of indefinite iterativity (Kabakčiev 1984; 2000: Chapter Six; 2019, pp. 208–209):

- (8) a. *Hayvanları besledim* [PERFECTIVE]
 Animal_{PL-ACC} fed
 ‘I fed the animals’
 b. *Hayvan besledim* [IMPERFECTIVE]
 Animal_{TRANSNUM} fed
 ‘I fed animal/animals’

In principle, a direct object can be realized either as a bare NP without a case ending or as a noun/NP with the accusative case suffix *-(y)I* (Heusinger & Kornfilt, 2005, p. 4). Some authors, e.g., Yohanson (1977) and Enç (1991), argue that the accusative case suffix indicates specificity rather than definiteness. But the important difference is between the nonboundedness of the NP without an accusative case suffix and the boundedness of the NP with an accusative case suffix – no matter whether the boundedness will be definite or only specific without being definite. Additionally, according to Dede (1986, pp. 156–159), as cited in Heusinger & Kornfilt (2005, p. 10), the case suffix may optionally also mark a generic direct object, as illustrated in (9a) and (9b):

- (9). a Çocuklar çikolata sever [IMPERFECTIVE]
 Child_{PL} chocolate_{TRANSNUM} like
 ‘Children like chocolate’
 b. Çocuklar çikolatayı sever [IMPERFECTIVE]
 Child_{PL} chocolate_{ACC} like
 ‘Children like chocolate’

Sentence (9a) is ambiguous between a generic reading for the direct object and a definite one, although, due to the so-called aorist form of the verb *sever* ‘like’, the generic reading for the direct object is stronger. The direct object is formally definite in (9b) – but the possibility for the recognition of such definite NPs as generic is restricted. Of course, the future formulation of the relevant conditions on their distribution is better left to future research. As for an answer to the question whether an interplay between the transnumeral and (in)definiteness exists in Turkish or not, the analysis here, being rather short and insufficient, does not allow providing such an answer. I leave the matter to future investigations of this difficult problem.

Interplay Between Number and Transnumerality and Functions of NPs as Sentence Elements

Let us initially consider the relationship between the category of number and the syntactic position of the NP in cases where it is the subject or the object (direct or indirect) in the sentence. The main question here is how formality/informality is realized with the *-lAr* affix of the noun phrase in cases where it is the subject or the object in the sentence. However, as this study is aimed at answering the question whether transnumerality can be interpreted as a device for the effectuation of aspect, the focus of attention will be the possible link between transnumerality and aspect.

When the Turkish verb is not formally marked for imperfectivity, perfectivity is realized in CA terms, at the sentence level, via Verkyl’s perfective

schema. Turkish strongly resembles English in this respect: imperfectivity is systematically realized (grammatically) through progressive and periphrastic verb forms such as “*used to + inf*”, while perfectivity can only be effectuated compositionally.¹² As far as imperfectivity in compositional terms could be at issue, occasional statements are encountered in the literature arguing that number neutrality (termed transnumerality in the present work) is dependent on aspectual specification and that it is “only available when the aspect supports atelic or habitual interpretations” (Sağ, 2022, p. 754). In Sağ’s terminology the imperfective aspectual value is labelled “atelic”; in particular, she argues that atelic “entails an iterativity of sub-events and habituality entails a quantificational structure presupposing a plural quantificational domain” (ibid.).

If we take it that in Turkish there exist two separate paradigmatic nominal entities, the singular nominal and the transnumeral (i.e., leaving aside the plural nominal), if the two, the singular nominal and the transnumeral, are juxtaposed, the logical assumption to make ought to be the following. Since the singular nominal in Turkish exists and functions normally – like the singular nominal in languages like English, it is the transnumeral that must be regarded as “the odd man out” and not vice versa – not the singular nominal. In other words, it is the transnumeral that seems to have emerged to complement the singular nominal and not vice versa. And if this is the case, if the transnumeral has emerged to complement the singular nominal, what is achieved by its emergence? A cursory glance at the *staus quo* with two separate nominal forms (singular *and* transnumeral) tends towards a conjecture that the transnumeral complements the singular nominal by providing it with an opportunity for “enrichment” of the possible semantics of the transnumeral. Enrichment, but with what exactly? With a plural value in a special sense, whereby the plural value is not incompatible with the singular value inherent in the transnumeral nominal and formally marked?

The Transnumeral as Subject in the Sentence

If we return to sentences (9a) and (9b), the subject *çocuklar* can be interpreted as definite, as ‘the kids’, because it is the theme of the sentence on the analogy of Czech *Žena napsala dopis* ‘The woman wrote a letter’ (Kutsarova, 2025, p. 63), where *žena* ‘woman’ is perceived as definite due to the theme-rheme regularities and despite the lack of formal marking of definiteness. But the subject *çocuklar* can also be interpreted as indefinite, as ‘kids’: according to Erguvanlı (1984, p. 21), when the subject in initial position is [+animate], it can

¹² Turkish is a CA language (Kutsarova, 2025), which means that imperfectivity can be grammatically marked on verbs, as in the progressive and imperfect verb forms found in many languages. But in CA languages perfectivity **cannot** be marked on verbs!

also be indefinite. In this case the subject is indefinite, and as it is plural, this means that it is also nonbounded, and its nonboundedness is mapped onto the verb, forcing it into indefinite iterativity and nonboundedness, hence imperfectivity.

The description above coincides with a major tenet in CA theory (see Bakardzhieva-Morikang & Kabakčiev, 2024; Kabakčiev, 2025, pp. 14–20), according to which the verb in a sentence must be aspectually ambivalent – i.e., encoding neither perfectivity, nor imperfectivity, for Verkuyl’s aspectual schemata to be operative. Rocchi (2016, p. 190) shares Erguvanlı’s view, whereby her example of indefiniteness of the subject in initial position (where the subject is usually interpreted as definite) is here sentence (10a). Rocchi’s example (10a) can be transformed into (10b) with a past-tense form and a singular indefinite subject, and then into (10c) with the same subject as in (10a), and the interplay between the separate elements in the sentence can now be analyzed¹³:

- (10) a. Köpek havlıyor [IMPERFECTIVE]
 Dog_{TRANSDUM-ABS}¹⁴ is-barking
 ‘A dog/dogs is/are barking’ [the same sentence could mean
 ‘The dog is barking’ if the stress is shifted on the verb] (Rocchi, 2016, 190).
- b. Bir köpek havladı [PERFECTIVE]
 One dog barked
 ‘A dog barked’
- c. Köpek havladı [IMPERFECTIVE]
 Dog_{TRANSDUM} barked
 ‘A dog/dogs barked’

The three sentences in (10) demonstrate the realization of the perfective-imperfective contrast through the boundedness-nonboundedness interplay of situation-participant NPs. Sentence (10a) belongs to Verkuyl’s imperfective schema in which the transnumeral form is non-bounded (represents “unspecified quantity” in Verkuyl’s terms), a leak appears, representing indefinite (non-bounded) iterativity, which leads to an imperfective reading of the verb and of the sentence as a whole. Sentence (10b) belongs to Verkuyl’s perfective schema, because the NP *bir köpek* ‘a dog’ encodes boundedness (“specified quantity” in Verkuyl’s terminology) through the quantifier *bir*, hence bounded. All these elements in their integrity render the sentence perfective.

In Turkish the subject is usually in initial position and standardly perceived as definite (as if with a definite article in English). Of course, there are cases in which, although in initial position, the subject is not definite. For

¹³ Sentence (10a) could mean ‘the dog was barking’ if the stress is shifted on the verb.

¹⁴ ABS means “absolute case”: “the simplest form of a noun, with no suffixes” (Lewis, 2000, 26).

example, in (10c), despite the initial position of the subject, represented by a transnumeral, it is the theme but is not definite. This sentence can have the following readings: *A dog was barking*, *Dogs were barking*. In these two readings the non-bounded iterativity of the transnumeral is mapped onto the verb *havladı* ‘barked’, which renders the situation imperfective. The imperfective reading is amplified by the stress which is not on the verb. If the stress is shifted onto the verb, the sentence may start to mean ‘The dog barked’. It is worth noting again here that the effectuation of the perfective-imperfective distinction is crucially dependent on the ambivalent aspectual nature of the Turkish past-time affixes *-DI* and *-mİş*.

The observation shows that for the effectuation of the perfective-imperfective distinction in sentences with a transnumeral in the subject position, very significant is the ability of this special form to encode both singularity and plurality. The imperfective reading is mainly dependent on the leak in the interpretation of plurality but the role of other elements, such as stress and word order, is also significant. It is also worth noting that the use of a transnumeral in the subject position is, however, rather restricted in comparison with the direct object position (to be shown in the following section), where genericity is very often signified.

The Transnumeral as a Direct Object

According to Turkish traditional grammars, nouns take an accusative case suffix when they are definite, see (11a) where *cüzdanı* ‘the wallet’ with the accusative case suffix *[-ı]* indicates that this is a specific entity known to both speaker and hearer. Without the accusative, the noun loses its specificity or definiteness, cf. (11b), see Rocchi (2016). These are (some of) the reasons why (11a) is a perfective sentence while (11b) is imperfective. In (11b) the transnumeral *cüzdan* ‘wallet’ triggers imperfectivity by not providing the referent of *cüzdan* with the “specified quantity” value needed for Verkuyl’s (1993) perfective schema:

- (11) a. Öğrenci cüzdanı buldu [PERFECTIVE]
Student_{NOM} wallet_{ACC} found
‘The student found the wallet’
b. Öğrenci cüzdan buldu [IMPERFECTIVE]
Student_{NOM} wallet_{TRANSNUM} found
‘The student found wallet/wallets’

Similarly, in (12b) below, as already argued in Kutsarova (2025, pp, 65–66), in order for *kedi* ‘cat’ to be recognized as non-quantified, nonbounded and equal

to English *cats*, it is stripped of the accusative marker, cf. the accusative marker in (12a), acquires a special form unspecified for number (ambivalent between singular and plural) and is *not* moved to initial position – where it could be recognized as definite (as if with a definite article). If *kedî* ‘cat’ must be recognized as definite, it will have to be moved to initial position. Finally, in (12d) *çocuklar* ‘kids’ in initial position is recognized as unquantified and hence nonbounded because, again, of the special nominal form *kedî* ‘cat/cats’, transnumeral, ambivalent between singular and plural and hence ruling out the recognition by the hearer of *kedî* ‘cat/cats’ as quantified and hence bounded. Thus in (12b) and (12d) the transnumeral *kedî* ‘cat’ serves the effectuation of imperfectivity, while imperfectivity in (12c) is effectuated by: (i) placing the subject *çocuklar* ‘kids’ not in its normal position, the initial one, but in second position; (ii) placing the direct object *kediyi* ‘the cat’ in initial position, thus providing ground for *çocuklar* ‘kids’ in second position – which is more prone to indefiniteness and hence non-boundedness – when the noun is plural.

- (12) a. Çocuk kediye besledi [PERFECTIVE]
 Kid_{NOM} cat_{ACC} fed
 ‘The kid fed the cat’
 b. Çocuk kedî besledi [IMPERFECTIVE]
 Kid_{NOM} cat_{TRANSNUM} fed
 ‘The kid fed cat/cats’
 c. Kediye çocuklar beslediler [IMPERFECTIVE]
 Cat_{ACC} kids_{SPL} fed
 ‘Kids fed the cat’
 d. Çocuklar kedî beslediler [IMPERFECTIVE]
 Kids_{SPL} cat_{TRANSNUM} fed
 ‘Kids/The kids fed cat/cats’

It can easily be seen that the grammatical morphological devices and the word order techniques employed for the effectuation of aspectual distinctions in sentences like (13) below are generally the same as in the examples (12),¹⁵ which supports a conjecture that these devices and techniques will be identical or similar in many other analogously structured sentences and sentence patterns.

- (13) a. Turist kaleyi ziyaret etti [PERFECTIVE]
 Tourist_{NOM} castle_{ACC} visited
 ‘The tourist visited the castle’
 b. Turist kale ziyaret etti [IMPERFECTIVE]
 Tourist_{NOM} castle_{TRANSNUM} visited

¹⁵ Examples (13) are Turkish translations of constructed examples in English (Kabakčiev, 2019, pp. 205–206).

- ‘The tourist visited castles’
- c. Kaleyî turist ziyaret etti [IMPERFECTIVE]
 Castle_{ACC} tourist_{TRANSNUM} visited
- ‘Tourist/Tourists visited the castle’
- d. Turistler kale ziyaret ettiler [IMPERFECTIVE]
 Tourist_{PL} castle_{TRANSNUM.} visited
- ‘Tourists/The tourists visited castles’

When the noun functioning as direct object denotes a substance, full scope of the object of the action is indicated, and perfectivity is explicated – in sentences such as (14a), (15a). But the direct object is not always marked with an accusative, and when it is not, indefiniteness is explicated, again through a transnumeral, see (14b), (15b):

- (14) a. Hakan arabayı yıkadı [PERFECTIVE]
 Hakan car_{ACC} washed
 ‘Hakan washed the car’
- b. Hakan araba yıkadı [IMPERFECTIVE]
 Hakan car_{TRANSNUM} washed
 ‘Hakan washed cars’
- (15) a. Emel dondurmayı yedi [PERFECTIVE]
 Emel icecream_{ACC} ate
 ‘Emel ate the icecream’
- b. Emel dondurma yedi [IMPERFECTIVE]
 Emel ice cream_{TRANSNUM} ate
 ‘Emel ate ice creams’

There are rare cases in which, despite the accusative affix of the direct object, it fails to explicate definiteness – but these will not be dealt with here. The important thing is that (14b) and (15b) are imperfective sentences because of the use of the relevant transnumeral (*araba* ‘car’, *dondurma* ‘icecream’) as direct object, which explicates temporal nonboundedness (car after car, icecream after icecream), and this temporal nonboundedness is mapped onto the (referent of the) verb, coercing it into indefinite iterativity, hence imperfectivity.

Many Turkish sentences exist in which the direct object in a preverbal position, immediately before the verb, is signified by a transnumeral, see (16a-e), (17a-c) below. The direct object can in these cases receive a plural affix, which is not considered to be a grammatical error – but for native speakers of Turkish here it is still more natural to use a transnumeral. The transnumeral helps the explication of imperfectivity, see the mechanism explained above. As for the perfectivity of (16d), it arises out of the feature bounded in all the three

NPs – *Sibel*, *çantasından* ‘bag’, *bilet* ‘ticket(s)’ and the feature telic in the verb *çıkardı* ‘took out’,¹⁶ despite the transnumerality of *bilet*.

- (16) a. Ben kitap okudum [IMPERFECTIVE]
I book_{TRANSNUM} read
‘I read book/books’
- b. Serkan portakal yedi [IMPERFECTIVE]
Serkan orange_{TRANSNUM} ate
‘Serkan ate orange/oranges’
- c. Annem bize her akşam masal anlattı [IMPERFECTIVE]
Mother to us every evening fairytale_{TRANSNUM} told [IMPERFECTIVE]
‘My mother told us stories every evening’
- d. Sibel çantasından bilet çıkardı [PERFECTIVE]
Sibel bag ticket_{TRANSNUM} took out
‘Sibel took a ticket/(some) tickets out of her bag’
- e. Kız, güpegündüz mağazadan ayakkabı çaldı [IMPERFECTIVE]
Girl broad daylight store_{ABL} shoe_{TRANSNUM} stole
‘The girl/A girl stole shoes from the store in broad daylight’
- (17) a. Başbakan önemli açıklama yaptı [IMPERFECTIVE]
Prime minister important explanation_{TRANSNUM} made
‘The Prime Minister made important statements’
- b. Geçen haftadaki mağlubiyetlerden ders çıkardık [IMPERFECTIVE]
Last week loss lesson_{TRANSNUM} took a lesson from
‘We learned lessons from last week’s defeats’
- c. Annem her zaman problemlere yaratıcı çözüm verdi
[IMPERFECTIVE]
Mother every time problem creative solution_{TRANSNUM} gave
‘My mom always gave creative solutions to problems’

Many other similar examples exist in which the direct object is expressed by a transnumeral, whereby it encodes indefinite plurality, hence indefinite iterativity, hence imperfectivity (after the relevant NP value is transferred onto the verb). What is more, preference is observed for the use of a transnumeral in the direct object in a preverbal position at the expense of a form with an *-lAr* affix. These examples illustrate the interaction of the transnumeral form with other sentence components (verb, NPs), whereby the interaction impacts the aspectual value. The absence of a quantifier triggers the explication of nonboundedness, therefore imperfective situations (Vendlerian) are effectuated: states or activities (Vendler, 1957).

Many Turkologists argue that when the direct object is not in preverbal position, it must have an accusative affix, thus either obligatorily having a specific reading – and hence perfective (if the other necessary conditions are met), or, in some limited circumstances, a generic reading, thus non-specific (Heusinger & Kornfilt, 2005, p. 11, Scheka, 2007, p. 381).

¹⁶ *Sibel* is bounded, just like all proper nouns, as it contains a covert definite article: ‘the woman called Sibel’.

The Transnumeral as Indirect Object

Turkish grammars use different terms for indirect objects (*dolaylı nesne*, *dolaylı tümleç* – ‘indirect object’, *yer tamlayıcısı*, *yer tümleci* – ‘place complement’) and specify that an indirect object can be expressed by a word with a dative, locative or ablative marker (Gulubov, 1949, p. 332; Banguoglu, 1990, p. 528; Ediskun, 1999, p. 353; Hengirmen, 2006, p. 333; Eyup, 2007, p. 148). Following the descriptive apparatus of compositional aspect, sentences such as (18a), (19a) and (20a) below must be described as representing perfective situations – bounded with a reached telos (Vendlerian accomplishments or achievements), whereas sentences such as (18b), (19b) and (20b) represent imperfective (non-bounded) situations (Vendlerian states or activities):

- (18) a. 29 yaşında 150 bin borca battım [PERFECTIVE]
 29 age 150 thousand debt^{TRANSNUM} sank
 ‘I fell 150 thousand in debt at the age of 29’
 b. Hayatımda asla borca batmadım [IMPERFECTIVE]
 Life never debt^{TRANSNUM} sank
 ‘I’ve never been in debt in my life’
- (19) a. Bir gazetede en yeni haberleri okuduk [PERFECTIVE]
 One newspaper most new news^{ACC} read
 ‘We read the latest news in a newspaper’
 b. En yeni haberleri gazetede okuduk [IMPERFECTIVE]
 Most new news^{ACC} newspaper^{TRANSNUM} read
 ‘We read the latest news in newspaper/newspapers’
- (20) a. Gençken birkaç kez uçaktan çok korktum [PERFECTIVE]
 Young^{WHILE} a few times plane^{TRANSNUM} very scared
 ‘I got very frightened when flying a few times when I was young’
 b. Gençken uçaktan çok korktum [IMPERFECTIVE]
 Young^{WHILE} plane^{TRANSNUM} very scared
 ‘When I was young I was very afraid of flying’

The indirect object *borç-a* ‘debt’ in (18a) and (18b) appears in line with the understanding about sentence structure components adopted in the English linguistic tradition. However, according to the same tradition, the indirect objects *gazete-de* ‘newspaper’ in (19a) and (19b) and *uçak-tan* ‘plane’ in (20a), (20b) would rather be ascribed to the group of adverbials – a place adverbial in (19), a time adverbial in (20). In other words, the examples in (19) and (20) follow the descriptions in the Turkish linguistic literature, not the understanding of what is considered to be an indirect object in the grammars of English and other European languages.

Furthermore, the fact that there is a transnumeral in each of the sentences in (18), (19) and (20) – no matter whether the sentence is imperfective or

perfective, indicates that with indirect objects there appears to be no special preference for transnumerals to take part in imperfective sentences – as this is observed in sentences containing transnumerals serving as subjects and direct objects (a thesis indirectly supported by Sağ 2022, p. 754).

The sentences in (18), (19) and (20) with two situation-participant NPs and a preterit verb form, aspectually ambivalent, effectuate the perfective-imperfective contrast. The interplay between the components in the examples and the use of the quantifiers *150 bin* ‘150 thousand’, *bir* ‘one’, *birkaç kez* ‘a few times’ make the situations in (18a), (19a), (20a) perfective, due to the bounded value in the NPs (Verkuyl’s “specified quantity”) – plus the other requirements in the perfective schema (see above). Conversely, in (18b), (19b), (20b), containing *-DI* preterit verb forms and transnumerals, the situations are imperfective – due to the aspectually ambivalent nature of the verbs and the value nonboundedness explicated in the NPs, which is then transferred onto the verb (as also explained in more detail above).

Let us now consider sentences in which the indirect object is realized with a transnumeral with a dative affix, as these cases are more akin to the understanding of what an indirect object is in the linguistic tradition based on English.

- (21) a. İstanbul'dayken hep erkek hastaya baktım [IMPERFECTIVE]
 İstanbul always male patient_{TRANSNUM} took care
 ‘When I was in İstanbul, I always treated male patients’
 b. Hemşire çok hastaya baktı [PERFECTIVE]
 Nurse many patient_{TRANSNUM} took care
 ‘The nurse took care of many patients’
- (22) a. Mısır'a her gittiğimde deveye bindim [IMPERFECTIVE]
 Egypt every went camel_{TRANSNUM} rode
 ‘I rode a camel every time I went to Egypt’
 b. Mısır'da birkaç deveye bindim [PERFECTIVE]
 Egypt a few camel_{TRANSNUM} rode
 ‘I rode a few camels in Egypt’

The sentences (21) and (22) contain a transnumeral in the position of an indirect object and illustrate the realization of perfectivity and imperfectivity through the mechanism of boundedness and nonboundedness of the NP situation participants. In (21a) and (22a) the transnumerals *hasta-ya* ‘patient’ and *deve-ye* ‘camel’ encode plurality and are unquantified, nonbounded. Due to the NP leak, they realize imperfectivity, whereby the role of the adverbial *hep* ‘always’ is decisive. The sentences (21b) and (22b) contain the quantifiers *çok* and *birkaç*, which make the (referents of the) situation-participant NPs quantified and therefore bounded, despite the transnumerality, and this matches the perfective schema in the CA theory.

On Transnumerals as Adverbials. The Transnumeral as an Instrumental Adverbial

As already shown in the subsection above on indirect objects, the Turkish transnumeral does not necessarily take part in imperfective sentences only. The generalization to make is that *although the transnumeral tends to assist the realization of imperfectivity in many cases, it cannot be regarded as a universal imperfectivization device!*

Imperfectivity depends on several factors in a sentence but the use of a transnumeral in a certain sentence component may still be a decisive factor for effectuating imperfectivity. Consider the two sentences in (23) below – (23a) contains a transnumeral as an instrumental adverbial. The subject NP *çocuklar* explicates non-boundedness and must be interpreted as a non-bounded series of temporal instantiations of kids going to school: not simultaneously but one after the other in time, no matter whether individually or in groups. In (23b), however, the transnumeral *bisiklet* ‘bicycle’ preceded by *bir* ‘one’ does not trigger nonbounded iterativity. When a quantifier such as *bir* ‘one’, is added to the instrumental adverbial in such cases, boundedness is explicated in the NPs, it is transferred onto the verb referent, and this kind of interaction between the elements of the sentence renders the situation perfective. In (23a) the transnumeral *bisiklet* ‘bicycle’, despite its seeming (outward) singularity, encodes plurality, hence this is a leak. Being a temporal entity with no beginning and no end on the time axis and implicating (or explicating) non-bounded iterativity, it is mapped onto the verb – which ultimately renders the situation imperfective. In (23b) the subject is more easily perceived as definite due to its initial position – which, in terms of Verkuyl’s aspect schemata, means that the sentence is perfective.

- (23) a. *Çocuklar okula bisiklet ile gittiler* [IMPERFECTIVE]
 Kid_{PL} school_{DAT} bicycle_{TRANSNUM} with went
 ‘Children/The children went to school by bicycle’
 b. *İki çocuk okula bir bisiklet ile gittiler* [PERFECTIVE]
 Two kid school one bicycle with went
 ‘Two children went to school with one bicycle’

In both sentences in (24) below the NP *kabı* ‘container’ is a transnumeral. But the first sentence, (24a), is imperfective, because of the impact of the transnumeral itself. It pluralizes the entity denoted, making it nonbounded on the time axis, indefinitely iterative. It has no known starting point and no known endpoint. The temporal nonboundedness and the indefinite iterativity here are transferred (mapped) onto the referent of the verb – which is otherwise, initially, aspectually ambivalent, and this coerces the verb into

imperfectivity. Imperfectivity is further amplified by the semantic impact of the adverbial nominal *çocukken* ‘when [we were] kids’ – referring to a nonbounded past period with no known starting point and endpoint:

- (24) a. Çocukken yogurt kabı ile pasta yaptık
[IMPERFECTIVE]
Child_{WHILE} yogurt container_{TRANSDNUM-ACC} with cake_{TRANSDNUM} made
‘When children we made a cake with a yogurt container’
- b. Kardeşim ile yogurt kabı ile birkaç pasta yaptık
[PERFECTIVE]
Brother with yogurt container_{TRANSDNUM} with a few cake_{RANSNUM} made
‘We made a few cakes with my brother with a yogurt container’

In sentence (24b) *kab-ı* ‘container’ is again a transnumeral. But this time, conversely, a one-off situation is portrayed, hence perfectivity is effectuated. This happens thanks to the initial position of the subject *kardeş-im* ‘my brother’, a position which renders the subject definite according to the cross-language theme-rheme regularity (cf. the Czech sentence *Žena napsala dopis* ‘The woman wrote a letter’ above), hence temporally bounded. In contrast to the transnumeral *kabı* ‘container’ in (24a) which pluralizes the entity denoted and makes it non-bounded, in (24b) the referent of the transnumeral *kabı* is “reduced” to only several instances of use of yogurt containers, which means bounded on the time axis. The boundedness and perfectivity of the situation in (24b) is amplified by the quantified (i.e., bounded) expression *birkaç pasta* ‘a few cakes’ – representing a few instances (i.e., bounded on the time axis) of producing the relevant entity. Thus sentence (24a) falls into Verkuyl’s imperfective schema, sentence (24b) falls into Verkuyl’s perfective schema.

As for instrumental adverbials in general, in a debate long ago on whether these adverbials take part in the compositional effectuation of aspect or not, Verkuyl (1972, p. 109) maintained that they fall outside the scope of the sentence in which aspect is composed. He provided the examples (25a) and (25b) here – which he judged non-grammatical due to some incompatibility, reckoned by him, with *for*-time adverbials:

- (25) a. *Carla wrote that letter with a pencil for half an hour
b. *Carla wrote that letter with pencils for half an hour

Strangely, despite the large importance of instrumental adverbials, Verkuyl’s idea remained generally sidestepped in the literature – but was criticized by Kabakčiev (2000, pp. 261–262) who judged the sentences in (25) to be peculiar in pragmatic terms and upheld a thesis opposite to Verkuyl’s. On the one hand, according to Kabakčiev, sentences such as (25a) and (25b) are not representative of the issue dealing with instrumental adverbials. On the other,

instrumental adverbials, as is common knowledge, are obtainable from direct objects, see (26) > (27) below. This ultimately means that instrumental adverbials take part in the composition of aspect.

The real-world setting of the sentences in (26) and (27) below is the following. Seymour works in a meat department. He slices salami every day, using different knives. Sentences such as (26a) and (27a) describe a single occasion of Seymour's slicing salami. This is a perfective situation. Conversely, sentences such as (26b) and (27b) describe Seymour's permanent activities in the meat department – hence, imperfectivity is effectuated:

- (26) a. Seymour used a knife to slice the salami [PERFECTIVE]
- b. Seymour used knives to slice the salami [IMPERFECTIVE]
- (27) a. Seymour sliced the salami with a knife [PERFECTIVE]
- b. Seymour sliced the salami with knives [IMPERFECTIVE]

Rendered into Turkish, the corresponding sentences display the same regularity. The phrase *kesmek için bıçak* 'cut [with] knife' – with *bıçak* 'knife' as a transnumeral, is the same in (28a) and (28b). The perfective-imperfective contrast, interestingly, is realized through the accusative-nominative contrast in the direct object (*salami*_{ACC} vs *salam*_{NOM}). The Turkish sentences (28c) and (28d) are identical in structure and meaning to the English sentences (27a) and (27b), and describe what Orhan does in the meat department (on a past-time segment). He either performs a one-off act, as in (28c), or is engaged in the activity (activities) of slicing salami – a nonbounded situation, imperfective. In (28c) perfectivity is realized exactly as in (27a), and in (28d) imperfectivity is effectuated as in (27d). The difference is that while in English the bounded-nonbounded (hence perfective-imperfective) contrast is realized through the indefinite vs the zero article (with a plural nominal in the latter case) – the verb in both cases being aspectually ambivalent – in Turkish the perfective-imperfective contrast is triggered through the use of the numeral *bir* 'one' vs a transnumeral:

- (28) a. Orhan salamı kesmek için bir bıçak kullandı [PERFECTIVE]
Orhan salami_{ACC} cut with one knife used
'Orhan used a knife to slice the salami'
- b. Orhan salam kesmek için bıçak kullandı [IMPERFECTIVE]
Orhan salami_{NOM} cut with knife_{TRANSNUM} used
'Orhan used knives to slice the salami'
- c. Orhan salamı bir bıçakla kesti [PERFECTIVE]
Orhan salami_{ACC} one knife cut
'Orhan sliced the salami with a knife'
- d. Orhan bıçakla salam kesti [IMPERFECTIVE]
Orhan knife_{TRANSNUM} salami cut
'Orhan sliced the salami with knives'

The four Turkish sentences (28a-d) with transnumerals as instrumental adverbials indicate once again that while the transnumeral, as shown above for sentences (24), does not in itself always and invariably support the effectuation of imperfectivity, here imperfectivity is realized through the use of transnumerals. In any case, the realization of the aspect values of perfectivity and imperfectivity is an extremely complex and intricate mechanism in which transnumerality could be regarded as prone to the realization of imperfectivity. Future research is needed to clarify the uncertainties and inaccuracies in the handling of this problem field.

Results and Discussion

The aim of the analysis carried out in the paper was to reveal the role of the transnumeral form in the realization of perfectivity and imperfectivity in Turkish. Examples with transnumerals were analyzed positioned as subjects, objects (direct and indirect) and an instrumental adverbial. The analysis here and in my previous study (Kutsarova, 2025) show that Turkish is a CA language with aspectually ambivalent *-DI* and *-mİş* past-tense forms, i.e., in contrast to Bulgarian and all the other Slavic languages, it has no perfective and imperfective verbs. The compositional realization of aspect in Turkish resides at the sentence level and is effectuated through the definite-indefinite contrast and boundedness and nonboundedness, respectively, through the subject and the direct object, as well as through instrumental adverbials. It was shown above that perfectivity and imperfectivity in the syntactic object are effectuated through entities (NP referents) that are morphologically marked as definite or indefinite (the latter not marked for definiteness). As a result, accusative forms, which are definite, explicate boundedness in the NP referent; and vice versa, when the syntactic object is not marked as accusative, nonboundedness is explicated in the NP referent. Note, however, that even though this contrast is systematically effectuated with the syntactic object, the final compositionally established aspect value is a result of a complex interplay between all sentence elements, including word order. Indeed, there are certain sentence types in Turkish in which this principle will not hold, but these cases are rare – and the generalization above is valid for the large majority of possible sentence types.

If in the direct object the perfectivity-imperfectivity contrast is explicated easily through the alternation of morphologically marked and non-marked forms, with the subject the phenomenon is much more restricted. This constraint is generated by the formal, structural, semantic and functional specificities of the subject, which is usually in initial position and is not morphologically marked with a case affix. These specificities are directly related to the explication of definiteness and indefiniteness in terms of the

functional sentence perspective. The definiteness-indefiniteness category is most closely related to boundedness and nonboundedness, a major and very significant element in the theory of CA directly related to the explication of perfectivity and imperfectivity. Apart from that, the non-markedness of the subject formally coincides with the transnumeral form (grammatical homonymy), which makes the analysis rather complicated. Apart from that, the realization of aspect meanings from the point of view of the theory of CA is always at the level of the sentence, combined with a complex interplay of many components – nominal and verbal elements, whereby adverbials, word order and logical stress also take part in various ways.

Conclusions

The overall analysis aimed to investigate the specificity of the Turkish transnumeral in the light of the CA theory, as well as to reveal, as much as possible, the general mechanism of its relationship with aspect. It was determined that Turkish is a “hybrid language type” where grammatical transnumerality co-exists with nominal forms for singular and plural, unlike in “purely transnumeral” languages (of the Chinese type) and languages of the European type like English (Germanic, Romance) and the Slavic languages with singulars and plurals.

It was expected for conclusions to be drawn from this study that transnumerality is a major phenomenon in Modern Turkish that contributes to the realization of aspect in compositional terms and in particular imperfectivity.

But the analysis favors a conclusion that when quantifiers are added to the transnumerals, boundedness may be explicated in the NPs, it is transferred onto the verb referent, and this kind of interaction between the elements of the sentence renders the situation perfective – which, in terms of Verkuyl’s aspect schemata, means that the sentence is perfective.

The specific object of analysis here were the types of aspect values explicated at the sentence level, triggered as a result of an interplay between the transnumeral in a given sentence component (subject, object, adverbials) and the other sentence components – or some of them. It is worth noting again here that the effectuation of the perfective-imperfective distinction is crucially dependent on the ambivalent aspectual nature of the Turkish past-time affixes *-DI* and *-mİş*.

The transnumeral as subject in the sentence. The analysis shows that for the effectuation of the perfective-imperfective distinction in sentences with a transnumeral in the subject position, very significant is the ability of this special form to encode both singularity and plurality. The imperfective reading is mainly dependent on the Verkuylian leak (nonboundedness) in the interpretation of plurality but the role of other elements, such as stress and word order, is also significant. The use of a transnumeral in the subject

position is, however, rather restricted in comparison with the direct object position, where genericity is very often signified.

The transnumeral as direct object in the sentence. Examples are given in which the direct object is expressed by a transnumeral, whereby it encodes indefinite plurality, hence indefinite iterativity, hence imperfectivity (after the relevant NP value is transferred onto the verb). When the direct object with a transnumeral is used with the accusative case suffix [-ı], it indicates that this is a specific entity known to both speaker and hearer. Without the accusative, the noun loses its specificity or definiteness. These are (some of) the reasons why sentences are perfective and imperfective respectively. But the direct object is not always marked with an accusative, and when it is not, indefiniteness is explicated, again through a transnumeral. The use of the relevant transnumeral as direct object explicates temporal nonboundedness and this temporal nonboundedness is mapped onto the (referent of the) verb, coercing it into indefinite iterativity, hence imperfectivity. What is more, preference is observed for the use of a transnumeral in the direct object in a preverbal position at the expense of a form with an *-lar* affix. The absence of a quantifier triggers the explication of nonboundedness, therefore imperfective situations (Vendlerian) are effectuated: states or activities (Vendler 1957).

The transnumeral as indirect object. Some of the examples (19a), (19b), (20a), (20b) with transnumerals as indirect object would rather be ascribed to the group of adverbials – a place adverbial in (19), a time adverbial in (20), i.e., the descriptions in the Turkish linguistic literature are followed, not the understanding of what is considered to be an indirect object in the grammars of English and other European languages.

However, the fact that there is a transnumeral – no matter whether the sentence is imperfective or perfective, indicates that with indirect objects there appears to be no special preference for transnumerals to take part in imperfective sentences – as this is observed in sentences containing transnumerals serving as subjects and direct objects (a thesis indirectly supported by Sağ, 2022, p. 754).

Transnumerals in the position of an indirect object illustrate the realization of perfectivity and imperfectivity through the mechanism of boundedness and nonboundedness of the NP situation participants. In the case of an NP leak imperfectivity is realized. However, in the case of perfectivity the quantifiers make the (referents of the) situation-participant NPs bounded, despite the transnumerality, and this matches the perfective schema in the CA theory.

The transnumeral as an instrumental adverbial. The Turkish sentences (28a-d) with transnumerals as instrumental adverbials indicate once again that the transnumeral does not in itself always and invariably support the effectuation of imperfectivity. Imperfectivity depends on several factors in a

sentence but the use of a transnumeral in a certain sentence component may still be a decisive factor for effectuating imperfectivity. In certain cases (23a), the transnumeral, despite its outward singularity, encodes plurality, hence this is a Verkuylian leak. Being a temporal entity with no beginning and no end on the time axis and implicating (or explicating) non-bounded iterativity, it is mapped onto the verb – which ultimately renders the situation imperfective. When a quantifier is added to the instrumental adverbial in such cases (23b), boundedness is explicated in the NPs, it is transferred onto the verb referent, and this kind of interaction between the elements of the sentence renders the situation perfective and the subject is more easily perceived as definite due to its initial position – all of which, in terms of Verkuyl's aspect schemata, means that the sentence is perfective.

The generalization is that although the transnumeral tends to assist the realization of imperfectivity in many cases, it cannot be regarded as a universal imperfectivization device. While it cannot be categorically asserted that transnumeral forms directly or indirectly help in the realization of aspect, they play a very important role for the effectuation of aspect meanings.

Transnumerality was also analyzed through the prism of psycholinguistics regarding the transcoding of what is perceived by the speaker as objective reality and the mechanism generated in people's heads governing the encoding of number. The Turkish transnumeral can be said to play an important role in syntax and semantics, allowing speakers to express ideas without focusing on a particular number. This facilitates the flexibility of expression and helps the economy of language devices.

Ultimately, the realization of the aspect values of perfectivity and imperfectivity is an extremely complex and intricate mechanism in which transnumerality could be regarded as prone to the realization of imperfectivity. Future research is needed to clarify the uncertainties and inaccuracies in the handling of this problem field.

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References

- Acquaviva, P. (2005). The morphosemantics of transnumeral nouns. Morphology and linguistic typology. In G. Booij, E. Guevara, A. Ralli, S. Sgroi & S. Scalise (Eds.), *Morphology and Linguistic Typology, On-line Proceedings of the Fourth Mediterranean Morphology Meeting (MMM₄) Catania 21-23 September 2003*, University of Bologna. Retrieved from <http://morbo.lingue.unibo.it/mmm/>
- Acquaviva, P. (2008). *Lexical plurals. A morphosemantic approach*. Oxford University Press.
- Bakardzhieva-Morikang, S., & Kabakčiev, K. (2024). Ukrainian biaspectuality: An instantiation of compositional aspect in a verbal-aspect language. *East European Journal of Psycholinguistics*, 11(1), 28–46. <https://doi.org/10.29038/eejpl.2024.11.1.bak>
- Banguoglu, T. (1990). Turkcenin grameri [The Turkish Language Grammar]. In Banguoglu, T. (Ed.), *Sozun Ezgisi [The word intonation]* (pp. 114–140). Turk Tarih Kurumu Basimevi.
- Bulatović, V. (2013). Modern theories of aspect and Serbian EL2 learners. *Belgrade English Language and Literature Studies*, 5(1), 65–79.
- Bulatović, V. (2020). Thinking for speaking in the right aspect – on whether Modern English grammars can do more. *Spanish Journal of Applied Linguistics*, 33(2), 384–415. <https://doi.org/10.1075/resla.18007.bul>
- Bulatović, V. (2022). Aspect semantics and ESL article use. *International Review of Applied Linguistics in Language*, 60(2), 491–521. <https://doi.org/10.1515/iral-2019-0016>
- Corbett, G. (2000). *Number*. Cambridge University Press.
- Dimitrova, D. (2021). Aspect coercion in Greek aorist and perfect verb forms. *Studies in Greek Linguistics*, 41, 45–53.
- Dimitrova et al. (2025, forthcoming). Dimitrova, D., Shabashvili, G., & Kabakčiev, K. On the identicalness of some grammatical entities in Greek, Bulgarian and Georgian: triggered by language contact or not? *Paper read at the Third International Conference on Language Contact in the Balkans and Asia Minor*. Thessaloniki: Institute of Modern Greek Studies. Retrieved from https://ins.web.auth.gr/images/banners/PROGRAM_2023.pdf
- Dmitriev, N. (1956). Kategoriya chisla. *Issledovaniya po sravnitel'noy grammatike tyurkskih yazykov. Part II. Morphologiya*, 65–71.
- Ediskun, H. (1985). *Türk Dilbilgisi [Turkish grammar]*. Remzi Kitabevi.
- Enç, M. (1991). The semantics of specificity. *Linguistic Inquiry*, 22, 1–25.
- Erguvanli, E. (1984). *The function of word order in Turkish grammar*. University of California Press.
- Fattahova, R. (2015). Vopros o grammaticheskoy kategorii chisla v tyurkologii i vklad N. K. Dmitrieva v ee izuchenie [The question of the grammatical category of number in Turkology and the contribution of N.K. Dmitriev to its study] *Filologicheskie nauki. Voprosy teorii i praktiki*, 5(47)-1, 197–199.
- Galton, H. (1967). The evolution of Bulgarian syntax (a phenomenological study of 'analytism'). *Balkansko ezikoznanie*, 12, 45–99.
- Gulubov, G. (1949) *Turkish Grammar*. Nauka i izkustvo.
- Gencan, N. (1979). *Dilbilgisi [Grammar]*. TDK.
- Genish, E. (2007). *Grammatika turetskogo yazyka*. LKI.
- Göksel, A., Kerslake, C. (2005). *Turkish: A Comprehensive Grammar*. Routledge.

- Görgülü, E. (2018) Noun semantics and number marking in Turkish. *Mersin Üniversitesi Dil ve Edebiyat Dergisi, MEUDED*, 15(1), 85-104.
- Gronbech, K. (1936). *Der türkische Sprachbau*. Levin and Munksgaard.
- Guzev, V. (2015). *Teoreticheskaya grammatika turetskogo yazyka*. Saint Petersburg University Press.
- Guzev, V. & Nasilov, D. M. (1975). K interpretatsii kategorii chisla imen sushtestvitel'nyh v tyurkskih yazykah [On the interpretation of the category of number of nouns in Turkic languages]. *Issues of Linguistics*, 3, 98-111.
- Haxhillari, H. (2024). The category of determiner in Albanian. *Athens Journal of Philology*, 11(4), 327-338.
- Hengirmen, M. (2002). *Türkçe Dilbilgisi* [Turkish Grammar]. Engin
- Heusinger, K. & Kornfilt, J. (2005). The case of the direct object in Turkish: Semantics, syntax and morphology. *Turkic Languages*, 9, 3-44.
- Johanson, L. (1977). Bestimmtheit und Mitteilungsperspektive im türkischen Satz. *Zeitschrift der Morgenländischen Gesellschaft*, Suppl. 3/2, 1186-1203.
- Kabakčiev, K. (1984). The article and the aorist-imperfect distinction in Bulgarian: an analysis based on cross-language "aspect" parallelisms. *Linguistics*, 22(5), 643-672.
- Kabakčiev, K. (2000) *Aspect in English: a 'common-sense' view of the interplay between verbal and nominal referents*. Springer.
- Kabakčiev, K. (2019). On the history of compositional aspect: vicissitudes, issues, prospects. *Athens Journal of Philology*, 6(3), 201-224. <https://doi.org/10.30958/ajp.6-3-4>
- Kabakčiev, K. (2020). Two major manifestations of compositional aspect in Bulgarian. *Studia Philologica Universitatis Velikotarnovensensis*, 39(1), 115-125.
- Kabakčiev, K. (2023). On the temporal values of situation-participant NP referents mapped from Bulgarian perfects with aorist and imperfect participles. *East European Journal of Psycholinguistics*, 10(1), 48-60. <https://doi.org/10.29038/eejpl.2023.10.1.kab>
- Kabakčiev, K. (2025). On the gigantic fallacy that there is no Slavic-like aspect in the Romance languages and aspect resides only in the past domain. *Athens Journal of Philology*, 12(1), 9-30. <http://dx.doi.org/10.30958/ajp.12-1-1>
- Kononov, A. (1941). *Grammatika sovremennogo turetskogo literaturnogo yazyka* [Grammar of the Modern Turkish literary language]. AN SSSR.
- Korkmaz, Z. (2009). *Türkiye Türkçesi Grameri Şekil Bilgisi*. TDK
- Kowalski, T. (1936). *Zur semantischen Funktion des Pluralsuffixes -lar, -lär in den Türksprachen*. Nakł. Polskiej Akademji Umiejętności.
- Kutsarova, S. (2025). An Attempt at Outlining the Major Features of Compositional Aspect in Modern Turkish. *Athens Journal of Philology*, 12(1), 49-74.
- Langacker, R. W. (2008). *Cognitive grammar*. Oxford University Press.
- Lewis, G. (2000). *Turkish grammar*. Calendon Press.
- Lyubimov, L. K. (1972). O chislovom znachenii nulevoy formy tyurkskih sushtestvitel'nyh [On the numerical value of the zero form of turkic nouns]. *Soviet Turkology*, 78-83.
- Manzini, M., Rita (2020). The morphosyntactic structure of number in Italian and Albanian. High and low plurals. *Catalan Journal of Linguistics*, 19, 127-157.
- Oganova, E. (2022). *Kategoriya chisla v turetskom yazyke kak lingvodidakticheskaya problema*. In E. Oganova, Ed. *Tyurkskie yazyki i literatury v istoricheskoy perspective* [The category of number in the Turkish language as a linguodidactic problem. Turkic languages and literatures in historical perspective]. (pp. 86-101). Institute of Africa and Asia.

- Pelletier, F. (2013). Lexical nouns are both +mass and +count, but they are neither +mass nor +count. In D. Massam (Ed.), *Count and mass across languages* (pp. 9–26). Oxford Academic. <http://dx.doi.org/10.1093/acprof:oso/9780199654277.003.0002>.
- Rocchi, L. (2016). Definiteness vs. indefiniteness in the Turkish language. *International Journal of Translation*, 18, 185–205. <https://doi.org/10.13137/2421-6763/13673>
- Sağ, Y. (2018). The semantics of Turkish numeral constructions. In U. Sauerland & S. Solt (Eds.) *Proceedings of Sinn und Bedeutung*, 22(1–2) ZASPiL 61). (pp. 307–324). ZAS, Berlin.
- Sağ, Y. (2022). Bare singulars and singularity in Turkish. *Linguistics and Philosophy*, 45, 741–793. <https://doi.org/10.1007/s10988-021-09323-0>
- Scheka Y. (2007). *Prakticheskaya grammatika turetskogo yazyka* [Practical grammar of Turkish]. Vostok-Zapad.
- Schroeder, C. (1999). *The Turkish nominal phrase in spoken discourse*. Turcologica, 40. Harrassowitz.
- Shtanov, A. V. (2010). *Turetskiy yazyk. Bazovyi kurs [Turkish language. Basic course]*, Part I. MGIMO University.
- Shabashvili G. & Kabakčiev, K. (2021). Verbal aspect vis-à-vis compositional: a typological case study of Georgian, against Russian and English data. *Studies in Greek Linguistics*, 42. Thessaloniki, 375–384.
- Scherbak, A. M. (1970). Formy chisla u imen v tyurkskih yazykah [Forms of number in names in Turkic languages]. *Issues of Linguistics*, 3, 87–99.
- Sokolov, S. A. (1970). Kategoriya chisla v turetskom literaturnom yazyke I ee vzaimosvyaz' so smezhnymi leksiko-grammaticheskimi kategoriymi [The category of number in the Turkish literary language and its relationship with related lexical and grammatical categories]. *Soviet Turkology*, 4, 71–81.
- Stoyanova, J. (2021). *Problemi na psiholingvistikata* [Problems of Psycholinguistics]. Sofia University Press.
- Symeonidis, V. (2020). Linguistic complexity in grammaticalization: A case study in the „be going to“ construction. In N. Lavidas, A. Bergs, & E. van Gelderen (Eds.), *The Naxos papers, Volume I: On the diachrony of English*. (pp. 111–121). Cambridge Scholars Publishing.
- Turgay, T. (2020). Semantics of Turkish bare nouns and the function of classifiers. *Turkic Languages*, 24(1), 30–77. <http://dx.doi.org/10.13173/TL/2020/1/30>
- Underhill, R. (1976). *Turkish grammar*. The MIT Press.
- Vendler, Z. (1957). Verbs and times. *The Philosophical Review*, 66, 143–160.
- Verkuyl, H. (1972). *On the compositional nature of the aspects*. Unpublished PhD thesis. University of Utrecht Reidel.
- Verkuyl, H. (1993). *A theory of aspectuality. The interaction between temporal and atemporal structure*. Cambridge University Press.
- Verkuyl, H. (2022). *The compositional nature of tense, mood and aspect*. Cambridge University Press.