

Clausal Complements of Non-Agentive Visual Perception Verbs in Bulgarian and Russian*

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The paper examines clausal complementation with the Bulgarian and Russian non-agentive visual perception verbs *виждам – видя / видеть – увидеть* and *забелязвам – забележа / замечать – заметить*. Based on the data of a parallel corpus, the temporal and aspectual features of these verbs and their association with the choice of the complementizers *как* vs. *че / что* are analyzed. Our analysis reveals manifold aspects of interaction between verbal tense and aspectuality and the complementizer distribution. First, the constructions with *как* were found to be associated with a retrospective view of the situation of perception, while the constructions with *че / что* are more frequently used in contexts describing perception from the synchronic point of view. Second, the constructions with *как* appear to represent perception as more independent from the experiencer than constructions with *че / что*. We interpret these differences in light of the opposition between immediate perception and mental perception believed to affect the choice between *как* and *че / что*.

Keywords: Russian language, Bulgarian language, perception verbs, complements, complementizers, corpus linguistics, contrastive study

1. Introduction

Verbs of perception typically denote situations involving two participants, an experiencer, who is a perceiving participant, and a stimulus, i.e. a perceived object or situation (Usoniene 1999, 211; Verhoeven 2007, 49). Either the experiencer or the stimulus can be encoded as the subject of a perception verb, although experiencer-subject verbs are generally more numerous and frequent. Experiencer-subject verbs are subdivided into those denoting uncontrolled, non-agentive perception (*see, hear*) and active, or agentive perception (*look, listen*) (Viberg 2001, 1296).¹⁾

In this study, we examine clausal complements of Bulgarian and Russian verbs of uncontrolled visual perception. The verbs are shown in Table 1, given in aspectual pairs, first the imperfective, then the perfective verb.

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1) The subject of agentive perception verbs is often assigned the semantic role of agent rather than experiencer or a double semantic role.

Bulgarian verbs	Russian verbs	English translation
<i>виждам – видя</i>	<i>видеть – увидеть</i>	'see'
<i>забелязвам – забележа</i>	<i>замечать – заметить</i>	'notice'

Table 1. Bulgarian and Russian non-agentive visual perception verbs under study

The verbs *виждам – видя* and *видеть – увидеть* (1)–(2)² are the basic verbs of non-agentive visual perception in the two languages.

- (1a) *Много добре виждах как дяното колело се насочва към високия гранитен бордюр.* [Павел Вежинов. Измерения (1973)]
- (1b) *Я ясно видел, как правое колесо рванулось к высокому гранитному парапету.* [Павел Вежинов. Измерения (Л. Лихачева, 1981)]
'I clearly **saw** the right wheel rush towards the high granite parapet'.
- (2a) *Я обернулась и увидела, что он бежит навстречу.* [Татьяна Полякова. Миллионерша желает познакомиться (2002)]
- (2b) *Обърнах се и видях, че Стас тича настреща ми.* [Татьяна Полякова. Миллионерша търси запознанство (Ива Митева, 2004)]
'I turned around and **saw** him running towards me'.

The meaning of the verbs *забелязвам – забележа* and *замечать – заметить* is more complex. Their basic meaning is that of visual perception (3), see (Paducheva 2004, 214, 229) for Russian, but they can also be used to describe perception in other sensory modes or generic perception, as in (4).

- (3a) *Никто не замечал, как порой он вместе с потом небрежным жестом, улыбаясь, смахивает с лица невольные слезы.* [Б. Н. Полевой. Повесть о настоящем человеке (1946)]
- (3b) *Никой не забелязваше как понякога заедно с потта той изтриваше от лицето си с небрежно движение и усмивка и неволните сълзи.* [Борис Полевой. Повесть за истинския човек (Кирила Георгиева, 1980)]
'No one noticed how sometimes he, with a careless gesture and a smile, along with sweat, wiped unintended tears from his face'.
- (4a) *– Кармен! – извика тя по-високо и сама забеляза, че в гласа ѝ прозвучаха нотки на истерична уплаха.* [Димитър Димов. Осъдени души (1945)]
- (4b) *– Кармен! – крикнута она громче и сама заметила, что в голосе ее прозвучали нотки истерического испуга.* [Димитр Димов. Осужденные души (Т. Ружская, 1978)]
'“Carmen!” she cried louder and noticed the signs of a hysterical fright in her own voice'.

2) All examples were taken from the *Bulgarian-Russian parallel corpus of the Russian National Corpus (NKRJa)*. For each example, we first give the original, then the translation.

According to Paducheva (2004, 220–221, 226–227), for the verbs *видеть – увидеть*, the primary semantic component is that of the creation of the visual image of the stimulus by the experiencer, whereas the verbs *замечать – заметить* describe primarily the mental processing of the stimulus. For the verbs *видеть – увидеть*, Paducheva (2004, 226) analyses the uses in the cognitive domain as a semantic shift, whereas in case of *замечать – заметить*, it is difficult to draw a boundary between the perceptual and the cognitive uses. We assume that the two pairs of Bulgarian verbs differ along similar lines. Below, we show how these semantic differences are manifested in the distribution of complementation strategies.

We restrict our analysis to two major complement types in the two languages, i.e. the complements introduced by *как* and *че* in Bulgarian and *как* and *что* in Russian, cf. (1)–(4). The complementizer *как* is generally believed to be associated with immediate perception, whereas the complementizers *че* and *что* are associated with mental perception, i.e. the conclusion the experiencer makes based on the perceived situation, see, among others, Kobozeva (1988) for Russian, Mitkovska and Bužarovska (2021) for Bulgarian. Building on this distinction, we focus on the relation between the complementizer choice and the aspectuality and tense of the perception verb, which has not been much discussed in the previous studies.³⁾

These perception verbs manifest significant differences in their aspectual properties both within and between the two languages. Our aim is to explore how these differences affect the use of the verbs and complementation strategies based on the data of a parallel corpus. We establish patterns of correspondence between Bulgarian and Russian verbs and complementation strategies and determine whether and how their distribution is related to the perception verb's aspectuality and tense.⁴⁾

The remainder of the paper is structured as follows. Section 2 contains a theoretical overview of the complementizer semantics and the aspectuality of visual perception verbs. Section 3 gives a brief description of the data used for the study. Then we discuss and compare the use of the complementation strategies with the verbs *виждам – видя* and *видеть – увидеть* (section 4) and *забелязвам – забележа* and *замечать – заметить* (section 5). Section 6 summarizes the main findings of the study.

2. Theoretical background

2.1 Complementizer semantics in Bulgarian and Russian

Cross-linguistically, complementation strategies are often opposed in terms of the truth value of the proposition expressed by a complement clause (Noonan 2007, 102–111). The semantic features in this domain include realis/irrealis, factivity, hypotheticality, etc. These features are also commonly discussed in the literature dealing with complementizer semantics in Bulgarian and Russian (Aleksova and Tisheva 2000; Nitsolova 2008;

3) The complementizer choice and aspectuality of the verbs *видеть – увидеть* and *виждам – видя* were also the subject of our study (Kukova – Ovsjannikova 2022), where we discussed the correspondence between these verbs and their aspectual properties that might be associated with the distribution of complementizers. In the present paper, we provide a much more detailed analysis of aspectuality of these verbs, the use of their temporal forms, and compare them with the verbs of the other pair.

4) As suggested by one of the reviewers, the complementizer choice might also be associated with the tense and aspect of the verb in the complement clause. Still, due to the complex correspondence between the Bulgarian and the Russian tense systems, as well as the possible interaction between temporal properties of the main and the complement clause, we decided to leave this parameter for a future study.

Letuchiy 2021). In this respect, clausal complements of perception verbs introduced by *как* (5a) and *че* (6b) in Bulgarian and *как* (5b) and *что* (6a) in Russian are real and factive, i.e. they are not distinguished by the truth value, whereas unreal complements are introduced by *да* in Bulgarian and *чтобы* in Russian (7), see (Aleksova and Tisheva 2000; Penchev 1998; Nitsolova 2008; Koeva 2019) for Bulgarian and (Kobozeva 1988; Letuchiy 2021, 281) for Russian.⁵⁾

- (5a) *Я так увлекся чтением статей о себе, что не заметил, как она (дверь я забыл закрыть) предстала предо мною с мокрым зонтиком в руках и мокрыми же газетами.* [М. А. Булгаков. Мастер и Маргарита (1929–1940)]
- (5b) *Бях така погълнат от четенето на написаните за мен статии, че не забелязах как тя (бях забравил да затворя вратата) се изправи пред мене с мокър чадър и мокри вестници в ръце.* [Михаил Булгаков. Майстора и Маргарита (Лиляна Минкова, 1989)]
 ‘I was so carried away by reading articles about myself that I didn’t notice how she (I forgot to close the door) appeared before me with a wet umbrella in her hands and wet newspapers’.
- (6a) *Аркадий Сергеевич посмотрел на Нику, увидел, что зачин удался, и удовлетворенно запыхтел трубкой.* [Борис Акунин. Ф. М. (2006)]
- (6b) *Аркадий Сергеевич погледна Ника, видя, че началото го е впечатлило, и доволен попуфка с лулата.* [Борис Акунин. Ф. М. (София Бранц, 2007)]
 ‘Arkadiy Sergeevich looked at Nika, saw that the idea was a success, and puffed contentedly with his pipe’.
- (7a) *Нито веднъж не я видя да излезе на улицата.* [Павел Вежинов. Белият гущер (1977)]
- (7b) *Он ни разу не видел, чтобы она вышла на улицу.* [Павел Вежинов. Белый ящер (Л. Лихачева, 1982)]
 ‘He never saw her go outside’.

The choice between the complementizers *как* (5) and *че / что* (6) is linked to another semantic distinction commonly determining the distribution of complementation strategies with perception verbs. As discussed by Noonan (2007, 142–144), non-agentive verbs of perception, i.e. verbs like *see* as opposed to *look*, often have semantic extensions into cognitive domain and can be used as verbs of knowledge and acquisition of knowledge, and the contrast between these two meanings may influence the choice of the complementation strategy. This contrast has been discussed in various terms, see, in particular, a critical overview in Boye (2010).

5) The real picture is more complex and the factivity and realis / irrealis distinction in the two languages does not strictly correspond to the complementizer type. Most importantly, in Bulgarian, complements with *да* can also be real and factive (Koeva 2019, 66; Ivanova 2022, 169–172) and thus correspond to the Russian complementizers *как* and *что*. As we show in (Ovsjannikova – Kukova 2022), in parallel contexts, Bulgarian factive complements with *да* also frequently correspond to Russian constructions with participles and nominalizations.

For Bulgarian, Mitkovska and Bužarovska (2021) describe the distinction between the complementizers *как* and *че* as associated with the difference between immediate and mental perception, respectively. Koeva also notes that “*как* puts an emphasis on the process rather than on the fact” (Koeva 2021, 19).

For Russian, the contrast between *как* and *что* was discussed by Kobozeva (1988) in terms of the distinction between, respectively, the “image” of an event and the “judgment”, or fact. The image, introduced by the complementizer *как*, corresponds to the situation as it is unfolding in the experiencer’s mind, whereas the judgment, introduced by *что*, corresponds to the conclusion based on the perceived situation. Aikhenvald (2004, 121), in a simpler wording, writes to the same effect: “The conjunction *как* implies direct perception <...>, while the conjunction *что*, a general complementizer, implies that what the speaker actually perceives is a clue, or basis of an inference which may give an idea about the situation”.

Grammatically, in contrast to complement clauses introduced by *что*, those with *как* cannot be negated and cannot have the time reference posterior to the reference point of the perception verb, as they describe the situation as immediately perceived by the experiencer (Kobozeva 1988). Mitkovska and Bužarovska (2021, 276) note that “immediate perception involves only a simultaneity relation” between the act of perception and the perceived situation.⁶⁾

The analyses differ in whether the semantic opposition between immediate and mental perception should be considered clear-cut, in particular whether there is a straightforward correspondence between the conjunction and the presence of the mental component. In particular, for Bulgarian, Mitkovska and Bužarovska (2021, 276) distinguish between primary and secondary mental perception depending on whether the situation described by the complement clause was available to direct observation of the experiencer. They also note that the constructions with *как*, although rarely, may be classifiable as describing primary mental rather than immediate perception (Mitkovska – Bužarovska 2021, 283). For Russian, a more clear-cut correspondence seems to be suggested by the literature, cf. the analyses by (Kobozeva 1988) and (Aikhenvald 2004, 121) cited above. Our data shows no discrepancy between Bulgarian and Russian in this respect: in the contexts under analysis, the Bulgarian complementizer *че* predominantly corresponds to the Russian *что*, and Bulgarian *как*, to *как* in Russian. Even if there is no unequivocal relationship between the complementizer and the type of perception there is at least a strong statistical association between them. Therefore, for the purposes of this study, we assume that in both Bulgarian and Russian, the complementizer *как* is associated with immediate perception, whereas the complementizer *что* is associated with mental interpretation of the verb.

2.2 Aspectuality of the perception verbs

Aspectual systems of the Slavic languages, in particular of Bulgarian and Russian, have been subject to much study and theoretical debate. In this paper, we cannot give an overview of all of the existing analyses of the entire aspectual systems of Bulgarian and Russian. Instead, we focus on the aspectual profiles of the verbs under study and indicate which

6) These generalizations are not exceptionless. In particular, as noted by one of the reviewers, complement clauses with *как* can be grammatically negative, if the negative form denotes an activity or state in its own right (e.g. *не мочь* ‘be unable’). The temporal relations in constructions with *как* sometimes also deviate from simultaneity in the strict sense, e.g. when the complement clause describes an event anterior to the event of perception with the result still relevant at the moment of perception, cf. (Mitkovska – Bužarovska 2021, 283–284).

of them are likely to be specific to particular verbs and which may stem from the overall makeup of the aspectual systems of the two languages. There are considerable differences between the two pairs of verbs, as well as between the two languages and, as we show in sections 4 and 5, these differences largely determine the observed patterns in the use of the complementizers under study.

In the pair of Bulgarian verbs *виждам* – *видя*, the perfective *видя* is morphologically basic, while the imperfective *виждам* is derived. As Rangelov points out, *виждам* – *видя* are typically used as states with the meaning ‘perceive visually’ or ‘be able to perceive visually’, but the “perfective verb, especially in the aorist, can also be interpreted as [+ telic] and [+ punctual], i.e. Achievement” (Rangelov 2018). The imperfective verb can describe either ongoing perception (8a) or the iterative act of perception (9a).

- (8a) – *Виждам, че още ми имате зъб. Но не сте прав.* [Павел Вежинов. Ношем с белите коне (1975)]
- (8b) – *Вижу, что у вас на меня зуб. Но вы не правы.* [Павел Вежинов. Ночью на белых конях (Л. Лихачева, 1978)]
‘I see that you have a grudge against me. But you are wrong’.
- (9a) *А на брега разположиха стана си караманлиите и вечер виждахме как пред огньовете им преминават мудни сенки <...>.* [Вера Мутафчиева. Случаят Джем (1966–1967)]
- (9b) *А на брегу стали лагерем караманы, и по вечерам мы видели, как движутся у костров их неторопливые тени <...>.* [Вера Мутафчиева. Дело султана Джема (М. Михелевич, 1973)]
‘And on the shore the Karamans camped, and in the evenings we saw their unhurried shadows moving around the fires’.

In clauses with past temporal reference, we will distinguish between the synchronic and the retrospective point of view, as discussed by Knjazev (2007, 371–372) and Paducheva (1998, 44–46). Under the synchronic point of view, the situation is viewed “from inside”, and under the retrospective point of view, the situation is viewed “from outside”, as completed. When describing perception in the past, the imperfective *виждам* is mainly used for the synchronic point of view, i.e. “from inside” of the ongoing perception (10a), whereas the perfective *видя* is used for the retrospective point of view, in particular to describe the fact of perception in the past (11a), see more details in section 4.

- (10a) *Стария, то се знае, ясно виждаше, че това, което му сервирам на работната маса, не само не е „добре“, а е отчайващо лошо <...>* [Богомил Райнов. Тютюневият човек (1978)]
- (10b) *Старик, конечно, видел, что все мои опусы не только не хороши, но отчаяюще плохи.* [Богомил Райнов. Заядлый курильщик (1989)]
‘The old man, of course, saw not only that all my opuses on the working table were not good, but that they were desperately bad’.
- (11a) *В Малага тя видя как няколко младежи роялисти стреляха от една елегантна кола и убиха местния водач на комунистическата партия.* [Димитър Димов. Осъдени души (1945)]

- (11b) *В Малаге она **видела**, как несколько юношей-роялистов стреляли из элегантной машины и убили местного лидера коммунистической партии.* [Димитр Димов. Осужденные души (Т. Рузская, 1978)]
 ‘In Malaga, she saw several young royalists shoot from an elegant car and kill the local Communist Party leader’.

The aspectual relations between the Russian verbs *видеть* and *увидеть* are essentially different. In this pair, the imperfective *видеть* is morphologically basic. Aspectually, it has a much wider range than its Bulgarian counterpart. Along with ongoing (8b) and iterative (9b) perception, and the perception in the past from the synchronic point of view (10b), it is also frequently used to describe perception in the past from the retrospective point of view (11b). This difference might be explained by the fact that the ability to describe completed situations, i.e. to be used for the retrospective point of view, generally characteristic of Slavic imperfective verbs, is especially developed in Russian, as discussed by Knjazev (2007, 379–384). Even among Russian imperfectives, *видеть* is more widely used for retrospective point of view due to its specific relations with its perfective counterpart *увидеть*. The verb *увидеть* describes either momentarily perception (12a) or the onset of perception (13a), and is strongly disfavoured in contexts describing an extended act of perception in the past (14) (the example is taken from the main subcorpus of the Russian National Corpus).

- (12a) *Сейчас, граждане, вы **увидите**, как эти, якобы денежные, бумажки исчезнут так же внезапно, как и появились.* [М. А. Булгаков. Мастер и Маргарита (1929–1940)]
- (12b) *Сейчас, граждане, **ще увидите как** тези хартийки – уж пари – ще изчезнат пак така внезапно, както се появиха.* [Михаил Булгаков. Майстора и Маргарита (Лиляна Минкова, 1989)]
 ‘Now, citizens, you will see how these papers, looking like money, will disappear as suddenly as they appeared’.
- (13a) *Потом Ника наконец осмелился взглянуть на слушателя – и **увидел, что** сраженный горем отец улыбается.* [Борис Акунин. Ф. М. (2006)]
- (13b) *После Ника се осмели най-накрая да погледне събеседника си – и **видя, че** убитият от мъка баща се усмихва.* [Борис Акунин. Ф. М. (София Бранц, 2007)]
 ‘Then Nika finally dared to look at his listener – and saw that this father stricken with grief was smiling’.
- (14) *Я **видел** (?увидел), как он то подымал ногу, то опускал и ставил ее на мой след.*
 ‘I saw how he raised his foot, then lowered it and put it on my footprint’.

This difference in aspectual relations between the Bulgarian and Russian pairs of verbs will be a matter of detailed discussion in section 4.

The derivational relations in the pair of Bulgarian verbs *забелязвам* – *забележа* are the same as in the pair *виждам* – *видя*, i.e. the perfective verb is basic and the imperfective is

derived. The aspectuality of these two pairs of verbs in Bulgarian is also similar, although, as we show in section 5, the imperfective verb *забелязвам* is used to describe the ongoing perception (15a) less frequently than *виждам*.

- (15a) *Жената забелязва, че я гледам, тия неща всички жени ги забелязват, но демонстративно забива нос в кинописанието, с което убива времето.* [Богомил Райнов. Няма нищо по-хубаво от лошото време (1971)]
- (15b) *Женщина заметила, что на нее обратили внимание – такие вещи женщины всегда замечают, – но демонстративно уткнула нос в «Кинообозрение».* [Богомил Райнов. Что может быть лучше плохой погоды? (А. Собкович, 1974)]
 ‘The woman noticed that I was looking at her, all women notice these things, but she demonstratively buried her nose in the film magazine with which she was killing time’.

In Russian, the difference between the two pairs of verbs is much more pronounced. Their aspectual and other semantic properties are thoroughly discussed by Paducheva (2004, 217–231). First, in the pair *замечать – заметить*, the perfective *заметить* is the morphologically basic member, in contrast to the pair *видеть – увидеть*, cf. (Paducheva 2004, 228–229), and similarly to the Bulgarian pair *забелязвам – забележа*. Second, according to Paducheva (2004, 219, 228), the imperfective *замечать* cannot be used to describe the ongoing state of perception and is mostly used in the iterative meaning (16a).

- (16a) *После нескольких минут пребывания Штирнера в его комнате она вдруг замечала, как горячее чувство любви начинает наполнять ее.* [А. Р. Беляев. Властелин мира (1940)]
- (16b) *Няколко минути след пребиваването на Щирнер в стаята му тя изведнъж забеляваше, че започва да я изпълва пламенно любовно чувство.* [Александър Беляев. Владетелят на света (Асен Траянов, 1988)]
 ‘After several minutes of Stirner’s staying in his room she suddenly noticed that she started to be filled with an ardent feeling of love’.

Our data shows that there are two types of deviations from this generalization. First, the verb *замечать* can describe the ongoing state (of lack of perception) under negation (17). Second, in the texts created in the 19th century, the use of the positive form of this verb for ongoing perception seems to be more acceptable than in the modern language (18).

- (17a) *Все мы почти раздеты, но никто стужи не чувствует, а Степанов даже и не замечает, что стоит в одних носках.* [Н. А. Островский. Как закалялась сталь (ч. 1) (1930–1934)]
- (17b) *Почти всички сме разсъблечени, но никой не усеща студ, а Степанов дори и не забелязва, че е само по чорапи.* [Н. Островски. Как се каляваше стоманата (Людмил Стоянов, 1944)]
 ‘All of us are almost naked, but no one feels cold, and Stepanov does not even notice that he is only wearing socks’.
- (18a) *Я замечаю, что вы что-то очень внимательно стали слушать... интересный молодой человек...* [Ф. М. Достоевский. Преступление и наказание (1866)]

- (18b) *Забелязвам, че вие нещо много внимателно взехте да слушате... интересни млади човече...* [Фьодор Достоевски. Престъпление и наказание (Георги Константинов, 1960)]

‘I notice that you have been listening very attentively... an interesting young man...’

The aspectual interpretations available to the past tense form of the imperfective verb *замечать* are also restricted to iterative (19) (in positive sentences). The iterative semantic component is preserved in its general factual uses (Paducheva 2004, 228), cf. (20). In contrast to *видеть*, the verb *замечать* cannot describe a single act of perception in the past.

- (19a) *Я замечала в жизни не раз, что тещи не очень-то бывают мужьям по сердцу <...>* [Ф. М. Достоевский. Преступление и наказание (1866)]

- (19b) *В живота неведнъж съм забелязвала, че мъжете не обичат твърде много тъщите си <...>* [Фьодор Достоевски. Престъпление и наказание (Георги Константинов, 1960)]

‘In my life, I have noticed more than once that men do not love their mothers-in-law too much’.

- (20a) – *Ну, конечно, это Дарья рассказывала, – говорила Маргарита Николаевна, – я давно уже за ней замечала, что она страшная врунья.* [М. А. Булгаков. Мастер и Маргарита (1929–1940)]

- (20b) – *Ти това явно от Даря си го чула – каза Маргарита Николаевна, – отдавна съм я забелязала, че много лъже.* [Михаил Булгаков. Майстора и Маргарита (Лиляна Минкова, 1989)]

‘“You obviously heard this from Daria”, said Margarita Nikolaevna, “I have noticed her lying a lot since long ago”’.

Thus, the aspectual differences between the two pairs of verbs, especially in Russian, primarily concern the interpretations available to the imperfectives, and in sections 4 and 5, we largely focus on the connection between these differences and the choice of the complementizer. Another obvious contrast is the discrepancy in the aspectual properties of the verbs *виждам – видя* in Bulgarian and *видеть – увидеть* in Russian. This discrepancy also plays a major role in our analysis of the complementation strategies in the two languages.

3. Data

The data for the study was excerpted from the *Russian-Bulgarian parallel corpus* of the *Russian National Corpus (NKRJa)*. Our sample comprises all the sentences found in the corpus containing the analyzed visual perception verbs with one of the complementizers under study either in Russian or Bulgarian. The sample contains 1066 aligned sentences (742 with *виждам – видя* and/or *видеть – увидеть* and 324 with *забелязвам – забележа* and/or *замечать – заметить*) in the two languages, which gives a total of 2,132 examples. All the attested examples belong to fiction, both classic and contemporary, which, on the one hand, makes our conclusions restricted to this genre only but, on the other, ensures the homogeneity of the data.

Although a certain part of the discrepancies in parallel contexts might be due to translators' subjective decisions and the chosen construction is often not the only possible one, we have searched for complementation patterns which are statistically unlikely to arise by chance.

4. Verbs *виждам* – *видя* and *видеть* – *увидеть*

We start our analysis of the verbs *виждам* – *видя* in Bulgarian and *видеть* – *увидеть* in Russian by looking at the overall distribution of the two complementation strategies with these verbs, see Table 2. At this stage, we take into account only original examples in each language (from the parallel corpus) to make sure that the distribution is not distorted by the interference of the other language.

Bulgarian	<i>как</i>	<i>че</i>	Total	Ratio of constructions with <i>как</i>
<i>виждам</i>	31	27	58	0.53
<i>видя</i>	44	77	121	0.36
Total	75	104		
Russian	<i>как</i>	<i>что</i>	Total	Ratio of constructions with <i>как</i>
<i>видеть</i>	85	118	203	0.42
<i>увидеть</i>	25	101	126	0.20
Total	110	219		

Table 2. Distribution of complementation strategies with *виждам* – *видя* and *видеть* – *увидеть* in the original texts

These data reveal several patterns in the use of both the verbs and the complementation strategies. First, the relative frequency of the imperfective and perfective verbs in the pairs manifests the differences in their aspectual properties: in Bulgarian, the perfective verb *видя* is the more frequent member of the pair, and in Russian, the imperfective *видеть*. This fact conforms to the basic status of these verbs in the respective pairs.

Second, the complementizers *че* and *что* are the most frequent in Bulgarian and Russian, respectively, and constructions with *как* are less frequent.

Finally, Table 2 shows that the complementizer *как* is more frequently used with the imperfective verbs, i.e. *виждам* in Bulgarian and *видеть* in Russian. This difference is especially pronounced in Russian, where the perfective *увидеть* is attested with *как* four times less frequently than with *что*; in Bulgarian the distribution is more even.⁷⁾

As discussed in section 2.2 above, aspectual relations between the Bulgarian verbs *виждам* and *видя* are essentially different from those between the Russian verbs *видеть* and *увидеть*. This discrepancy manifests itself in the correspondences between the perfective and imperfective verbs observed in parallel texts, as shown in Table 3. The Bulgarian imperfective *виждам* corresponds almost exclusively to the Russian imperfective *видеть*,

7) In (Kukova – Ovsjannikova 2022), we analyzed the same distribution taking into account both original texts and translations and saw no difference between the Bulgarian verbs, while for the Russian verbs, the difference was equally significant. We thus conclude that adding translations from Russian makes the distribution in Bulgarian even more even, although the investigation of this interference is beyond the scope of the present study.

irrespective of the complementation strategy, therefore we only give the overall number of examples with these verbs in our data. The correspondence between the perfective verb *видя* and the Russian verbs is more complex, and is different for constructions with *как* and with *че*, treated separately in Table 3.

	<i>видеть</i>	<i>увидеть</i>	Ratio of the imperfective <i>видеть</i>
<i>виждам</i>	178	4	0.98
<i>видя как</i>	75	45	0.62
<i>видя, че</i>	63	160	0.28

Table 3. Cross-language correspondence between the Bulgarian verbs *виждам* – *видя* and the Russian verbs *видеть* – *увидеть*

Table 3 shows that in the contexts with the complementizer *как*, the verb *видя* corresponds to the verb *видеть* much more frequently than in those with *че*, cf. (21)–(22).

- (21a) **Видях как** една сграда рухна пред очите ми, като че ли я удариха с някакъв огромен чук отгоре по покрива. [Павел Вежинов. Измерения (1973)]
- (21b) **Я видел, как** какое-то здание рухнуло у меня на глазах, словно его ударили по крыше огромным молотом. [Павел Вежинов. Измерения (Л. Лихачева, 1981)]
‘I saw a building collapse before my eyes as if it had been hit with some huge hammer on the roof’.
- (22a) **Открыв глаза, он увидел, что** из милицейской комнаты выводят гонцов. [Чингиз Айтматов. Плаха (1987)]
- (22b) **Той отвори очи и видя, че** от милиционерската стая извеждат контрабандистите, <...>. [Чингиз Айтматов. Голгота (Минка Златанова, 1989)]
‘He opened his eyes and saw that the smugglers were being taken out of the police room’.

The fact that the verb *видя* corresponds to *видеть* almost as frequently as to *увидеть* is not surprising given the aspectual differences between these verbs, i.e. the use of the verb *видеть* with retrospective interpretation, in particular to describe temporally bounded perception and the fact of perception in the past, for both of which Bulgarian employs the perfective *видя*.

The differences between constructions with *как* and *че* do not lend themselves to a straightforward explanation.⁸⁾ To better understand the semantic contrasts underlying these distributions, we analyzed temporal and aspectual properties of the constructions under study. In particular, we annotated the contexts in our sample for the morphological form of the verb of perception and, in case of some forms, for their aspectual interpretation.

8) A possible explanation could lie in the preference of the Russian verb *видеть* for the complementizer *как*, and of the verb *увидеть*, for *что*, see Table 2. It could be hypothesized that the translator would rather use *видеть* in Russian when rendering Bulgarian constructions with *видя* and *как*, and *увидеть* when rendering constructions with *видя* and *че*. However, there are no significant differences between the distributions of examples in terms of the language of the original.

As can be expected, in the majority of our examples, the verb of perception is used either in the present tense (*сегашно време* in Bulgarian, *настоящее время* in Russian) or in a form with past temporal reference, where the only Russian past tense form may correspond to a number of forms in Bulgarian (aorist, imperfect, perfect, pluperfect).

The distribution of tense forms of the imperfectives *виждам* and *видеть* turned out to be different in constructions with *как* and with *че / что*. In Table 4, we compare the frequency of their present tense forms and of the forms with past temporal reference.

	Present tense	Forms with past temporal reference	Ratio of present tense forms
Bulgarian			
<i>виждам как</i>	14	42	0.25
<i>виждам, че</i>	96	23	0.81
Russian			
<i>видеть, как</i>	18	93	0.16
<i>видеть, что</i>	70	48	0.59

Table 4. Present forms vs. past temporal reference forms in constructions with *виждам* and *видеть*

Table 4 shows that in constructions with *че* and *что*, the verbs *виждам* and *видеть* are used in the present tense form much more frequently than in constructions with *как*.⁹⁾ Although the texts which are included in the corpus mostly belong to fiction with third-person point of view, the verbs *виждам* and *видеть* predominantly occur in the present tense in dialogues in the first (23) or the second person form (24).

(23a) – *Я вижу, что нам придется продолжать разговор в другом месте, – зловец сказал дон Реба.* [А. Н. Стругацкий, Б. Н. Стругацкий. Трудно быть богом (1964)]

(23b) – *Виждам, че ще трябва да продължим разговора на друго място – зловец каза дон Реба.* [Аркадий Стругацки, Борис Стругацки. Трудно е да бъдеш бог (Симеон Владимиров, 1981)]

“‘I see that we will have to continue the conversation in another place”, said Don Reba ominously’.

(24a) – *Какво да пиша? Нали виждаш, че всичко спират? – Не спират само твоите работи – възрази Стария.* [Богомил Райнов. Тютюневият човек (1978)]

(24b) – *А что писать? Сам видишь, что всё останавливают! – Останавливают не только твои работы, – возразил Старик.* [Богомил Райнов. Зяблый курильщик (1989)]

“‘What should I write? Can’t you see that everything is getting blocked?’ ‘It’s not just your work that gets blocked”, the Old Man objected’.

9) The distributions for the Bulgarian and for the Russian verbs are largely independent. Even though the verb *виждам* mostly corresponds to the Russian verb *видеть*, there are some mismatches in the constructions used in the two languages and, even more importantly, the verb *видеть* corresponds to the Bulgarian perfective verb *видя* in almost half of the examples, see Table 3 above.

In these contexts, the constructions with the complementizers *че* and *что* are used by the speaker to communicate conclusions they made based on the perceived evidence, as in (23), or to urge the hearer to make such a conclusion, as in (24). The component of mental processing, which is generally associated with *че*- and *что*-constructions, is especially foregrounded in these examples: the speaker suggests their interpretation of the perceived situation to the hearer.

For the constructions with *как*, such uses are much less natural: these constructions are associated with immediate perception, and describing an immediately perceived situation in a dialog is pragmatically appropriate only under specific conditions (e.g. when talking on the phone). Interestingly, in the examples with present tense forms of the verbs *виждам* and *видеть* and the complementizer *как*, the experiencer also mostly corresponds to one of the speech act participants, see (25)–(26) below. However, these examples typically describe either iterative perceived situations (25) or imaginary perception (26), which both deviate from immediate perception proper.

(25a) – *Вижу, как вы ломаете молодые жизни! – Сольц обвел рукой сидевших перед ним ребят. – Вижу, как вы их мучаете и терзаете.* [А. Н. Рыбаков. Дети Арбата (1966–1983)]

(25b) – *Виждам, че прекъривате младежки съдби! – Солц посочи с широк жест насядалите пред него младежи. – Виждам как ги тормозите.* [Анатолий Рыбаков. Децата на Арбат (Здравка Петрова, 1988)]

“I see how you are breaking young lives!”, Solz pointed with a broad gesture to the young people sitting in front of him. “I can see how you harass them”.

(26a) *Просто те виждам как се облизваш като стар мръсен котарак.* [Павел Вежинов. Нощем с белите коне (1975)]

(26b) *Так и вижу, как ты облизываешься, словно грязный старый котиче.* [Павел Вежинов. Ночью на белых конях (Л. Лихачева, 1978)]

‘I just see you licking your lips like a dirty old cat’.

For the comparison of the forms of the imperfective verbs with past temporal reference, we looked not only at the morphological form of the verb but also at its aspectual interpretation, since Russian lacks the tense distinctions present in Bulgarian. We contrasted between two aspectual interpretations, as introduced in section 2.2 above, i.e. the synchronic point of view (27) and the retrospective point of view (28).¹⁰

(27a) *Виждах, че туй писмо му струва много – Джем смени на няколко пъти цвят и бършиеше потно чело.* [Вера Мутафчиева. Случаят Джем (1966–1967)]

(27b) *Я видел, что это письмо стоит ему больших усилий – он несколько раз менялся в лице, то и дело вытирал со лба пот.* [Вера Мутафчиева. Дело султана Джема (М. Михелевич, 1973)]

‘I could see that this letter was taking him much effort – Jem changed color several times and wiped his sweaty forehead’.

10) We treated the examples with iterative interpretation as a separate type, but it will not be discussed here.

- (28a) *Но Фандорин **видел, как** этот хилый на вид парень позабавился с непобедимой Валентиной – будто кошка с мышью.* [Борис Акунин. Ф. М. (2006)]
- (28b) *Но Фандорин **видя как** този хилав на вид пациент се позабавлява с непобедимата Валентина като котка с мишка.* [Борис Акунин. Ф. М. (София Бранц, 2007)]
 ‘But Fandorin saw this frail-looking boy outplay the invincible Valentina, like a cat with a mouse’.

As discussed in section 2.2, the Russian imperfective verb *видеть* is widely used in contexts with retrospective interpretation, i.e. to describe temporally bounded perception in the past and in general-factual meaning. We found an association between the aspectual interpretation of the verb *видеть* and the complementizer choice. In Table 5, we compare the frequency of contexts with synchronic and with retrospective interpretation of the verb in the two construction types.

	Synchronic	Retrospective	Ratio of uses with synchronic interpretation
<i>видеть, как</i>	49	36	0.6
<i>видеть, что</i>	39	6	0.9

Table 5. Aspectual interpretations of past tense forms of the verb *видеть* in constructions with *что* and with *как*

Table 5 shows that, even though the synchronic point of view is predominant for both types of constructions, it is more frequent in constructions with the complementizer *что* (the difference is statistically significant, χ^2 , $p < 0.01$). This difference may be explained by the fact that in constructions with *что*, the complement clause typically holds true at the temporal reference point established by the perception verb (and broader context), cf. (27). In the few examples with the complementizer *что* and the retrospective interpretation, either the result of the event denoted by the complement clause is observable at the moment of perception (29) or the complement clause denotes a generic event (30).

- (29a) *Но като влезе тя вечер случайно в кухнята, **видя, че** си беше приготвила ягоди, леко посипани със захар.* [Павел Вежинов. Нощем с белите коне (1975)]
- (29b) *Но вечером он случайно зайдя на кухню, **видел, что** Наталия приготвила себе клубнику, слегка посыпанную сахаром.* [Павел Вежинов. Ночью на белых конях (Л. Лихачева, 1978)]
 ‘But when he happened to enter the kitchen that evening he saw that she had prepared strawberries lightly sprinkled with sugar’.
- (30a) *А ти **видя** много добре, **че** пеперудата дори няма ръце, как би могла тя да се труди?* [Павел Вежинов. Сините пеперуди (1965)]
- (30b) *А ты сам **видел, что** у бабочки нет рук, как она может трудиться?* [Павел Вежинов. Синие бабочки (Р. Белло, 1972)]
 ‘And you saw very well that the butterfly doesn’t even have hands, how could it work?’

The use of the Bulgarian imperfective verb *виждам* echoes the pattern observed for the Russian verb *видеть*. When describing perception in the past, the verb *виждам* is mostly used in the form of the imperfect tense.¹¹ Still, there is a difference between the constructions with *че* and with *как* in the frequency of the other tense forms, as shown in Table 6.

	Imperfect	Perfect & Pluperfect	Ratio of imperfect forms
<i>виждам как</i>	33	9	0.8
<i>виждам, че</i>	21	2	0.9

Table 6. The distribution of forms with past temporal reference for the verb *виждам*

Table 6 shows that perfect and pluperfect forms of the verb *виждам* are attested with somewhat higher frequency in constructions with the complementizer *как* than in those with *че*. Even though the data are scarce and this difference does not reach statistical significance, it is noteworthy in the light of the distribution observed for the Russian *видеть*, especially since the distinction between the imperfect and the other two forms corresponds to the type of aspectual interpretation: synchronic in case of imperfect (31), retrospective in case of perfect and pluperfect (32).

- (31a) *Може би той виждаше, че борбата щеше да бъде упорита, жестока и продължителна, че щяха да се дадат хиляди жертви, <...>.* [Димитър Димов. *Осъдени души* (1945)]
- (31b) *Может быть, он видел, что борьба будет упорной, жестокой и продолжительной, что она унесет множество жертв <...>.* [Димитр Димов. *Осужденные души* (Т. Рузская, 1978)]
 ‘Perhaps he saw that the struggle would be persistent, cruel and prolonged, that thousands of victims would be taken’.
- (32a) *Ты не видел, как подымают люди на снегу.* [А. Н. Рыбаков. *Дети Арбата* (1966–1983)]
- (32b) *Не си виждал как хората умират на снега.* [Анатолий Рыбаков. *Децата на Арбат* (Здравка Петрова, 1988)]
 ‘You haven’t seen people die in the snow’.

As discussed above, the Russian imperfective *видеть* corresponds to the Bulgarian perfective verb *видя* almost as often as to the imperfective *виждам*. We have also shown that when used for past temporal reference, the verb *виждам* predominantly describes perception from the synchronic point of view. Thus, in most contexts with retrospective interpretation, the Russian verb *видеть* corresponds to the perfective *видя*, see (28)–(30) above. The synchronic point of view is equally possible for the verb *видя* (33).

- (33a) *А в това време Фани видя как умираше и анархистът.* [Димитър Димов. *Осъдени души* (1945)]

11) Part of the forms of the verb *виждам* coincide in aorist and imperfect tense. We relied on the unambiguous forms or on the context for the grammatical annotation of the examples.

- (33b) *А в это время Фани видела, как умирал анархист.* [Димитр Димов. Осужденные души (Т. Рузская, 1978)]
 ‘And at that time Fanny saw how the anarchist was dying’.

In our sample, the perfective verb *видя* is mostly used in the aorist form, as in (29)–(30). In contexts with past temporal reference, it is also sporadically attested in the perfect or pluperfect forms. Importantly, the distribution of these forms is similar to that observed for the verb *виждам*: they are attested only in contexts with retrospective interpretation and mostly in constructions with *как*, cf. (34). These examples describe primarily the fact that perception took place, without indicating its location in time.

- (34a) *Но сегодня на «[Интеграле]» Второй Строитель уверял меня, будто он сам видел, как я случайно тронул этими пальцами шлифовальное кольцо – в этом и все дело.* [Е. И. Замятин. Мы (1920)]
 (34b) *Но днес на ИНТЕГРАЛА Вторият Строител ме уверяваше, че е видял как случайно съм докоснал с тези пръсти диска на шлайфмашината – там е работата.* [Евгений Замятин. Ние (Росица Бърдарска, 1990)]
 ‘But today at the INTEGRAL, the Second Builder was assuring me that he had seen me accidentally touch the sander disc with those fingers – that’s the thing’.

In the majority of cases, the aorist form of the verb *видя* and the other Bulgarian forms with past temporal reference correspond to the Russian past tense (the correspondences between the forms of the two languages are in general quite straightforward). However, in a significant portion of the examples, the aorist form of the verb *видя* with the complementizer *че* corresponds to the converb of the verb *видеть* (35), less frequently of *увидеть* (36). In such contexts, the verb *видя* itself is used in a temporal clause with the conjunction *като*.

- (35a) *Молчите, молчите! – поднял он руку, видя, что Николас хочет что-то сказать. – Минутку.* [Борис Акунин. Ф. М. (2006)]
 (35b) *Мълчете, мълчете! – вдигна ръка, като видя, че Николас иска нещо да каже. – Един момент.* [Борис Акунин. Ф. М. (София Бранц, 2007)]
 “‘Shut up, shut up!’ he raised his hand, seeing that Nicholas wanted to say something. ‘Wait a minute’”.
- (36a) *Като видя, че продължавам да вися пред бюрото, вече готов за нов въпрос, баща ме спря да се смее и обясни: <...>* [Богомил Райнов. Тютюневият човек (1978)]
 (36b) *Увидев, что я не отхожу от письменного стола и у меня готов сорваться с языка новый вопрос, отец перестал смеяться, посерьезнел и объяснил: <...>* [Богомил Райнов. Заядлый курильщик (1989)]
 ‘Seeing that I was still hanging in front of the desk, already ready for another question, my father stopped laughing and explained’.

Among the constructions with the complementizer *как*, such contexts, and converbial forms in general, are less frequent, as shown in Table 7.

	видеть			увидеть		
	Past tense	Converb	Ratio of converbs	Past tense	Converb	Ratio of converbs
<i>видя как</i>	51	4	0.1	34	3	0.1
<i>видя, че</i>	25	21	0.5	113	21	0.2

Table 7. Correspondences between the aorist form of the verb *видя* and the forms of the verbs *видеть* and *увидеть*

The frequent correspondence between the Russian converb and the Bulgarian aorist form might itself stem from general principles of discourse organization in the two languages. Still, it hints at the function typically performed by the constructions with *че* and *что* in the narrative. In these contexts, mental processing of the perceived situation denoted by the verb serves as a trigger, or cause, for the next action on the part of the participant, cf. (35)–(36).

These examples also show that in converbial constructions, the aspectual contrast between the Russian verbs *видеть* and *увидеть* appears to be largely neutralized: the causal component is contributed by the form of the converb, and the presence or absence of the change-of-state component in the semantics of the verb is irrelevant. By contrast, in contexts with past tense forms of the verb *увидеть*, the change-of-state is usually not only signaled by the verbal prefix but also foregrounded by the preceding verb, which denotes direction of attention (37) or change of position (38).

(37a) *Румата погледел на Будаха и увидел, что старик держится за стену и еле стоит.* [А. Н. Стругацкий, Б. Н. Стругацкий. Трудно быть богом (1964)]

(37b) *Румата погледна към Будаха и видя, че старецът се държи за стената и едва стои.* [Аркадий Стругацки, Борис Стругацки. Трудно е да бъдеш бог (Симеон Владимиров, 1981)]

‘Rumata looked at Budakh and saw that the old man was holding on to the wall and barely standing’.

(38a) *Когато вдигна глава, видя, че тя идеше към него, държейки голямата кутия с цигари в ръцете си.* [Димитър Димов. Осъдени души (1945)]

(38b) *Он поднял голову и увидел, что она идет к нему с большой коробкой сигарет в руках.* [Димитр Димов. Осужденные души (Т. Рузская, 1978)]

‘When he looked up, he saw her walking towards him, holding a large pack of cigarettes in her hands’.

Interestingly, in contexts with the complementizer *как* the verb *увидеть* is preceded by a verb of direction of attention or change of position less frequently than in contexts with *что*. In contexts with *как*, the onset of perception is usually conditioned by the change in the environment rather than in the position or direction of attention of the experiencer, cf. (39).

(39a) *Было без двадцати девять. Рэдрик увидел, как из подъезда гостиницы вышел Ричард Нунан, жуя на ходу и нахлобучивая на голову мягкую шляпу.* [А. Н. Стругацкий, Б. Н. Стругацкий. Пикник на обочине (1971)]

- (39b) *Беше девет без двайсет. Редрик **видя как** от входа на хотела излезе Ричард Нънан и в движение нахлуни на главата си меката шапка.* [Аркадий Стругацки, Борис Стругацки. Пикник край пътя (Милан Асадуров, 1982)]
 ‘It was twenty minutes to nine. Redrick saw Richard Noonan come out of the hotel entrance and quickly put the soft hat on his head’.

It looks as though in the contexts with *как*, such as (39), the perceived situation is presented as more independent from the experiencer, as unfolding by itself before their eyes, whereas in constructions with *что* the experiencer tends to be construed as a more active participant instigating perception and mentally processing the perceived situation.

5. Verbs *забелязвам – забележа* and *замечать – заметить*

The distribution of the verbs *забелязвам – забележа* in Bulgarian and *замечать – заметить* in Russian with the two complementizers is presented in Table 8, which is again based on the examples from original texts only.

Bulgarian	<i>как</i>	<i>че</i>	Total	Ratio of constructions with <i>как</i>
<i>забелязвам</i>	3	17	20	0.15
<i>забележа</i>	12	68	80	0.15
Total	15	85		
Russian	<i>как</i>	<i>что</i>	Total	Ratio of constructions with <i>как</i>
<i>замечать</i>	6	28	34	0.18
<i>заметить</i>	35	117	152	0.23
Total	41	145		

Table 8. Distribution of the complementation strategies with *забелязвам – забележа* and *замечать – заметить* in the original texts

These data show a pattern considerably different from the one observed for the pairs *виждам – видя* and *видеть – увидеть*. Both in Bulgarian and Russian, the perfective verbs, *забележа* and *заметить*, are four times more frequent than their imperfective counterparts. Even for Bulgarian, the frequency ratio is two times greater than in case of *виждам – видя*. For Russian, the frequency relation between the verbs in this pair is opposite to that observed for *видеть – увидеть*. This difference is obviously due to the fact that the imperfective *замечать*, unlike *видеть*, rarely denotes an ongoing state of perception and usually has iterative interpretation (40).

- (40a) *Случалось, что он как будто и просыпался, и в эти минуты замечал, что уже давно ночь, а встать ему не приходило в голову.* [Ф. М. Достоевский. Преступление и наказание (1866)]
- (40b) *От време на време сякаш се събуждаше и тогава забелязваше, че отдавна вече е нощ, но и през ум не му минаваше да стане.* [Фьодор Достоевски. Престъпление и наказание (Георги Константинов, 1960)]
 ‘From time to time it seemed to him that he woke up and then he noticed that it had long been night, but it never crossed his mind to get up’.

We also observe that in both languages, the distribution of the two complementation strategies is more skewed than for the verbs discussed in the previous section, with the complementizers *че / что* outnumbering by far the other complementizer. Since the complementizer *как* is associated with immediate perception, and the complementizers *че / что*, with mental perception, this difference accords with the more pronounced component of mental processing, as mentioned in the literature at least for the Russian verbs *замечать – заметить* (Paducheva 2004, 226–227).

Finally, in contrast to the previously analyzed verbs, we see no association between the verbal aspect and the complementation strategy in either of the two languages. In our sample, the perfective and imperfective verbs are attested with the two complementizers roughly in the same proportion of the examples, which suggests that aspectuality indeed largely determines the distribution of the two complementizers with the verbs *виждам – видя* and *видеть – увидеть*.

Table 9 shows the correspondence between the imperfective and perfective verbs in Bulgarian and Russian. For these verbs, we draw the same distinctions as for the verbs analyzed in the previous section.

	<i>замечать</i>	<i>заметить</i>	Ratio of the imperfective <i>замечать</i>
<i>забелязвам</i>	34	6	0.9
<i>забележа как</i>	3	31	0.1
<i>забележа, че</i>	14	146	0.1

Table 9. Cross-language correspondence between the Bulgarian verbs *забелязвам – забележа* and the Russian verbs *замечать – заметить*

In this case, the correspondence mostly follows the aspectual distinctions. In contrast to the case of the verbs *виждам – видя* and *видеть – увидеть*, there is no difference between the two complementation strategies, and an almost total correspondence is observed between the imperfective and perfective verbs in the two languages.

The only remarkable fact to be noted with respect to these data is the significantly more frequent occurrence of the perfective *заметить* in the contexts where the Bulgarian imperfective *забелязвам* is used, compared to the distribution for the verb *виждам* in Table 3 above (the difference between the two imperfective verbs is statistically significant, Fisher exact test, $p < 0.01$). This difference seems to be explained by the low acceptability of the use of Russian verb *замечать* for the description of ongoing perception compared to the Russian verb *видеть*, as well as to the Bulgarian verb *забелязвам*, cf. the use of the perfective verb *заметить* in Russian in (41).

(41a) *Навярно забелязвате, че говоря за тях, не за нас. Ние – двоят на Джем – не бяхме войници, при все че Джем бе идол на победоносната ни войска.* [Вера Мутафчиева. Случаят Джем (1966–1967)]

(41b) *Вы, наверно, заметили, я говорю – они, а не мы; мы – те, кто составлял двор Джемса, – не были воинами, хотя победоносное наше войско боготворило Джемса.* [Вера Мутафчиева. Дело султана Джемса (М. Михелевич, 1973)]

‘You’ve probably noticed that I’m talking about them, not us. We – Jem’s court – were not soldiers, although Jem was the idol of our victorious army’.

For the imperfective verbs *виждам* and *видеть*, we observed the association between the tense form and the complementizer, viz. in constructions with *че / что* these verbs were used in the present tense form significantly more often than in constructions with *как*, see Table 4 above. In Table 10, we look at the same distinction for the imperfective verbs *забелязвам* and *замечать*.

	Present tense	Forms with past temporal reference	Ratio of present tense forms
<i>забелязвам как</i>	2	4	0.3
<i>забелязвам, че</i>	27	16	0.6
<i>замечать, как</i>	2	8	0.2
<i>замечать, что</i>	14	28	0.3

Table 10. Present forms vs. past temporal reference forms in constructions with the imperfectives *забелязвам* and *замечать*

Although observationally, constructions with the complementizers *че* and *что* show higher proportions of present tense forms, as was the case with the verbs *виждам* and *видеть*, it is difficult to make any statistically valid conclusion, since the constructions with the imperfective verbs *забелязвам* and *замечать* and the complementizer *как* are very rare. The examples with present tense forms of these verbs do not show any homogeneity observed for *виждам* and *видеть*, where the subjects of present tense forms were mostly speech act participants.

We see that in constructions with *че* and *что*, the verbs *забелязвам* and *замечать* both show lower proportions of present tense forms as compared to *виждам* and *видеть*, respectively. This is again likely to be the consequence of the restricted use of *забелязвам* and *замечать* to describe ongoing perception.

Still, the Bulgarian verb *забелязвам* in combination with *че* stands out among the construction under comparison as manifesting a higher proportion of present tense forms and differs significantly from its Russian counterpart (Fisher exact test, $p < 0.05$). This difference stems primarily from the correspondence between Bulgarian present tense forms and Russian infinitives in constructions with modal or phasal predicates, which can be observed in ten examples with *забелязвам* and *замечать* in our sample. A frequently attested context contains the inchoative verbs *стать* ‘become’ or *начать* ‘begin’ with the verb *замечать* (42).

(42a) *След някое време професорът започна да забелязва, че освен качества на отлична приятелка, тя притежава и качества на отлична жена.* [Андрей Гуляшки. Убийството на улица „Чехов“ (1985)]

(42b) *Спустя некоторое время профессор начал замечать, что, кроме качеств отличного друга, она обладает и качествами отличной женщины.* [Андрей Гуляшки. Убийство на улице Чехова (А. Никольский, 1988)]

‘After some time, the professor started to notice that in addition to the qualities of an excellent friend, she also possessed the qualities of an excellent woman’.

While the use of the perfective verb, as in (43), locates the change of state in a particular moment in the past, the inchoative construction combined with the iterative meaning of the verb conveys the idea of gradual realization of a generic fact encoded by the complement clause.

- (43a) *Друг път, когато надникнах в кабинета му, забелязах, че току-що се е заел да превежда някаква дебела книга.* [Богомил Райнов. Тютюневият човек (1978)]
- (43b) *В другой раз, заглянув к нему в кабинет, я заметил, что он начал переводить какую-то толстую книгу.* [Богомил Райнов. Заядлый курильщик (1989)]
 ‘Another time, when I peeped into his study, I noticed that he had just started translating some thick book’.

For the perfective verb *забележа*, we also observe the difference between the two types of constructions in the distribution of tense forms but in this case it is the construction with *как* that shows a higher proportion of present tense forms, as shown in Table 11.

	Present tense	Forms with past temporal reference	Ratio of present tense forms
<i>забележа как</i>	7	33	0.2
<i>забележа, че</i>	8	174	0.04

Table 11. Present forms vs. past temporal reference forms of the perfective verb *забележа* in constructions with *как* and with *че*

The present tense form of *забележа* is mostly attested as a dependent predicate of matrix verbs (44) and in modal constructions (45). In Russian, the perception verb in these contexts is used either in the infinitive form (44) or in the subjunctive mood (45).

- (44a) *Но, сворачивая за угол, он случайно обернулся и успел заметить, как десятка полтора разнокалиберных голов, мужских и женских, лохматых и лысых, мгновенно втянулись в двери, в окна, в подворотни.* [А. Н. Стругацкий, Б. Н. Стругацкий. Трудно быть богом (1964)]
- (44b) *Но когато сви на ъгъла, случайно се обърна и успя да забележи как десетина-петнадесет разнокалибрени глави, мъжки и женски, космати и плешиви, моментално се шмугнаха във врати, в прозорци, в преддверия.* [Аркадий Стругацки, Борис Стругацки. Трудно е да бъдеш бог (Симеон Владимиров, 1981)]
 ‘But when he turned around the corner, he happened to look back and was able to notice how ten or fifteen heads of different calibers, male and female, hairy and bald, instantly slipped into doors, windows, and vestibules’.
- (45a) *Любима мелодия, която ме унася, но не дотам, че да не забележа как Едит отдалеч следи действията ми въпреки внимателното си участие към комплиментите на Еванс.* [Богомил Райнов. Няма нищо по-хубаво от лошото време (1971)]

- (45b) *Мелодия меня захватывает, но не настолько, чтобы я не замечал, как Эдит издала следит за моими действиями, не оставаясь в то же время безучастной к ухаживаниям Эванса.* [Богомил Райнов. Что может быть лучше плохой погоды? (А. Собкович, 1974)]
 ‘A favorite tune that carries me away, but not so much that I wouldn’t notice Edith watching my actions from afar despite her careful attention to Evans’ compliments’.

Semantically, these contexts typically convey an idea of hindered perception. Paduceva (2004, 218) mentioned this component in the semantics of the Russian verb *заметить*, as opposed to *увидеть*. The component of hindered perception seems to be more pronounced in constructions with *как*, which might be explained by the less controlled nature of immediate perception as compared to mental perception associated with the complementizer *че / что*, also see below on negation.

In contexts with past temporal reference, we see a pattern similar to the one observed in the previous section: in constructions with the complementizers *че* and *что*, the aorist form of the verb *забележа* often corresponds to the converb of the verb *заметить* (46), while in constructions with the other complementizer this correspondence is not attested, see Table 12.

- (46a) *Той с трепет погледна Стефчова, но се успокои, като забележи, че Стефчов бе се обърнал и си шепнеше с едного, без да обръща внимание на Мунча.* [Иван Вазов. Под игото (1888)]
- (46b) *Волнуясь, Огнянов взглянул на Стефчова, но быстро успокоился, заметив, что тот отвернулся и шущукается с соседом, не обращая внимания на Мунчо.* [Иван Вазов. Под игом (М. Клягина-Кондратьева, В. Володин, Я. Слоним, 1970)]
 ‘He looked at Stefchov with trepidation, but calmed down when he noticed that Stefchov had turned away and was whispering to his neighbour, ignoring Muncho’.

	Past tense	Converb	Ratio of converbs
збележа как	21	0	0
збележа, че	104	14	0.12

Table 12. Correspondences between the aorist form of the verb *забележа* and the form of the verb *заметить*

As in the case of the verbs *видеть* and *увидеть*, the use of the converb in these examples foregrounds the causal semantics of the clause with the perception verb, which is more natural for the constructions associated with mental processing of the perceived situation rather than for those describing immediate perception.

Finally, we found that the complementizer choice in constructions with the verbs *забелязвам – забележа* and *замечать – заметить* is largely associated with negation, which is a factor that lies beyond aspectuality but often interacts with it. Negation is much more frequently attested in constructions with *как* than with *че / что*, as shown in Table 13 (here we took into account only the contexts where both aspect and the complementizer match in the two languages).

	Positive	Negative	Ratio of negative clauses
забелязвам как / замечать, как	1	3	
забелязвам че / замечать, что	22	8	0.3
забележа как / заметить, как	12	15	0.6
забележа, че / заметить, что	132	7	0.1

Table 13. Negation in constructions with the verbs *забележа* – *забелязвам* and *замечать* – *заметить* and the complementizer type

The constructions with the complementizer *как* contain negation more often than not and are negative more frequently than the constructions with *че / что*. Constructions with *как* seem to represent the event encoded by the complement clause as independent from the experiencer and thus are more compatible with the absence of perception, cf. (47).

(47a) *Вся беда в том, что мы не замечаем, как проходят годы, думал он. Плевать на годы – мы не замечаем, как все меняется.* [А. Н. Стругацкий, Б. Н. Стругацкий. Пикник на обочине (1971)]

(47b) *Бедата е там, че не забелязваме как минават годините – мислеше той. – Хайде, годините както и да е – всъщност не забелязваме как всичко се променя.* [Аркадий Стругацки, Борис Стругацки. Пикник край пътя (Милан Асадуров, 1982)]

‘The trouble is that we don’t notice how the years go by, he thought. – Let alone years, we don’t really notice how things change’.

6. Conclusions

In this study, we analyzed non-agentive visual perception verbs in Bulgarian (*виждам* – *видя*, *забелязвам* – *забележа*) and Russian (*видеть* – *увидеть*, *замечать* – *заметить*). The two pairs of Bulgarian verbs have similar aspectual profiles. The main difference between them is the more restricted use of the imperfective *забелязвам* to describe an ongoing act of perception compared to the verb *виждам*, which leads to a much lower frequency of the imperfective verb in the pair *забелязвам* – *забележа*. The Russian verbs differ considerably in terms of their aspectuality. The imperfective *видеть* not only has the whole range of interpretations typical of imperfectives but also is widely used for completed perception in the past. By contrast, the imperfective verb *замечать* is very rarely used to describe ongoing perception and usually has an iterative interpretation. In terms of cross-language correspondences in parallel contexts, the Russian imperfective *видеть* frequently corresponds to the Bulgarian perfective *видя*, whereas the Russian perfective *заметить* sometimes corresponds to the imperfective *забелязвам*.

As we have shown above, there exists a multifaceted interaction between the aspectual and temporal properties of these verbs and the use of the complementizers *как* vs. *че / что*. Our interpretation of the various facets of this interaction was based on the assumption

that the complementizer *как* is associated with immediate perception, whereas the complementizers *че* and *что* are associated with mental perception, or the cognitive processing of the perceived situation.

The complements introduced by the complementizers *че* and *что* tend to be associated with the ongoing perception or the perception from the synchronic point of view. This association is manifested, in particular: a) in a more frequent occurrence of the present forms of the verbs *виждам* and *видеть* in constructions with *че* and *что* compared to those with *как*, b) in a higher frequency of synchronic point of view in clauses with past temporal reference with the Russian verb *видеть*, and c) in the frequent use of Russian converbs of the verbs *видеть* and *заметить* in constructions with *что*, where act of perception and the conclusion based on it serves as a trigger for the following action. The constructions with *как* were found to be associated with retrospective interpretation of the past tense form of the verb *видеть* and the perfect and pluperfect forms of the verbs *виждам* and *видя*. These contexts typically foreground the fact of perception as experienced by the perceiver in the past.

Another generalization emerging from our results is that the constructions with *как* seem to be associated with less control on the part of the experiencer than those with *че* and *что*. This generalization is based on the lack of directed attention by the experiencer of the verb *увидеть* in constructions with *как*, as well as on the association between *как* and hindered perception in case of the perfective verbs *забележа* and *заметить* and the association between negation and the complementizer *как* in constructions with the verbs *забелязвам – забележа* and *замечать – заметить*.

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