

ACQUISITION OF MODAL VERBS IN BULGARIAN: ANALYSIS OF LONGITUDINAL DATA FROM *CHILDES*

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ABSTRACT: The article presents a corpus study of modal verbs in early Bulgarian child speech. The focus is on studying the acquisition of modal verbs following the chronology postulated in the Theoretical Model of the natural morphology of language acquisition while acknowledging the formal- (their presence in a particular phase as a conventional modal means) as well as the functionally-semantic (considering the conventional functions of the modal verbs children use) aspect of the process. The empirical basis of the study includes the longitudinal data of two girls, extracted from the first Bulgarian digital corpus of child speech, available at the CHILDES interactive platform (CHILDES Bulgarian LabLing Corpus – <https://childes.talkbank.org/access/Slavic/Bulgarian/LabLing.html>).

In the course of studying the early stages of the ontogenesis of modal verbs the following developmental lines are clearly distinguished: formal evolution, related to the early emergence and gradual acquisition of the characteristic of the Bulgarian language combinations of modal verb and *da*-construction; semantic evolution represented by the early establishment of the modal verb *може* and the gradual accomplishment of the complex semantic complex associated with it, with its 3 meanings – “ability”, “permission” and “possibility”, which reflects the main line in the ontogenesis of modality – *dynamic modality* → *deontic modality* → *epistemic modality*; semantic expansion, involving the acquisition of the modal meaning of the verbs *дам/давам* / *dam/davam* (‘give’), which allows them to step outside the reach of their use in donative situations.

KEYWORDS: modality, modal verbs, child speech, child-directed speech, Bulgarian, first language acquisition, CHILDES

Introduction

Within the tradition of linguistics language modality is often the focus of research. It is a key category which permeates the entire system of language. Concurrently, it is modality that relates utterances with the extralinguistic reality and thus carries out its communicative potential. In the majority of contributions, however, its complex nature is represented rather inconsistently and ambiguously, with the pluralism of varying opinions regarding its definition ranging from “the soul of the sentence” (Charles Bally, 1932, p. 34) to “misunderstanding, a linguistic phantom” (Hinrichs, Kubler, 2001, pp. 238–245). The current contribution represents modality within the perspective of language ontogenesis and thus serves to complement the results from existing research on the gradual acquisition of conventional means of expressing modality for Bulgarian which were conducted from the perspective of linguistic pragmatics and cognitive morphology (see Stoyanova, 2021). The modern Bulgarian system of modality is rich and diverse. It includes lexical as well as grammatical means with a distinct preference for the second type. Modal verbs are a small part of this colorful palette and fall into the first category. Nevertheless, they are the focus of research interest in this paper as the registering of their emergence and the tracing of their development in the course of the early acquisition of Bulgarian would serve to complete the understanding of their complex nature. In addition, the results from the study could provide additional proof of the role and significance of input language data and of the cognitive capacity of the child, as well as that of the system of language itself in the earliest stages of ontogenesis – and this is one of the “eternal” problems of Developmental Psycholinguistics.

The present corpus study first determines the theoretical, methodological and empirical parameters of the research, then it describes the conventional lexical means for expressing modality in Bulgarian within the miniature of sorts extrapolated in child-directed speech (CDS) while at the same time taking into consideration the specific uses and functions of modal verbs used in child speech (CS), too. It is within this context that we study the first steps in mastering modal verbs by two Bulgarian girls, Aleksandra (ALE) and Stefani (TEF). This corpus study is part of a larger overall study of modal

verbs, due to which its goal is limited to defining the main line of their development at the dawn of language ontogenesis and thus creating the basis for more detailed future research.

1. Theoretical and methodological foundations of the study

Tracing the first steps in the ontogenesis of conventional Bulgarian means of modality is a considerably complex and difficult task and this is not only due to the complex nature of the category itself but also the specificity of early child language. In this sense, it is crucial to mention at this stage such important characteristics as its syncretism and inseparability from the situation, as well as the diffuse nature of the meaning of the first child words, all of which are regularly mentioned by researchers of early language ontogenesis. It is those that underlie the peculiar lexical deficiency of child language in its earliest stages which in practice places specific challenges before the researcher. In such situations there is the objective risk of overinterpretation of child utterances (most of all of the holophrases) and the creation of myths around the early ontogenesis of modality.

In order to overcome the mentioned difficulties, in the course of the study the methodological platform and the research instrumentarium for each of the stages of research were carefully selected. Thus, in planning and conducting the initial stage of the study, whose goal was to supply reliable empirical material, the longitudinal approach was applied, which presupposes conducting long-term, constant observation of the speech development of children with a regular establishment of results by using a recorder. For this reason, the empirical base of the study includes the first Bulgarian digital corpus of child speech, CHILDES Bulgarian LabLing Corpus, published to the interactive platform CHILDES (<https://childes.talkbank.org/access/Slavic/Bulgarian/LabLing.html>). On the one hand, it provides one of the optimal digital formats of contemporary corpus linguistics which supports the integrated multimodal multi-aspected representation of speech conduct (see Popov, 2016), already guaranteeing the objectivity of the results by means of enabling the observation of the research phenomenon from different vantage points. On the other hand, CHILDES is associated with the CLAN package of computer programs which are used at the next stage of research for the optimal preparation of the speech data for analysis. In the course of the study we attempt to capture the chronology of modal verb acquisition while taking into consideration both the formal- (their presence in a particular phase as a conventional modal means) as well as the functionally-semantic (the conventional functions of the modal verbs children use) aspect. Simultaneously, the study of the ontogenesis of the category of modality is based on the integrative approach to language facts which makes it possible for them to be represented “horizontally” as well as “vertically”. The analysis of the modal verbs acquired by children is conducted, on the one hand, by means of their juxtaposition to units and categories from the language of adults and, on the other, through determining their place and function in each of the gradually unfolding during early ontogenesis language systems, namely the premorphological, transitional and protomorphological phases, the establishing of which is borrowed from the cognitive model of early language development created in the 1990s by the school of Natural Morphology (see Dressler, 1997).

The aforementioned cognitive model of natural morphology has already been put into practice on the basis of empirical material from numerous languages, including Bulgarian. It postulates that linguistic ontogenesis undergoes the phases of premorphology, protomorphology and morphology proper. “In the pre-morphological stage, words are rote-learned and usually occur in their base form, with typically one form per lemma. The protomorphological stage manifests itself by the emergence of grammatical oppositions which develop into miniparadigms. Evidence of the first inflectional rules may be found. Passing onto the stage of morphology proper, the children approach qualitatively, if not quantitatively, adult models” (Stephany, Voeikova, 2009, p. 4). In studying languages such as Bulgarian, characterized by the existence of morphemic homonymy and synonymy, the model is augmented with a specific transitional (overlying, transitive) phase during which the accumulation of verb forms and a critical mass of verb lemmata proves to be the necessary precondition for the discovering by the child of grammatical models in the following protomorphological phase. In the course of the gradual development, the appearance of miniparadigms containing at least three different grammatical forms of the same lemma serves as a definitive criterion for the discovery of morphological rules on the part of the child.

Before further undertaking to observe the early ontogenesis of Bulgarian modal verbs in the chronology of the Model of Natural Morphology, it is necessary to also acknowledge their complexity within which the complexity of the category of modality is extrapolated.

Modern linguistics is characterized by an overwhelming pluralism regarding the category of modality.¹ As a result, the semantic domain of modality cannot be defined simply and definitively. Simultaneously, studies dedicated to the description of individual languages and first language acquisition (see Nuyts, Auwera, 2016) have come to recognize as especially rational and useful the traditional notions of basic types of deontic, dynamic and epistemic modality. This is the reason for their selection as the basis for the functional-semantic interpretation of the data. In this sense it is not an exaggeration to claim that the external formal simplicity of modal verbs is illusory because it is associated with an entire set of complex functions. For this purpose each of the modal verbs as a unit of analysis is interpreted with relation to the context that is sufficient for the understanding of the specific modal meaning, namely a microdialogue or part of it and/or the comments made by the adult participant in the interaction. In conducting the semantic analysis of the separate units the methods of componential analysis of modal semantics and the explication of the meaning of the child utterance by means of paraphrase are used.

2. Empirical basis of the study

In tracing the ontogenesis of modal verbs in the present study two sub-corpora of the aforementioned CHILDES Bulgarian LabLing Corpus (available at the CHILDES interactive platform – <https://childes.talkbank.org/access/Slavic/Bulgarian/LabLing.html>) were used. In the text they are referred to as ALE Corpus and TEF Corpus and they include data from the spontaneous speech of the two Bulgarian girls ALE and TEF (denoted by means of 3-letter codes as per the CHILDES requirements) and also that of their communicative partners in the observed spontaneous interactions.

The observed children were born and live in the town of Shumen, North-Eastern Bulgaria. They were recorded in everyday situations – play-time, getting dressed, eating, being put to bed, looking at picture books, etc. As participants in the dialogues are included adults from ALE and TEF’s social environment, who are monolinguals with a good level of education, namely: the mother, VEL and the older sister STE (ALE Corpus); the researcher VEL², the grandmother BAB and the mother MIM (TEF Corpus). The phases through which the language development of the two children passes during the longitudinal study are the following: premorphological, transitional and protomorphological. Their boundaries have been set in a previous detailed study of ALE and TEF and the ability of the children to use the forms productively have been considered, along with the stage of development of the language system as a whole. In determining the boundaries the simultaneous achievements in the syntactical and lexical development were taken into consideration as common traits of the transition to protomorphology. The empirical basis of the study includes 26 transcripts total (13 ALE transcripts available at <https://sla.talkbank.org/TBB/childes/Slavic/Bulgarian/LabLing/longitudinal/Ale> and 13 TEF transcripts available at <https://sla.talkbank.org/TBB/childes/Slavic/Bulgarian/LabLing/longitudinal/Tef>), based on 28 hours of audio recording. The two girls were observed during a relatively long period – ALE during the ages³ 1;01 y.o. to 2;04 y.o., and TEF during the ages 1;03 y.o. to 2;05 y.o. at the average of one recording of 60 minutes per month during play, eating, looking through books. In the course of the study were analyzed 3085 utterances from ALE and 3603 by TEF, from which were excerpted the acts containing verbs, and out of those – the ones containing modal verbs (Table 1 and Table 2).

Table 1. ALE data analysis

<i>Total number of tokens: ALE – 13058, adults – 17970</i>			
<i>Age</i>	0;11–1;04	1;05–1;07	1;08–2;04
<i>Total number of utterances</i>	195	865	2025
<i>Utterances containing verbs</i>	35	292	1487
<i>Utterances containing verbs %</i>	18%	34%	73%
<i>–with modal verbs</i>	3	27	168
<i>–with modal verbs %</i>	1,5%	3%	11%
<i>Phase</i>	<i>premorphological</i>	<i>transitive</i>	<i>protomorphological</i>

Table 2. TEF data analysis

<i>Total number of tokens: TEF – 11514, adults – 20498</i>			
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¹ See generalized systematization of the contemporary approaches to language modality in (Aleksova, 2005).

² VEL in this case is in the role of researcher.

³ The age of the studied persons is noted in the specific text according to the standard where in the first position the *years* followed by “;” are put, in the second position come *months*, and in the third, after “:” – the *days*.

Age	1;01–1;08	1;09–2;01	2;01–2;05 ...
Total number of utterances	264	1792	1547
Utterances containing verbs	57	770	900
Utterances containing verbs %	21%	43%	58%
–with modal verbs	0	61	168
–with modal verbs %	0	4%	11%
Phase	premorphological	transitive	protomorphological

The selection of the two children was not random but was determined by the desire on the part of the researcher for acquiring representative corpora. In this sense the ALE and TEF data, inasmuch as they meet the requirement for providing “significant individual differences” in language acquisition, compensate to a large extent the limited number of studied persons. For ALE (early speaker) the formal-dominant strategy for language acquisition is characteristic, whereas for TEF (typical example of an average speaker) – the pragmatically-dominant one⁴. This way, in the speech of ALE as a “segmenting” child, it is rarer to observe stereotypical phrases, frozen forms, and imitations. Such uses however, are often present in TEF’s data.

3. Bulgarian lexical modal means in the input data

As was already mentioned, the present corpus study focuses mainly on the early ontogenesis of modal verbs in the gradually unfolding during language development pre-morphological, transitional and protomorphological phases. In addition, an attempt is made at pinpointing the regularities and tendencies of this process stemming from the specific structures of the Bulgarian language represented in the input data. Thus, the main objectives of the article encompass the study of the lexical modal units developed from/at the language input. They are briefly presented in Table 3, which makes it possible to delineate the specificities of the process of early modal verb acquisition by Bulgarian children during the analysis in the part of the paper that follows. This sketch includes only the lexical units from the miniature of the model of Bulgarian modality⁵ included in CDS. It includes in their entirety only the means which are present in CDS and CS, whereas the most typical ones for the speech interaction between adult speakers of Bulgarian are only partially⁶ mentioned, but they are excluded from the analysis (Table 3).

Table 3. Lexical means for expressing modality in Bulgarian in the miniature extrapolated in CDS and CS

modal verbs	modal adverbs	modal particles	directive interjections ⁷
<i>мога, може / moga, mozhe</i> ‘can’ – deontic notions – dynamic notions – *epistemic notions	– deontic notions: * <i>нужно</i> , * <i>необходимо</i> / * <i>nuzhno</i> , * <i>neobhodimo</i> ‘necessary’	– dynamic or deontic notions: <i>я / ya</i> <i>да / da</i> <i>хайде, айде / hayde, ayde</i> <i>нека / neka</i> <i>недей / nedey</i> <i>стига / stiga</i> <i>дай / дайвай / day / davay</i>	deontic notions: – <i>на / na</i> + a gesture of giving something. ‘command’ – <i>шшш / shsht</i> (‘psst’) is meant to cease an activity which is a source of noise. ‘command’ – <i>чиба, къш / chiba, kash</i> from a group “signals to animals”, targeted at people, the latter being rudely ordered to move away from a certain place. ‘rude command’
<i>трябва / tryabva</i> ‘must’ – deontic notions – *epistemic notions	– epistemic notions: <i>сигурно / sigurno</i> ‘probably’	– epistemic notions: * <i>уъж / *uzh</i> * <i>сякаш / *syakash</i> * <i>май / *may</i> (it would seem; as if) ‘likely’	
<i>искам / iskam</i> ‘want’ dynamic notions			
<i>(не) бива / (ne) biva</i> deontic notions			
<i>дам/(не) давам / dam/(ne) davam</i> Only in deontic use			

⁴ See detailed description and discussion of the two types of strategies of language acquisition (Stoyanova, 2009).

⁵ See the more detailed description of modality in (Nitsolova, 2008).

⁶ In the tables they are marked with two asterisks, whereas the possible modal forms not registered in the corpus are marked by one asterisk.

⁷ See (Nitsolova, 2008: 487–488).

'permission'			
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In general, the modal system of Bulgarian is represented in the CDS data in a minimized version which encompasses the various grammatical and lexical means of expressing event modality (with some exceptions, of course, having to do with expressing politeness in communication among adults which are not typical of the child centered situations, such as conventional polite formulas, expressed via conditional mood and imperative forms in the 2 PL⁸). Simultaneously, epistemic modality is very rarely explicated via specific language means in child utterances (in several separate cases as for example uses of the modal adverb *сигурно/sigurno* ('surely'), the modal verb *може/mozhe* ('can') etc.) – in most cases it is implicit. Indicative is the case of the deontic meanings “ability” and “inability” which are very closely related with epistemic assessment, namely the modal meanings “certainty” and “uncertainty”, since in such situations the child needs to assess their own abilities which are in a state of constant development from “inability” towards “ability”. In the context of this dynamics the child makes an assessment of their own abilities at every stage of development through the prism of “(un)certainty”, while always searching for reason in the characteristic *голям – малък/golyam – malak* ('big – small'), i.e. in the standard *по-голям/по-golyam* ('bigger') – where *малък/malak* ('small') is associated with “inability” and *голям/golyam* ('big') – with “ability”) established at an early point in CDS (see example (1) below). Thus in expressing an abilitative situation the child uses the adjective *сам/sam(o/a)* ('alone') or their own name whenever they are confident in their own abilities or when they are afraid that the adult communicator may prevent them from completing the particular action independently – compare examples (2) and (3).

(1) ALE (1;05)

VEL: *Е, как тъй ще буташ – ти си мъничка! Е, kak tay shte butash – ti si manichka!*

'Well, how are you going to push (it) – you are small (small.ADJ:DIM:F)!'

%sit: ALE tries to move the heavy box with her toys

ALE: *Бута, бута, бута. / Buta, buta, buta.* 'Pushes, pushes, pushes.'

%sit: ALE again tries to push the box.

(2) ALE (1;10)

ALE: *Панна [:падна] дугата [:другата] обувка. / Panna [:padna] dugata [:drugata] obuvka.* 'The other shoe fell.'

%sit: ALE tries to put on the doll's shoe.

VEL: *Дай аз ще я обуя! / Day az shte ya obuya!* 'Give it here, I will put it on!'

VEL: *Не са [:се] мъчи! / Ne sa [:se] machi!* 'Don't strain yourself!'

VEL: *Ще ми дадеш ли? / Shte mi dadesh li?* 'Will you give it?'

ALE: *Шама [:сама] буя [:ще се обуя]. / Shama [:sama] buya [:shte se obuya].* 'I will put it on myself.'

(3) TEF (2;3)

VEL: *Кой ще те обуе сега? / Koi shte te obue sega?* 'Who will put them on you now?'

%sit: TEF has taken off her socks.

TEF: *Тетито [:Стефчето]. / Tetito [:Stefcheto].* '(The) Stefche.'

ВAB: *Самичка – тя е голяма. / Samichka – tyа e golyama.* 'Alone – she is big (feminine).'

TEF: *Аз съм голяма [:голяма]. / Az sam goyama [:golyama].* 'I am big (big.ADJ:DIM:F).'

TEF: *Аз XXX ... / Az XXX ...* 'I XXX...'

%sit: TEF is babbling unintelligibly.

VEL: *Какво? / Какво?* 'What?'

TEF: *Ето буї [:обуї] ма! / Eto bui [:obui] ma!* 'Here put them on me!'

%sit: TEF has not managed to do it on her own and is resignedly handing the sock to VEL to help her put it on.

As can be seen in Table 3, the minimized modal system of the language input is characterized

⁸ Abbreviations published in MacWhinney (2000, pp. 23-24) were used to denote grammatical categories in the article, as follows: ADJ – adjective, N – noun, F – feminine, M – masculine, NEU – neuter, DIM – diminutive, PL – plural, SG – singular, VOC – vocative.

by various lexical modal means among which are the main Bulgarian modal verbs *moga/mozhe* ‘can’ and *tryabva* ‘must’. To those are added (*ne*) *biva* ‘shouldn’t/ought not to’ which is of course less frequent, as well as (*nyama da*) *dam/(ne) davam* in deontic use (‘will/do not allow’). The verbs (*ne*) *iskam* ‘don’t want to’ and (*ne*) *shta* ‘don’t want/wish to’ are used to convey ‘desire / reluctance’.

A specific characteristic of modal verbs is the fact that they cannot be used independently but are instead always part of a *da*-construction (*da/da* + *verbum finitum*), and the cases of independent use are interpreted as ellipsis (Ruseva, 2015, p. 68). In the development of modality in the ontogenesis of Bulgarian inflectional means (represented by the imperative forms of perfective and imperfective verbs) play a more central role than modal verbs. In her corpus-based study of adult-adult interaction, Chakarova (2004) found that imperative forms form the largest part (72%) of modal means in everyday speech. Along with those, indirect means for expressing request are also used, including especially modal verbs. Modal verbs in the input data of both corpora are included in questions and statements for expressing indirect requests. They are used by adults in child-centered situations as polite requests; persuasion; statements expressing the speaker’s wish; statements expressing social rules (speaker-external source) as illustrated by examples (4), (5) and (6).

(4) *Трябва да слушаш мама. / Tryabva da slushash mama.* ‘You should obey mummy.’ (polite request)

(5) *Искам това. / Iskam това.* ‘I want this!’ (speaker’s wish)

(6) *Не бива да се бият децата. / Ne biva da se biyat detsata.* ‘Children should not be spanked’ (statement of social rules)

Statements containing social rules with a speaker-external deontic source are mainly used in CDS. They are usually prohibitive. For them it is characteristic that the actions that are not allowed are expressed through impersonal verb forms such as:

(7) *Така не бива! / Така не бива!* ‘This is not done!’

Among the earliest indirect requests attested in the corpora are assertions containing the verb *iskam* ‘want’ whereby the speaker conveys their wishes / needs – cf. (8) и (9).

(8) TEF (1;11): *Икам [:иска́м] уло [ру́ло]. / Ikam [:iskam] ulo [rulo].* ‘I want a roll’

(9) TEF (1;11): *Икам [:иска́м] гая [:да играя] йейа [:с леля]. / Ikam [:iskam] gaya [:da igraya] yeya [:s lelya].* ‘I want to play with auntie!’

Modal verbs are used from a very early point in child-centered situations. At the same time, their adequate acquisition is a lengthy process due to their semantic complexity. In their initial appearance in CDS from both corpora modal verbs have deontic and/or dynamic rather than epistemic function (not entirely clear examples of epistemic modality have been registered late in some isolated cases within the observed period of time). The earliest and most frequently used verbs registered are the ones characterized by an internal source of modality, namely (*ne*) *ща/(ne) shta* and *иска́м/iskam* in the dynamic meaning “wish”. Uses of *може/mozhe* appear early in the dynamic meaning “ability” in the deontic “permission”, cf.:

(10) Dynamic meaning of “ability”

VEL: *Тази кукла дали ще можеш да я събуеш? / Tazi kukla dali shte mozhesh da ya sabuesh.* ‘I wonder if you can take off the shoes of that dollie.’

ALE (1;10): *Мога, мога, мога. / Moga, moga, moga.* ‘I can, I can, I can.’

(11) Deontic meaning of “permission”

STE (7,1): *Мамо, може ли да изляза? / Мато, mozhe li da izlyaza?* ‘Mummy, may I go out?’

VEL: *Може. / Mozhe.* ‘You may’

ALE (2;3): *Мамо, каква какво „може“? / Мато, kaka kakvo „mozhe“?* ‘lit. Mummy, what can my (elder) sister?’

The paraphrases of ALE’s utterance in (11) “Mummy, what is my (elder) sister allowed to do” and “Mummy, what can my (elder) sister do” demonstrate that the child has clearly recognized the deontic meaning of “permission” of the modal verb *може/mozhe* ‘may’. Receiving permission for completing particular actions is dominant for the child and in this case she contracts the modal structure *може/mozhe* + *da*-construction to just *може/mozhe* in order to highlight the specific meaning of the modal verb. At the same time, however, the child’s question clearly implies the intuitive competence regarding the fact that in Bulgarian their independent use is just a case of ellipsis of the second verb of the *da*-construction but in general “modal verbs cannot be realized independently and are always

connected to *da*-constructions” (Ruseva, 2015, p. 68).

In situations of conflict in CDS a particularly interesting, rather expressive use of the modal verb *може/mozhe* ‘can’ can be observed, where the meaning of the seme “(in)ability” is combined with the seme “(un)desirability”. Microdialogue (12) is an example of this where *може/mozhe* is in the role of a contextual synonym of *искам/iskam* ‘want to’ in the mother’s words whereas the child’s reaction definitively shows that she has understood this figurative use correctly.

(12) ALE (2;03):

VEL: *Махни го това мече – не мога да го гледам!* / *Mahni go tova meche – ne moga da go gledam!* ‘Put this teddy bear away – I can’t look at it!’

ALE: *Даа, ще го махна – то е добричко!* / *Daa, shte go mahna – to e dobrichko!* ‘Yees, I will put it away – it is good (good.ADJ:DIM:NEU)!’

%sit: ALE reacts with a disagreeing tone.

%com: The meaning of the child’s words can be paraphrased as “I will not put it away because it is good!”

In CDS modal verbs are used without any limitations, still deontic or dynamic uses⁹ prevail, while utterances expressing epistemic meaning are visibly less frequent. Thus, for example, regarding the modal verb *трябва/tryabva* ‘must’ in CDS in both diads there is a single example (Corpus of ALE) and in the utterance the epistemic use is explicit. CS also exhibits a similar functional variability which gradually broadens in time, with the modal verbs with an external source of modality appearing last.

At this stage it must be mentioned that in systematizing expressions of modality in terms of the semantic nuances they are associated with there is always provisionality to some extent. Thus, for example, in the earliest child directives the explicated imperativeness in practice always points to the presence of an optative mood which, in fact, acts as a stimulus in the specific modal situation. It is only later that children gain the ability to explicitly denote their wish through the verb *искам/iskam*. In this sense we could suppose that in the early ontogenesis optative situations appear simultaneously with the imperative ones and are not definitively separated from them. Thus, at the base of the imperativeness addressed towards the communicative partner to change a particular situation there is usually the speaker’s wish that a particular action be done, and as far as early childhood is concerned, it can be supposed that this connection is never broken.

4. First steps in the acquisition of modal verbs by Bulgarian children. A corpus study

4.1. Processing the empirical data in the terms of CHILDES and CLAN

The corpus analysis of child modal verbs within this paper is accomplished by means of the CHILDES system and its associated software package, CLAN. It has 3 main stages, namely: initial (preparatory) stage where the corpus data is converted into the appropriate format for computer processing; second stage, during which the speech data is processed using the CLAN programs and the received packages of systematized units are analyzed; third stage where the results are discussed and interpreted. At the first step of this algorithm all transcripts of data in CHAT-format were reorganized and summarized in 3 speech sessions for each of the studied diads: <al_pre.cha>, <al_tran.cha>, <al_pro.cha> (Corpus of ALE) и <TEF_per.cha>, <TEF_tra.cha>, <TEF_proto.cha> (Corpus of TEF), each of which represents the longitudinal data from the specific phase of language ontogenesis, namely: premorphological, transitional and protomorphological. At that, within each of the resulting summary files there is a New Episode marker which denotes the boundary between the separate files that comprise it, which makes a more precise analysis possible. Thus organized, the empirical material made it possible to use in mass, in a convenient and successful way the functionalities of the CLAN - programs with the automatic processing and statistical analysis of the speech data from the two diads being completed with a clear differentiation of the specificities of the studied phenomenon characteristic even at this early stage of research each of the phases of early language development of the two children.

At the second stage of the algorithm the various modal means used in CS and CDS were extracted and systematized. This resulted in the preparation of single-type packets of working documents for all transcripts: lists of child utterances containing modal verbs, as well as frequency dictionaries of the particular word forms. In the course of the work, however, some of the lists needed corrections and clarifications. For example, this was done in the case of polysemy of the verbs

⁹ Cf. examples (10) and (11).

дам/давам / dam/davam ‘lit. give; allow/let’ since in only one of the meanings (“permit”) it functions as a modal. In order to solve such cases, it was not sufficient to represent the specific modal verb in isolation within an independent utterance but it was also necessary to include it in the context of one or several previous and / or consequent lines of dialogue. In this case the previous and the consequent lines of the child utterance were set as necessary, which was executed by broadening the command KWAL [-w1 +w1]. As a result we received a file containing information about the necessary context, based on which it was possible to isolate and ignore the cases of non-modal meaning of the verbs *дам/давам* from the list of tokens prepared for analysis. The second stage of the corpus study was finalized by summarizing the data from the working documents and organizing them into specific table-protocols containing the resolutions of the conducted operations as well as the lists of the modal verbs themselves, systematized into two separate columns – the first one with the data of the studied child, and the second one – with that of the adult. This created optimal conditions for comparing the used modal units in CS and CDS. The third main step in conducting the corpus analysis was discussing and interpreting the quantitative and qualitative results summarized into the table-protocols.

This processing of empirical data from the two corpora enabled a more objective and adequate analysis of the process of acquisition of modal verbs by the two children. The work related to the preliminary processing of the speech arrays was indeed extremely exhausting but without the flexible instruments and programs of CHILDES and CLAN it would have been insurmountable both in terms of time and effort in studying the category of language modality which is such a complex, multifaceted and discrepant phenomenon.

4. 2. Study results

A more general view of the data in Table 1 and Table 2 clearly points that in modal verbs from both corpora there is a comparatively early appearance and a definitive trend towards increase, while as a whole the share of their tokens in terms of verb-containing utterances remains relatively small. This is completely understandable since inflected modal means significantly prevail over lexical ones in modern Bulgarian language. The computer processing of the empirical data yielded 3069 modal units in total (1684 from the ALE corpus and 1385 from the TEF corpus), including 551 tokens of modal verbs (278 from the ALE corpus and 273 from the TEF corpus) represented in Table 4 and Table 5.

Table 4. Relative share of modal verbs to the total number of modal units in CS and CDS(ALE – tokens)

	ALE	CDS	ALE	CDS	ALE	CDS
PHASE / AGE	PREMORPHOLOGICAL PHASE / 0;11–1;04		TRANSITIONAL PHASE / 1;05–1;07		PROTOMORPHOLOGICAL PHASE / 1;08–2;04	
MODAL VERBS	3 (3%)	26 (16%)	27 (11 %)	16 (2%)	168 (26%)	38 (13%)
Modal means (total number)	93	156	241	255	655	284

Table 5. Relative share of modal verbs to the total number of modal units in CS and CDS (TEF – tokens)

	TEF	CDS	TEF	CDS	TEF	CDS
PHASE / AGE	PREMORPHOLOGICAL PHASE / 1;01–1;08		TRANSITIONAL PHASE / 1;09–2;01		PROTOMORPHOLOGICAL PHASE / 2;01–2;05	
MODAL VERBS	0%	5 (5%)	61 (20%)	11 (7%)	168 (28%)	28 (13%)
Modal means (total number)	38	106	296	145	588	212

In this sense, the results from an earlier study by one of the authors of the present article based on the ALE Corpus and the TEF Corpus are significant. According to that study, within the research period different variants of the quantitative hierarchy of the main modal means were observed: imperatives > indicative forms and da-imperatives (referred to as “other verb forms”) > modal verbs, extrapolated in the CDS data in the premorphological and transitional phase. This relation, however, does not remain constant in CS and in CDS during all phases of the observed period. An interesting fact in that respect is the early rise of the use of modal verbs in CS. For TEF, their percentage compared to other modal means is already up to 20% in the transitional phase and up to 28% in the protomorphological phase. These facts raise certain questions regarding the finding of an explanation for the abrupt rise in modal verb tokens in CS in both diads in the process of the early acquisition of a

language such as Bulgarian, in whose modal system there is a prevalence of inflected over lexical means. Questions are also raised by the results registered in both diads which show that as early as the transitional phase there emerges a tendency in CS for the relative share of modal verbs to other modal means to be larger than in CDS (Diagram 1 and Diagram 2).

Diagram 1. Share of modal verbs to other modal means in CS and CDS (ALE Corpus)

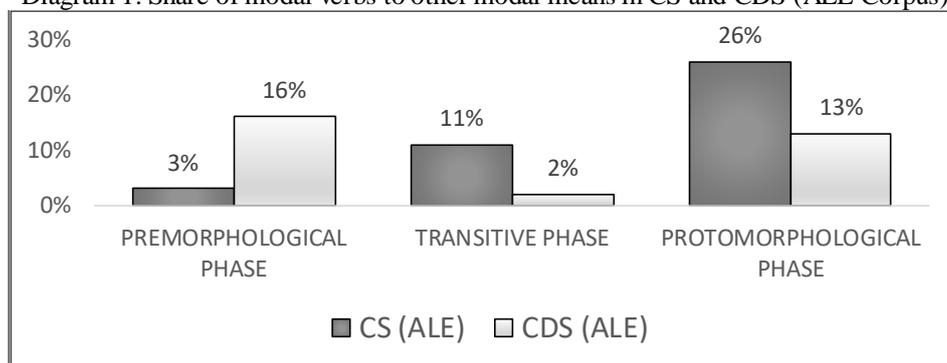
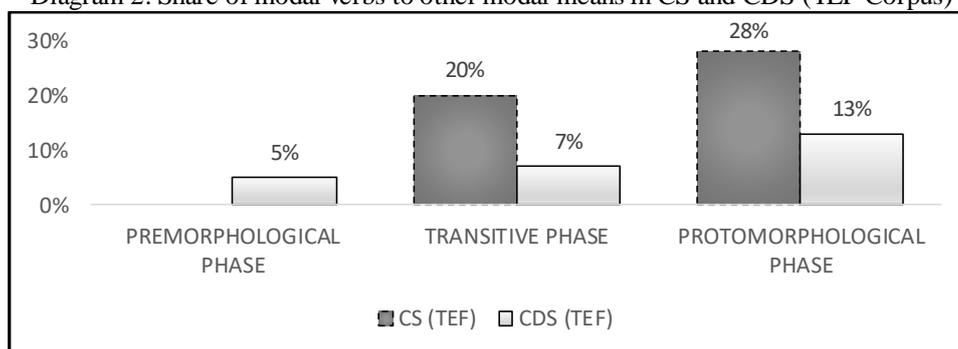


Diagram 2. Share of modal verbs to other modal means in CS and CDS (TEF Corpus)



An attempt to answer the questions raised by the quantitative results will be made in the course of the content analysis of the process of child modal verb acquisition by following the chronology of their development in the two children. Modal verbs are the first lexical means which appear in CS with their use being registered in the ALE Corpus as early as in the premorphological phase. At this stage, however, there is asymmetry between CDS and CS regarding modal verbs. It is evident in the appearance of *искам/iskam* ‘want to, wish’, *уа/shta* ‘want to, wish, be willing’, *може/mozhe* ‘can/may’, *дам/dam* ‘let, allow’, *давам/davam* ‘let, allow’ in the utterances of adults from both diads, whereas in CS were observed only uses of the 3rd person negative “frozen” present form *не ще/ne shte* ‘doesn’t want to’ of the verb *уа/shta* ‘want to’, and only in the ALE Corpus at that. In addition, at this early phase in CDS modal verbs are used mainly in the dynamic sense. Only the verbs *дам/давам / dam/davam* are observed in the deontic sense of “permission”. At this early stage, however, they are more commonly used in their negative form and they express prohibition – and only in 3SG at that, which allows for the lowering of its severity by means of distancing (see example 13).

(13) VEL: *Мама не дава.* (in the sense of “I do not allow (it)”) / *Mama ne dava.*
 ‘Mom doesn’t allow (it).’

The quantitative data mentioned in the previous paragraph show a significant change in the modal verbs in the observed child-centered situations in the transitional phase. The earliest cases of indirect directives in CS in both corpora were registered as early as the first month of this phase. They are formulated as statements with the modal verb *iskam* ‘want’ which children use to express their wishes / needs (see examples (14) and (15); see also examples (8) and (9) in the text above).

(14) ALE (1;06): *Итка [:искам] коитка [:количка].* / *Itka [:iskam] koitka [kolichka].*
 ‘I want a cart?’

(15) TEF (1;11)

TEF: *увам [:да рисувам] тук!* / *uvam [:da risuvam] tuka!* ‘To draw here!’

%sit: TEF addresses ROS for permission to draw in her new book.

TEF: *Искам увам [:да рисувам] тук!* / *Iskam uvam [:da risuvam] tuka!*
 ‘I want to draw here!’

ROS: *Тук не се рисува, а само се гледа!* / *Tuk ne se risuva, a samo se gleda!*
 ‘Here (you) do not draw, (but) only look!’

During the transitional phase ALE often uses the verb *shta* ‘want, be willing’ but only in its negative form which expresses refusal or prohibition. Unlike the pregrammatical phase, in the contexts for 1SG present tense along with the 3SG present tense *ne shte* ‘doesn’t want, isn’t willing’ form already appear the 2SG present tense form *ne shtesh* ‘don’t want to, aren’t willing to’ and the normative form *ne shta* ‘don’t want to, am not willing to’. The remaining modal verbs in the two corpora are represented in CS only on several separate occasions in the two diads of *може/мога* / *mozhe/moga* ‘can’ in the dynamic sense of “inability” – cf. (16), (17) and (18). Already in this early phase the child’s tendency towards the use of the modal verb with *da*-construction with the entirely understandable omission of *da/da* (see example 18), due to the prevalence of the so-called telegraphic style can be observed.

(16) ALE (1;06)

ALE: *Ни можу [:не мога]!* / *Ni mozhi [:ne moga]!* ‘I can’t!’

%sit: ALE can not open the jewellery box

(17) ALE (1;06)

ALE: *Китентата [:краченцата] и [:не] можу [:може].* / *Kitentata [:krachentsata] i [:ne] mozhi. [:mozhe]* ‘The little feet (I) can’t.’

%sit: She tries unsuccessfully to take off Buratino’s socks which are painted on his feet.

VEL: *Какво не може?* / *Kakvo ne mozhe?* ‘What (is it that you) can’t?’

VEL: *Какво му е на краченцето?* / *Kakvo mu e na krachentseto?*

‘What is with his little foot?’

ALE: *Буй [:събуй го]!* / *Buy [:sabuy go]!* ‘Take it off!’

VEL: *Не може да го събуваш.* / *Ne mozhe da go sabuvash.* ‘You can’t take it off.’

(18) TEF (2;0)

TEF: *Ох, не мога моя [:да отворя].* / *Oh, ne moga toya. [:da otvorya].*

‘Oh, (I) can’t open (it).’

TEF: *Не мога моя [:да отворя].* / *Ne moga toya. [:da otvorya]* ‘(I) can’t open (it).’

%sit: TEF tries to open a box with a chocolate egg.

VEL: *Дай леля да ти помогне да отвориш!* / *Dai lelya da ti pomogne da otvorish!*

‘Let auntie help you open (it)!’

Simultaneously with the aforementioned uses of the modal verb *moga/mozhe*, in CS there are registered cases which point to the explicating of the opposition “ability” – “inability” via the lexemes *golyama* / *big* – *manichka* / *small* (small.ADJ: DIM:F) – see example (19).

(19) TEF (1;11)

TEF: *Тука мажам кремче [:кремче].* / *Tuka mazham kremche [:kremche].*

‘Here I am spreading cream (cream.N:DIM:NEU).’

BAB: *Да се мажеш с кремче?* / *Da se mazhesh s kremche?* ‘To spread cream (on yourself)?’

BAB: *A-a, ти само обичаш да се мажеш с кремчето!* / *A-a, ti samo obichash da se mazhesh s kremcheto!* ‘A-ah, you only like to spread cream (cream.N:DIM:NEU) on yourself!’

BAB: *A-a! A-ah!*

%sit: BAB makes a threatening gesture with her finger.

VEL: *A, тя е мъничка и не може да се маже с кремче! A, тя е manichka i ne mozhe da se mazhe s kremche!* ‘Ah, she is (a) little (girl) and she can’t spread cream on herself!’

TEF: *Тети мънитка [:мъничка].* / *Teti manitka [:manichka].* ‘Teti (is) small (small.ADJ: DIM:F).’

VEL: *A-a, Тети е мъничка?! / A-a, Teti e manichka?* ‘A-ah, Teti is small (small.ADJ: DIM:F)?’

%sit: VEL clarifies.

TEF: *Дама [:голяма]!* / *Dama [:golyama]!* ‘Big!’

In this micro-dialogue, however, the adult’s phrase “*A, тя е manichka i ne mozhe da se mazhe s kremche!* / *Ah, she is (a) little (girl) and she can’t spread cream on herself!*” demonstrates that even

at this very early stage in CDS the modal verb *може/mozhe* is associated with an intricate semantic complex which combines various nuances – not only dynamic, but also deontic and epistemic. In addition, the lexeme *мъничка/manichka* ‘small’ (feminine, diminutive) which extrapolates the correspondence between *голям – малък / big – small* and *способен – неспособен / able – unable* on the one hand, and *разрешено – неразрешено / allowed – disallowed* on the other is included as an auxiliary language mechanism. After the actual appearance of modal verbs in the transitional phase, there is a qualitative change in the following protomorphological phase and the apparent prevalence of *искам/iskam* ‘want to’ remains unchanged.

In CS in both diads the tokens of indirect directives with modal verbs remain at the visibly good levels reached at the previous phase. They, however, are still largely due to the frequent appearance of the verb *искам/iskam* whose share among the rest of the modal verbs for ALE is 65%, and for TEF – 91%. In addition, the modal verb *mozhe* increases in use for ALE to 19% and for TEF – 12 % and is more often used in the sense of “ability” and “permission”. Only in several localized cases for ALE it can be assumed (for example, utterance 20) that *може/mozhe* is used epistemically which, however, is still not clearly differentiated in the respective child utterances. Such early epistemic expressions are perhaps not registered in the TEF Corpus because it contains data solely from the early months of the protomorphological phase which, however, is far from its apogee.

(20) ALE (2;3): *Ама туй човече може да си зemi [vzeme] шапката. / Ama tui choveche mozhe da si zemi [vzeme] shapkata.* ‘But this person (diminutive) can take his hat.’

In both children during the protomorphological phase is observed the using of the modal verb *може/мога / mozhe/moga* ‘can’ in quasi-questions for expressing indirect requests and premissives formed with the particle *ли/li* (which is regularly omitted by children in premissives).

During the protomorphological phase the dynamic sense of “ability” is explicated by children with the modal verb *може/мога / mozhe/moga* ‘can’, and also with the lexemes *sama/alone* (alone.ADJ:F) / *samichka/alone* (alone.ADJ:DIM:F) / *sam-samichka/all alone* (all alone.ADJ:DIM:F).

In the protomorphological phase in both corpora in CS the verb *трябва/tryabva* ‘need, should, must’ appears in the deontic sense and, in addition, its frequency levels remain low until the end of the observations. It was registered at the very beginning of the phase in both children. The first token for ALE appears in response to a statement by the mother which also contains *трябва/tryabva* whereas for TEF there is a routine reaction in a stereotypical situation, cf. (21) and (22).

(21) ALE (1,9)

ALE: *Касетата. / Kasetata.* ‘The cassette.’

VEL: *Трябва ли ти? / Tryabva li ti?* ‘Do you need it?’

%sit: ALE tries to take the cassette out.

ALE: *Тяба [tryabva]. / Tyaba / [tryabva].*

(22) TEF (2;01)

VEL: *Да ти дам ли тетрадка? / Da ti dam li tetradka?* ‘Shall I give you a notebook?’

TEF: *Да. / Da.* ‘Yes.’

VEL: *Ела да намерим! / Ela da namerim.* ‘Come (with me) to find (one)!’

%sit: VEL approaches the textbooks and notebooks which belong to the older child.

TEF: *Не тукa, не тукa! / Ne tuka, ne tuka!* ‘Not here, not here!’

TEF: *Тяба [tryabva] каката [na kakata]. Tyaba [tryabva] kakata [na kakata].* ‘The big sister needs (it).’

%com: TEF usually receives from her grandmother and her mother a similar indirect prohibition instead of the direct directive “Ne pipai!” / “Don’t touch!” in the cases when she is interested in someone else’s possessions.

BAV: *Да, бабо, трябва на каката. / Da, babo, tryabva na kakata.*

‘Yes, granny (babo/granny.N:F:VOC)¹⁰, the big sister needs it.’

¹⁰ The vocative *бабо/granny* is used as “reversed address”. This is “a strange phenomenon in the way close family members address each other. A person of the older generation (father, mother, grandfather, etc.) will address younger offspring with the same term as the offspring would use towards the person of the older generation. Thus, a father may address his son as *татко*, literally “father”, or a mother may address her son as *майка*, literally

%sit: The grandmother encourages the child.

In situation (22) TEF uses a ready-made formula for prohibition borrowed from similar situations in which it was produced by the adults around her. As an “expressive” child she demonstrates a definitive preference for this type of stereotypical instructions for socially acceptable behaviour¹¹ and in this specific example the accent is on the motivation for the prohibition. This way the child’s directive with the verb *трябва/tryabva* ‘need, should, must’ resembles the realizations of the prohibitive formula whose meaning can be represented by the paraphrase: “You are not supposed to touch things which other people need for school/work/...!” In the data from the later-occurring protomorphological phase the observed girls demonstrate the ability to use the verb *tryabva* independently (see 23, 24, and 25), i.e. without the support of the components of a specific stereotypical situation (22) or of a previous remark by the adult (21) as was the case with the earliest examples.

(23) ALE (2;3)

VEL: *Майка си ли търсят? / Майка si li tarsyat? / Are they looking for their mother?*

%sit: The mother VEL and the child ALE look at a picture book and in the specific case the child’s attention is drawn to an illustration showing three little bears in the woods apparently looking for someone or something.

ALE: *Трябва да я търсят по земята. / Tryabva da ya tarsyat po zemyata.*

‘They should look for her on the ground.’

ALE: *Да, по земята трябва да я търсят. / Да, po zemyata tryabva da ya tarsyat.*

‘Yes, they should look for her on the ground.’

(24) ALE (2;4)

VEL: *Сервирай му го! Servirai mu go! ‘Serve it to him!’*

%sit: ALE Ale is playing with a toy stove on which she is “boiling” an egg to “feed” her teddy bear.

ALE: *Още трябва, още не ..., още не са ..., още не е спекло [:се е опекло]! Oshte tryabva, oshte ne..., oshte ne sa..., oshte ne se e speklo [:se e opeklo]! ‘It needs more, still isn’t..., still is not ... it still isn’t baked!’*

%sit: ALE turns on the toy oven again.

(25) TEF (2;04): *Тя боуна [:болна] – тяба [:трябва] купим хапчета. / Туа bouна [:bolna] – tyaba [:tryabva] kupim hapcheta. ‘She is sick, we need to buy pills.’*

It is an interesting detail in both corpora that in CDS as well as in CS the utterances containing *трябва/tryabva* are rare and are usually associated with the deontic meaning “direction / instruction” and in this sense can be read as a less strict order in comparison with the subsequent imperative in the following situation:

(26) TEF (2;02):

VEL: *Ама не мога сама да падна – трябва някой да ме бутне. / Ама не мога сама да падна – tryabva nyakoi da me butne. ‘But I can’t fall by myself, someone has to push me.’*

%sit: VEL provokes TEF (2;02) to push her on the floor.

VEL: *Я ме бутни! / Ya me butni! ‘Come, push me!’*

%sit: VEL categorically says, after TEF does not react to the indirect request from the first utterance.

Another important achievement in the ontogenesis of modal verbs is the semantic expansion of the full verbs *дам/давам / dam/davam*, extrapolated in the cases of their deontic use in CS. Thus, even in the early months of the protomorphological phase and for both children the verbs *дам/давам / dam/davam* go beyond the reach of the donative situations and start to acquire the meaning of “permit, allow”, cf. :

“mother” (Rå Hauge, 1999, p. 34-35). The usage of reversed address in CDS mitigates the order and can be represented periphrastically in the model “do something for me/for my sake”.

¹¹ Cf.: *Ne biva da ...! Taka ne se pravi! Ne tryabva da ...! Tryabva da slushash / govorish tiho / spish ...! Ne se pipa ...! etc. / (You) shouldn’t ...! This is not done! (You) ought not to ...! You should be obedient / speak quietly / sleep ...! ... should not be touched! etc.*

(27) ALE (1,9): *Ни дава [:давам] тическа [:прическа] паим [:да правим]! / Ni dava [:davam] picheska [:pricheska] paim [:da pravim]!* ‘I don’t allow to make a hairdo’

In the protomorphological phase the negative forms of *ща/шта* ‘want’ are still used by ALE which are, as has been mentioned, the earliest registered even during the premorphological phase tokens of modal verbs but now specifically associated with the idea of person. The commonly observed tokens of overgeneralized 2SG and 3SG forms in 1SG contexts have been overcome. The achievement of the miniparadigm *ne shta* (1SG) – *ne shtesh* (2SG) – *ne shte* (3SG) – *ne shtem* (1PL) is clearly defined in the protomorphological data. The data from the protomorphological phase show that children are already aware not only of the possibility for functional competition but also of the interchangeability of modal verbs and other modal means. The most definitive proof of this are the cases when children express the same request in consequent statements via different means, cf.:

(28) ALE (2;0)

ALE: *На мене Поля дава [:даде] дъвка. / Na mene Polya dava [:dade] davka.* ‘(To me) Polya gave chewing gum.’

%sit: ALE is retelling a situation from the previous day

VEL: *И ти какво я направи дъвката? / I ti kakvo napravil s davkata?* ‘And what did you do with the chewing gum?’

ALE: *Изях [:изядох]. / Izayah [:izyadoh].* ‘(I) ate (it).’

VEL: *Изяде ли я? / Izayade li ya?* ‘Did you eat it?’

ALE: *Да. / Da.* ‘Yes.’

VEL: *А, че тя вкусна ли е, бе мамо! / A, che tyа vkusna li e, be mamo!*¹²

‘Ah, is it tasty, mummy!’

%sit: The mother VEL provokes the child by expressing doubt that the child likes chewing gum.

ALE: *И сега ши изде. / I sega shi izde.* ‘And now (I) will eat (it).’

ALE: *Аз искам [:искам] да изям дъвката! (в значение ‘И сега бих искала да дъвча дъвка!’) / Az iska [:iskam] da izyam davkata!* (meaning ‘And now I would like to chew gum!’)

In the last two lines of the child from example (28) there is competition between the future tense form (*ши изяде/shi izyade* ‘will eat’ and the modal structure with the verb *iskam* (*иска да изям/iska da izyam* ‘want to eat’). Other similar examples are found when in similar modal situations the children use different means. This way the forms for future tense vs. the verb *искам/iskam* ‘want’ enter into a competition in a volutative situation, the modal verbs *може/mozhe* vs. *дам/давам / dam/davam* in permissive situations, etc. The data from CS from both corpora show that the combination of a modal verb and *da*-construction is one of the earliest achievements in the Bulgarian ontogenesis. For both girls, already in the transitional phase, very soon after the first case of using *iskam* there appear its combinations with *da*-construction, such as:

(29) TEF (1;11.04): *Иска [:искам] йейата [:лелята] идям [:да видя]. / Iska [:iskam] yeyata [:lelyata] idyam [:da vidya].* ‘I want to see the aunt.’

(30) TEF (1;11.25): *Ика [:искам] още пай [:да правя] беби. / Ika [:iskam] oshte pai [:da pravya] bebi.* ‘I want to make a baby.’

(31) TEF (1;11.25): *Икам [:искам] гая [:да играя] йейа [:с леля]. / Ikam [:iskam] gaya [:da igraya] yeya [:s lelya].* ‘I want to play with aunt.’

(32) ALE (1;07.20): *Икаш [:искам] и доуди [:да дойде]. / Ikaash [:iskam] i doydi [:da doyde].* ‘I want (her) to come.’

In this type of structures within the transitional phase, as the examples show, there are mistakes in agreement in inflecting the modal as well as the full verb. Towards the end of the transitional and the beginning of the protomorphological phase they become significantly fewer and are limited to isolated cases of mainly non-target use of the 3SG form of the lexical verb. After the appearance of the impersonal *може/mozhe* and *трябва/tryabva*, however, there happens a most unexpected turn of events. Most probably the structures with these modal verbs weaken the already established model of analytical *da*-construction with a personal modal verb, and there once again emerge mistakes in the inflection of *искам/iskam*, *ща/шта* in such situations which are however quickly overcome.

¹² The vocative *мамо/мамо* ‘mummy’ functions as reversed address.

4. 3. Results and discussion

The analysis of the data suggests that each of the development phases corresponds to a specific achievement. While for premorphology overgeneralized uses of the 3 p. Sg. form of verbs of the type (*не*) *ца/(не) shta* (registered in the ALE Corpus) are only possible, and for the transitional phase the range of the studied units is extended due to the larger number of the *ца/shta* word forms and the emergence of new modal verbs such *искам/iskam*, *мога/мога*, *може/mozhe*, for protomorphology the emergence of new modal verbs is related to semantic and formal expansion. Bulgarian children exhibit an early sensitivity to the specific features of the Bulgarian language. In spite of their early emergence in the process of ontogenesis modal verbs are considerably less commonly used in CS than other modal means: this entirely corresponds to the linguistic specificities of Bulgarian where inflected modal means prevail over lexical ones. The results of the study unequivocally show that modal verbs are the first modal means which appear in the early ontogenesis of Bulgarian. They are also the means which express the earliest indirect wishes in CS. Thus, indirect wishes appear as early as the transitional phase, with the earliest ones being statements of desires with the verb *искам/iskam* and in the protomorphological phase the modal verb *искам/mozhe* is seen in quasiquestions expressing indirect requests or permissives. Another result concerns the fact that the specificities of the process of children's acquiring of modal verbs is visible at each of the three phases. In Bulgarian, modal verbs in their initial cases of emergence fulfill either deontic and/or dynamic function instead of epistemic. The verbs which are characterized by an internal source of modality (namely (*не*) *ца/(не) shta* and *искам/iskam*) are registered as the earliest and most common, while verbs with external source of modality such as *трябва/tryabva*, for example, appear last.

5. Conclusion

The corpus study has unequivocally proved that it is exactly modal verbs that are the first registered lexical modal means in the speech of the examined children while at the same time it has shown that due to their semantic complexity they are still not fully mastered at the observed early phases of language development. In this sense the data analyzed in the article represent only the beginning of the children's mastering of modal verbs which involves the acquiring of their deontic and/or dynamic function but not their epistemic function. The registered isolated cases of unclear epistemic use are not sufficient for a meaningful acquisition. However, they are a clear sign of the direction of the process of gradual development of modal verbs in language ontogenesis. To summarize, the conducted analysis has resulted in the following main stages in the early acquisition of modal verbs by the two examined children: premorphological zero start which includes the regular use of the “frozen” modal form *не ще/не shte*; the emergence and establishing of the modal verb *искам/iskam* which is included in the earliest desiderative utterances for expressing indirect wishes; the emergence and also gradual establishing of other modal verbs.

In the course of the analyzed early steps of acquiring modal verbs visible the following specificities are clearly visible: formal evolution – related to the early emergence and gradual establishing of the typically Bulgarian combinations of modal verb and *da*-construction; semantic evolution – the early establishing of the modal verb *може/mozhe* and the gradual acquiring of the complex semantic process associated with it comprising the three meanings “ability”, “permission” and “possibility” which corresponds to the line of modal ontogenesis – *dynamic modality* → *deontic modality* → *epistemic modality*; *semantic expansion* – *acquiring the modal meaning* of the verbs *дам/davam* allowing them to step outside their range of use in donative situations.

REFERENCES:

- Алексова, Кр. (2005)** Отношението модалност – евиденциалност – презумптивност (с оглед и на българския език). – В: Юбилеен славистичен сборник. Благоевград, УИ „Неофит Рилски“, 2005, с. 420 – 430. (*Aleksova, Kr. Otnoshenieto modalnost – evidentsialnost – prezumptivnost (s oglede i na balgarskiya ezik). – V: Yubileen slavistichen sbornik. Blagoevgrad, UI „Neofit Rilski“, 2005, s. 420 – 430.*)
- Ницолова, Р. (2008)** Българска граматика. Морфология. София, УИ „Св. Климент Охридски“, 2008, 524 с. (*Nitsolova, R. Balgarska gramatika. Morfologiya. Sofiya, UI „Sv. Kliment Ohridski“, 2008, 524 s.*)

- Попов, Д. (2016)** Лингвистична персонология. Шумен, УИ „Епископ Константин Преславски“, 2016, 300 с. (*Popov, D. D. Lingvistichna personologiya. Shumen, UI „Episkop Konstantin Preslavski“*, 2016, 300 s.)
- Русева, И. (2015)** Някои прояви на дефективност при модалните глаголи в съвременния български език. – В: *Да (пре)откриваш думите*. Пловдив, 2015, с. 63 – 70. (*Ruseva, I. Nyakoi proyavi na defektivnost pri modalnite glagoli v savremenniya balgarski ezik. – V: Da (pre)otkrivash dumite. Plovdiv, 2015, s. 63 – 70.*)
- Стоянова, Ю. (2009)** Индивидуални вариации във вербалното развитие. София, УИ „Св. Климент Охридски“, 2009, 311 с. (*Stoyanova, Y. Individualni variatsii vav verbalnoto razvitie. UI „Sv. Kliment Ohridski“*, 311 s.)
- Стоянова, Ю. (2021)** Проблеми на психолингвистиката. Уводен курс по обща психолингвистика и психолингвистика на развитието. УИ „Свети Климент Охридски“, София, 2021, 575 с. (*Stoyanova, Y. Problemi na psiholingvistikata. Uvoden kurs po obshta psiholingvistika i psiholingvistika na razvitieto UI „Sv. Kliment Ohridski“*, 575 s.)
- Чакърва, К. (2004)** Императивът в българската книжовно-разговорна реч. – В: Проблеми на българската разговорна реч. Книга шеста. Велико Търново, УИ „Св. св. Кирил и Методий“, 2004, с. 279–289. (*Chakarova, K. Imperativat v balgarskata knizhovno-razgovorna rech. – V: Problemi na balgarskata razgovorna rech. Kniga shesta. Veliko Tarnovo, UI „Sv. sv. Kiril i Metodiy“*, 2004, s. 279 – 289.)
- Dressler, W. U. (1997)** Introduction. – In: *Pre- and Protomorphology in Language acquisition. Papers and studies in contrastive linguistics*. Vol. 33. Poznan, 1997.
- Bally, Ch. (1932)** Linguistique Générale et Linguistique Française, Paris, Ernest Lerou, 1932, 413 p.
- Hinrichs, Kubler (2001)** From chunks to function-argument structure: A similarity-based approach. – In *Proceedings of the 39th Annual Meeting of the Association for Computational Linguistics*, 2001 Jul, pp. 346-353.
- MacWhinney, B. (2000).** The CHILDES Project: Tools for Analyzing Talk. 3rd Edition. Mahwah, NJ: Lawrence Erlbaum Associates, 88 p. – <https://talkbank.org/manuals/MOR.pdf> [Accessed 21 March 2022]
- Nuyts, J., Auwera, J. (2016)** The Oxford Handbook of Mood and Modality. Oxford, Oxford University Press, 2016, 688 p.
- Rå Hauge, K. (1999)** Short Grammar of Contemporary Bulgarian. Bloomington, Indiana, Slavica. 1999, 262 p.
- Stephany, U., Voeikova, M. D. (2009)** Development of Nominal Inflection in First Language Acquisition, a Cross-Linguistic Perspective. Berlin, Mouton de Gruyter, 2009, 448 p.
- SOURCES:** CHILDES Bulgarian LabLing Corpus. doi: 10.21415/PHWH-J834 – <https://chilides.talkbank.org/access/Slavic/Bulgarian/LabLing.html> [Accessed 21 March 2022]