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EPISTEMIC MODALITY IN GEORGIAN

The epistemic modality consists of epistemic possibility and necessity. Particle "Unda" (must) is the main formative of the epistemic necessity. Originating from a notional verb, it still retains its verbal functions. In the conjugation of an object, "Unda" is the III person form. It means "wish", "want". However, in modern Georgian, it is a multifunctional particle, with the epistemic necessity being one of the meanings thereof. "Unda" is associated with a verb in the subjunctive mood and expresses the speaker's opinion, evaluation and attitude to the reality, the speaker's assumption, conviction or the lack thereof. The said modality expresses intellectual perception of the speaker.

Sentence1."ის ახლა სახლში უნდა იყოს" [is axla saxlshi unda ix'os] – He must be at home now. "Unda" (must) expresses the speaker's certainty ensuing from the analytical assessment of reality. The sentence implies his belief that someone must be at home since it is the most logical possibility based on the fact that lights are on.

2. "მას კარგად უნდა გაეკეთებინა ეს საქმე" [mas k'argad unda gaek'etebina es sakme] – He must have done a good job of it. Here "Unda" implies that as far as I know him, his capabilities and sense of responsibility, I believe that he must have got on with the job well enough.

So, the epistemic necessity is expressed by "Unda" modal particle and a verb in the subjunctive mood and implies a logical necessity based on the speaker's belief. In the determination of the epistemic modality, not only the analysis of the modal particle and a verb matters but the definition of the semantic groups of the verbs involved in the pattern. The paper will contain the functional and semantic analysis of the patterns expressing the aepistemic necessity.

KEY WORDS: epistemic Modality, modality.

Introduction

In order to research the category of modality in Georgian, above all, an analysis should be made of the language means that are permanently used to form the category of modality. The main characteristic feature of these forms is that it adds modality to any possible context. Separate research should be carried out in order to study the meaning of modality and its various forms in different sentences and discourse.

The chief means of expressing modality in Georgian are the verbs ნდომა – **ndoma** (want) and შეძლება – **šeiz'leba** (can) (Harris 1995; Jorbenadze 1993; Sharashenidze 1995). Also diverbal modal elements mainly referred to as particles in Georgian grammatical literature, namely: ეგებ **egeb (maybe)** (< obtained from the verb ეგების), იქნებ **ikneb (probably)** (< obtained from the verb იქნების), ლამის **lamis** (almost) (< obtained from the verb ლამის). In the process of analysis of the system of modality, mention should also be made of the particles that serve to create the meaning of modality in various functions and semantics. Each of these requires a detailed research based on corpus linguistics. These are namely: particles of modal semantics used in interrogative sentences: განა **gana,** ნუთუ **nutu,** აკი **ak'i...** Polyfunctional მაინც **mainc** and particles referring to various types of modality თითქმის **titkmis,** თითქოს **titkos,** ვინაღამ **k'inayam** . One of the characteristics of Georgian language, with regard to the expression of modality, is a peculiar system of the category of negation, which is also an issue of special study: არ – **ar** – neutral or categorical negation, ნუ **nu** – prohibition and negation ვერ **ver** – negation of possibility. One of the most significant means of expression of modality in Georgian, the same as in many other languages, is **mood,** which forms several functionally and semantically different forms (screeves) in the verb system. Hence, their analysis would be incomplete without the in-depth analysis of the category of modality. Thus, in Georgian language various combinations of **the modal form and mood** gives diverse linguistic data, without the systemic analysis of which it is impossible to carry out thorough research of the category of modality in Georgian.

This paper focuses on one semantic context: epistemic necessity expressed by the modal form უნდა **unda** (must, should).

Definition

Research of the category of modality reveals numerous characteristics of any given language system. In general, three main types of modality are outlined: **epistemic** (the speaker's opinion, the attitude to general truths and the reality expressed by the sentence)**, deontic** (obligatory action, the control of which is either implemented or possible) and **dynamic** (related to the expression of physical ability, necessity or inclination) (Palmer 1999). In this model each form is characterized by the semantics of **possibility** and **necessity**[1]. This means that one and the same modal form may have diverse semantics in various contexts. For instance: ის ახლა სახლში უნდა იყოს **is axla saxlši unda ix'os** *'He must be at home now'.* The analysis of the given sentence involves various modal semantics: *1. It is highly probable that he is at home now, because, in my opinion, this is the most logical possibility, as I see lights in his windows; 2. He is obliged to be at home now, meaning moral obligation or certain regime under control; 3. He has to be at home now because it is already four o'clock and his school finishes at two.* Thus, sentence semantics largely depends on the understanding of the modal form, its semantic and functional analysis. Semantic analysis

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[1] This model was given in a systematic form by F. Palmer, and this system formed basis for further research, additions and changes.

is especially important when one and the same language means is used to refer to various types of modality. Such homonymy or semantic polysemy requires in-depth analysis of modal forms, in order to reveal the additional language means that precondition certain modal semantics in a sentence or discourse. Such additional means are diverse: verbs of certain semantics, certain verb forms, mention of a person in a construction, voice, other means expressing the speaker's attitude, such as parenthesis (I think etc.) and others. Research of modality as a linguistic category should be based on profound and systematic analysis of the above-mentioned issues.

Epistemic modality is one of the distinguished forms of modality. It is subjective modality and, alongside with deontic modality, opposes dynamic modality, which is considered to be objective. There are the following sub-types of epistemic modality in Georgian: **logical possibility[2] and logical necessity.**

The epistemic modality of necessity is expressed in Georgian by the form უნდა **unda** (must), which in contemporary Georgian does not change its form.

Georgian Language Corpus

The basic material for the research is the working version of the Corpus of Georgian Language. This version is currently being created and processed,[3] but already gives important material for the research. The corpus includes the material of contemporary Georgian language, as well as the data obtained from press and fiction literature. The number of contructions with the modal verb უნდა **unda** (must) is significant in the Georgian Language Corpus and contains 409437 units.

უნდა **unda (must) – Diachronic Analysis**

უნდა **unda** is obtained from the third person singular form of a notional verb „ნდომა" **ndoma (wish, desire)**. In contemporary Georgian it is used as a notional verb and as an unchangeable element added to the verb form with the aim of achieving certain semantics. In the function of a notional verb, the given verb has two meanings:

1.Wants, desires: ბავშვს ძალიან უნდა ნამცხვარი *am bavšvs* z'alian **unda** namcxvari *(the child wants the cake very much).*
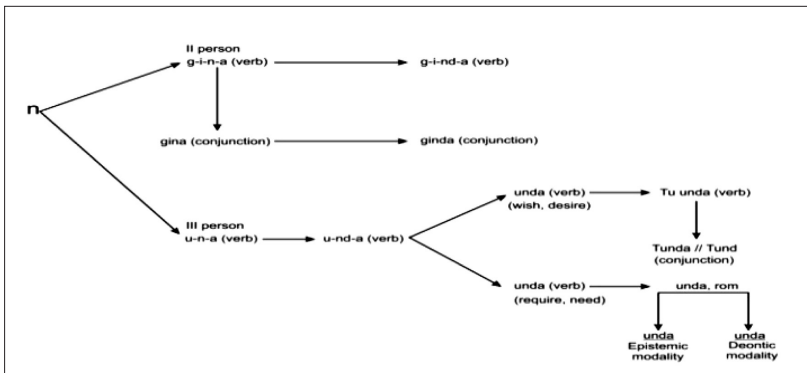
2.Needs, requires: ამ საკითხს კარგად ახსნა უნდა *am sak'itxs k'argad axsna* **unda** *(this issue needs good explanation)***.**

უნდა – **unda** has undergone numerous changes in form and function. (Sharashenidze 1995). უ–ნ–დ–ა – **u- n- d- a** is a form that appeared by itself, –ნ– **n** being the root of the

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2 The modality of **logical possibility** in Georgian embraces several types: the modality of possibility, chiefly expressed by the modal form შეძლება; the **modality of probability (likelihood)** is chiefly expressed by the modal forms იქნებ and ეგებ (იქნებ is obtained from the future tense form of the verb ყოფნა (to be), whereas ეგებ was a notional verb in the past and turned into a particle as a result of grammaticalization).

3 Georgian Corpus, http://iness.uib.no/gekko/concordance **GEKKO[1]** – **The Corpus of Contemporary Georgian Language** embraces two sub-corpuses: The Corpus of Contemporary Georgian Language (124 055 170 units) and Georgian Literary Corpus, with morphological annotations (20 903 850 units). http://geocorpus.blogspot.com/p/blog-page.html

verb. In Old Georgian the present tense forms were: მ–ი–ნ–ა **m-i-n-a,** გ–ი–ნ–ა **g-i-n-a,** უ–ნ–ა **u-n-a**, whereas the past tense forms were: მ–ი–ნ–დ–ა **m-i-n-d-a,** გ–ი–ნ–დ–ა **g-i-n-d-a,** უ–ნ–დ–ა **u-n-d-a;** Later the suffix დ **d** was mixed with the root (it forms the screeve form and the past tense). Thus, უ–ნდ–ა **u-nd-a** became the third form singular of the present tense. In Middle Georgian (XII- XVIII century) a new suffix was added to the verb in order to express the past tense: მ–ი–ნდ–ოდ–ა **m-i-nd-od-a,** გ–ი–ნდ–ოდ–ა **g-i-nd-od-a,** უ–ნდ–ოდ–ა **u-nd-od-a.** Parallel to the change in the form of the given verb, its functional and semantic change took place. The process of formation of the modal element and the modal semantics are related to the simple root. In Old Georgian the frequently used form was გინა **gina /** გინა თუ **gina tu,** which fulfilled the function of a conjunction expressing the semantics of choice.[4]

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- II person g-i-n-a (verb) → g-i-nd-a (verb)
- gina (conjunction) → ginda (conjunction)
- III person u-n-a (verb) → u-nd-a (verb)
  - unda (verb) (wish, desire) → Tu unda (verb) → Tunda // Tund (conjunction)
  - unda (verb) (require, need) → unda, rom → unda Epistemic modality / unda Deontic modality

The semantics of epistemic and deontic modality of the form უნდა **unda** appeared in Middle Georgian. Its use in the sense of epistemic modality is of an earlier period, whereas the deontic semantics is observed in literary monuments of a later period.[5]

Thus, the modal form უნდა **unda** is the third person singular form of the verb „ნდომა" **ndoma**. The modal form is unchangeable i.e. does not change with regard to either person or number.

უნდა გავაკეთო (I must do) **unda** gavak'eto	უნდა გავაკეთოთ **unda** gavaketo (we must do) **unda** gavak'etot
უნდა გააკეთო (you must do) **unda** gaak'eto	უნდა გააკეთოთ (you must do) **unda** gaak'etot
უნდა გააკეთოს (he/she must do) **unda** gaak'etos	უნდა გააკეთონ (they must do) **unda** gaak'eton

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⁴ The way of functional change of უნდა form, its transformation into conjunction and participation in complex syntactic constructions, is an issue of separate analysis.

⁵ Back in the literary texts of the sixteenth century one can observe the semantics of probability, which can be considered as one of the forms of epistemic modality: „ მიზრძანა: სავარსამისძეო, მიკვირს, განა რა უნდა იყოსო?!" (He said: Savarsamidze, I am surprised, what must it be?!) (Amirandarejaniani, 795, 22); also: უბრძანა ზავარს: ეს რა უნდა იყოს, ესეც გრძნება რამ არიო, თვარა სით აუკვანიათო?" (He said to Zavar: This must be some magic) (Rusudaniani, 297, 25). I argue that the expression of probability is more likely in interrogative sentences; hence, this type of semantics should have appeared above all in interrogative sentences.

The basis for this form is a hypotactic construction,(Kotinov 1986; Jorbenadze 1993) in which the verb მინდა/გინდა/უნდა **minda/ginda/unda** are in the main clause, whereas in the subordinate clause the verb is given in the subjunctive mood. As a result of ellipsis of conjunction, a new construction is formed:

მინდა, რომ გავაკეთო > მინდა გავაკეთო

minda, rom gavak'eto . minda gavak'eto

The first construction uses hypotaxis to express a wish, a desire for the implementation of the action expressed by the notional verb in the subordinate clause. The second construction is a biverbal construction expressing wish and it can be considered a transformed form:

მინდა გავაკეთო > უნდა გავაკეთო

minda gavak'eto . unda gavak'eto

The next stage of functional-semantic change is the addition of new modal semantics to the form უნდა **unda.** This process is obvious in contemporary Georgian and the field of its use is gradually broadened. In contemporary Georgian the hypotactic constructions with the verb მინდა **minda** are less productive. Modal constructions are more frequently used instead:

(1) მინდა გაკეთება – I want to do it *minda gak'eteba*	An infinitive construction expressing a wish;
(2) მინდა გავაკეთო – I want to do it *minda gavak'eto*	A modal construction expressing a wish, consisting of the verb მინდა **minda** and the subjunctive form of the notional verb. The construction expresses decision, intention;
(3) უნდა გავაკეთო – I must do it *unda gavak'eto*	A construction of epistemic modality, consisting of უნდა **unda** modal verb and the subjunctive of the notional verb in the first person. It expresses modality of different types.
(4) უნდა გააკეთო – You must do it *unda gaak'eto*	A construction of deontic modality, consisting of the modal form უნდა **unda** and the subjunctive mood of the notional verb in the second person.

Epistemic უნდა **unda** "Must"

Epistemic modality reveals the speaker's attitude to the reality expressed by the sentence – The utterance is true to the extent that the speaker attaches a status of truth to it. The attitude of the speaker, in its turn, is defined by his/her knowledge and belief.

Epistemic necessity expresses the attitude by which the speaker, based on his/her knowledge and belief, considers that the opinion expressed by him/her is correct, true and undoubtable. It is a logical necessity expressed by the speaker's attitude: based on experience and attitude, the speaker thinks that the opinion expressed in the sentence is the only logical necessity. It is a subjective modality determined by the attitude, belief and opinion of the speaker.

Additional language means (parenthesis) and modal construction:

Epistemic modality in Georgian is mainly expressed by the modal element უნდა and **the subjunctive mood of the verb**. The modal content is often enhanced by additional language means which make it obvious that the meaning expressed by **the modal form and the verb** is a conclusion, a result of the speaker's attitude. Such expressions are: ვფიქრობ *vpikrob (I think),* უეჭველია *ue č'velia (it is undoubtable),* წესით *c'esit (obviously),* ვგონებ *vgoneb (I consider)...*

(1) ვფიქრობ, აუცილებლად უნდა ჩატარდეს ხელახალი არჩევნები, როცა მის უკანონობაზე სასამართლო მიიღებს გადაწყვეტილებას. უკანონო კი – ნამდვილად იყო.
vpokrob, aucileblad **unda čatardes** xelaxali arčevnebi, roca mis uk'anonobaze sasamartlo miiɣebs gadac'x'vetilebas. uk'anono ki – **namdvilad** ix'o.
*I think elections must be held again after the court takes a decision concerning their illegality, because they were **really** illegal. id=231427726174092&cpos=28637745*

In the given sentence the illegality of the elections is not an objective reality, but the subjective perception of the speaker. This can be proved by the parenthetical expression in the first person „ვფიქრობ" **vpikrob (I think),** as well as by the following intensifier „ნამდვილად" **namdvilad (really)**, which underlines the subjective attitude of the speaker. Both these forms intensify the speaker's subjective attitude, whereas the chief modal semantics is expressed by უნდა **unda** modal form and the notional verb.

(2) ვგონებ , გამომძიებამ ეს საკითხები კარგად უნდა შეისწავლოს და იფიქროს იმაზეც, ხომ არ გახდა პრემიერი ტენდერის შედეგებით უკმაყოფილოთა შურისძიების მსხვერპლი.
vgoneb, gamoz'iebam es sak'itxebi kargad **unda šeisc'avlos** da ipikros imazec, xom ar gaxda p'remieri tenderebis šedegebit ukmax'opilota šurisz'iebis msxverp'li.
*I consider that these issues **must be** thoroughly **investigated** and it must be made clear whether the Prime-Minister fell victim to those who are dissatisfied with the results of the tender. id=231427726174092&cpos=56740244*

(3) „დათა თუთაშხიას" „ცისკარში" დაბეჭდვა იმ დროის დიდი პარადოქსიც გახლდათ, რასაც, უეჭველია, ჟურნალის იმჟამინდელ რედაქტორს უნდა ვუმადლოდეთ.
data tutašxias cisk'arši dabeč'dva im drois didi p'aradoksic gaxldat, rasac, **ueč'velia**, žurnalis imžamindel redakt'ors **unda vumadlodet**.
*Publication of "Data Tutashkhia" in "Tsiskari" was paradoxical at the time, and it is **undoubtable** that we must be grateful to the editor-in-chief. id=231427726174092&cpos=28648855*

(4) ახალი სამსახურის ძებნა წესით არ უნდა გაგჭირვებოდათ.

axali samsaxuris zebna c'esit ar **unda gagč'irvebodat**.

Obviously, you must not have had *problems finding a new job.* *id=231427726174092*
&cpos=56730596

*The form „ვგონებ" **vgoneb (I consider)** in example (2) is given in the first person
and underlines the subjective attitude of the speaker which is based on mental analysis. In
examples (3) and (4) the intensifiers of the epistemic necessity are „უეჭველია" **ueč'velia**
(it is undoubtable)* and *„წესით" **c'esit** (obviously) forms. „უეჭველია" **ueč'velia** (it is
undoubtable)* denotes that, although the opinion expressed in the sentence is not a fact to
the speaker, but, based on subjective reasoning and analysis, he considers it undoubtable
truth. As for the form *„წესით" **c'esit*** (obviously), it denotes not only the attitude of the
speaker, but also underlines that it is objective truth based on facts.

Thus, the action expressed by the form უნდა **unda** and the subjunctive mood of
the notional verb denote epistemic necessity, based on the conclusion and analysis of
the speaker. This necessity is intensified by additional language means in the form of
parenthetical expressions.

Constructions with the First Person Verbs:

One of the productive means of expressing epistemic necessity is the use of the verb in
the **first person**. The first person of the verb stresses the subjective nature of the opinion
expressed by the speaker. In this regard, the following two cases should be outlined:

1. The verb in first person **singular**;
2. The verb in the first person **plural.**

In the above-given example (3) the verb in the first person plural underlines that the
opinion expressed in the sentence belongs to the first person, whereas the plural form
generalizes the opinion, which is an attempt to transform it into objective truth.

Similar semantics is revealed in example (5), in which the speaker's position is expressed
by means of the modal form უნდა **unda** (must) and the verb in the first person plural
*(უნდა გავსულიყავით **unda gavsulix'avit) (We should have played).*** The verb in the
main clause „გეთანხმები" **getanxmebit (I agree)** denotes the speaker's position,
whereas the form უნდა **unda** followed by the verb expresses logical necessity:

(5) გეთანხმები, რომ იმ წელს მართლაც საოცრად ძლიერი გუნდი ვიყავით
და ფინალში მაინც უნდა გავსულიყავით.

getanxmebit, rom im c'els martlac saocrad z'lieri gundi vix'avit da pinalši mainc
unda gavsulix'avit.

I agree that that year we had a really strong team and **we should have played** in the
finals. id=231382703381881&cpos=1625

In the construction with the first person of the verb plurality underlines that the position
and attitude of the speaker is objective necessity and fact, albeit based on the subjective

position. Similar constructions may be considered as set expressions in which the modal form უნდა **unda** denotes necessity emphasized by the speaker. This emphasis is due to the first person of the verb, whereas **plurality** serves generalization and attaches the speaker's opinion a status of objective truth. The analysis of the data of Georgian Language Corpus reveals epistemic modality expressed by the above-mentioned language means:

უნდა + verb in the first person:	The verb in the singular:	The verb in the plural:
უნდა ვთქვა unda vtkva(I must say)	953	890
უნდა აღვნიშნო unda aɣvnišno (I must mention)	435	459
უნდა ვუთხრა unda vutxra (I must tell)	130	233
უნდა ვუმადლოდე unda vumadlode (I must be grateful)	40	111
მადლობა უნდა ვუთხრა madloba unda vutxra (I must thank)	4	39
უნდა დავძინო unda davz'ino (I must add)	22	40
უნდა ვიფიქრო unda vipikro (I must think)	76	875
უნდა გითხრა unda gitxra (I must tell you)	218	961
Total:	1878	3608

In fact, constructions with the verb in the plural twice outnumber those with the verb in the singular form. This means that epistemic necessity expressed by the modal form უნდა **unda** and the verb in the first person reveals not only the subjective attitude of the speaker, but is an **attempt to transform the subjective attitude into objective truth.** This, in its turn, is made possible by means of the plural suffix.

Constructions with the Modal Form უნდა **unda** (Must)

As the analysis of Georgian Language Corpus proved, constructions with the modal form უნდა **unda** are numerous. Semantic analysis of the ample data yields three types of constructions denoting epistemic necessity. All the three types of constructions contain the modal form უნდა **unda.** However, their semantic functions differ based on the mood and screeve of the verbs given in the constructions.

The most widespread constructions expressing epistemic necessity in Georgian are those consisting of უნდა **unda** + **the subjunctive mood of the verb**. Subjunctive mood expresses unreal actions, whereas the modal form makes the content expressed by the verb more concrete and attaches it a new functional-semantic load. (Palmer 2001; Papidze 1981, p. 162)

1. უნდა **unda** + Subjunctive Two

The most widespread are the constructions consisting of the modal form უნდა **unda** and **Subjunctive Two**. The forms of this screeve, both in old and contemporary Georgian, are polysemantic, expressing subjunctive, imperative and indicative mood (Kotinov 1986;

Papidze 1981, 182). This combination is used most frequently to express both epistemic and deontic modality. When expressing epistemic modality, these forms denote logical necessity based on subjective perception as well as the semantics of desirability: the speaker considers the fact as a logical necessity, and, at the same time, as something desirable. Frequently it is difficult to distinguish between logical necessity and desirability, hence, desirability should be considered as one of the semantic peculiarities of epistemic modality. The opinion expressed by the sentence is a logical necessity to the speaker, and, at the same time, it is highly desirable. This complex semantic peculiarity refers to numerous constructions with უნდა **unda (must)**.

(6) ახალგაზრდა მსახიობების უმეტესობა კი ასე არ ვფიქრობთ და მიგვაჩნია, რომ თეატრის ხელმძღვანელობა უნდა შეიცვალოს"

axalgazrda msaxiobebis umetesoba ki ase ar vpikrobt da migcačnia, rom tet'ris xelmz'γvaneloba **unda šeicvalos.**

*The majority of young actors does not think so and, in our opinion, the administration of the theater **must be replaced**. id=231427726174092&cpos=56719985*

(7) მარჯანიშვილის თეატრის დირექტორი დარწმუნებულია, რომ „დაწყებული საქმე ბოლომდე უნდა მიიყვანოს". მისი განცხადებით, თეატრში რემონტის დასრულების შემდეგ, ანუ სექტემბერ-ოქტომბერში იგი თანამდებობას დატოვებს.

marjanišvilis teat'ris direkt'ori darc'munebulia, rom dac'x'ebuli sakme bolomde **unda miix'vanos.** misi gancxadebit, teat'rši remontis dasrulebis šemdeg, anu sekt'embet-okt'omberši, igi tanamdebobas dat'ovebs.

*The Director of Marjanishvili Theater is confident that the reforms initiated by him **must be fully implemented.** According to him, after the repair works are over in September, he will resign from his position). id=231427726174092&cpos=56720003*

(8) ვგონებ, გამომძიებამ ეს საკითხები კარგად უნდა შეისწავლოს და იფიქროს იმაზეც, ხომ არ გახდა [პიროვნება] ტენდერის შედეგებით უკმაყოფილოთა შურისძიების მსხვერპლი

vgoneb, gamoz'iebam es sak'itxebi kargad **unda šeisc'avlos** da ipikros imazec, xom ar gaxda premieri tenderebis šedegebit ukmax'opilota šurisz'iebis msxverp'li.

I consider that these issues must be thoroughly investigated and it must be made clear whether the Prime-Minister fell victim to those who are dissatisfied with the results of the tender. id=231427726174092&cpos=56740244

Deontic and epistemic modality are expressed by the same means in numerous languages. However, there is contextual difference between the two: deontic modality requires a subject which performs the action, whereas epistemic modality is expressed by the entire sentence and does not require either an obvious or discreet subject. (Haan 2009) The analyzed contexts prove that the given constructions do not refer to the performance

of the action by someone. There is no obvious subject responsible for the implementation of the action. The opinion expressed by the sentence is the speaker's position referring to certain necessity, although the way of performing the action is not obvious from the sentence. Example (6) directly refers to the opinion of a group of youngsters. The context does not refer to any enforcement or administrative act. This excludes the possibility of deontic modality. Epistemic necessity is a position, a belief of the speaker in the truth of what he is saying. However, it does not imply either control or probability of implementation of the action. In example (7) it is obvious that the action expressed by the construction is the speaker's decision that cannot be controlled by any other person. Sentence (8) implies that a future action expresses just the position of the speaker and there are no mechanisms that would control its implementation.

Thus, epistemic necessity expressed by უნდა **unda + subjunctive two** refers to the speaker's position based on his/her vision and opinion. For the speaker it is **logical truth**. The construction also implies the semantics of **desirability,** i.e. what is logical necessity for the speaker is also desirable for him/her.

2. უნდა **unda + Resultative two**

The modal form უნდა **unda** is often found with Resultative two. The function of the screeve of resultative two in contemporary Georgian is to denote result and evidence (Gogolashvili 2011, p. 762-765).

When combined with modal უნდა **unda** this screeve forms a peculiar combination.[6] These types of constructions have the following semantics: The verb combined with the modal form უნდა **unda** expresses an expected action which in the past was a logical result of the facts. The semantics of result are attached to the construction by means of the verb form, whereas the content of logical necessity is expressed by the modal form უნდა **unda.** Hence, this is a specific semantics implying **logical necessity which was not implemented.**

(9) მამუკა უნდა ჩამოსულიყო ავსტრიაში, მაგრამ როგორც გითხარით, არ ჩამოსულა.

mamukʼa **unda čamosulixʼo** avstʼriaši, magram, rogorc gitxarit, ar čamosula.

*Mamuka **should have arrived** in Austria, but, as I said, he did not arrive. id=234602701088826&cpos=82716*

(10) წესით ჯინჭარაძეს „სოკოლის" მიირთადში დამკვიდრება არ უნდა გაჭირვებოდა, მაგრამ სამწუხაროდ, ყველაფერი ფეხბურთელისთვის უკუღმა დატრიალდა.

cʼesit, jinčʼarazʼes sokolis zʼiritadši damkvidreba **ar unda gačʼirveboda**, magram, samcʼuxarod, xʼvelaferi fexburtelistvis ukyma datʼrialda.

*Obviously, Jincharadze **should not have had** any difficulty at school, but, unfortunately, the footballer's life went the other way round. id=234602701088826&cpos=91942*

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[6] The given construction has not been discussed in scientific literature so far.

(11) ახალგაზრდა ექიმი კათედრაზე უნდა დაეტოვებინათ, დიდ იმედებს ამყარებდნენ მასზე, როგორც მომავალ მეცნიერზე, მაგრამ ომმა მისი გეგმები ისევ შეცვალა.

axalgazrda ekimi katedraze **unda daet'ovebinat**, did imedebs amyarebdnen masze, rogroc momaval mecnierze, magram omma misi gegmebi isev šecvala.

*The young doctor **should have become** member of the Chair, his potential of a young scientist was great, but the war affected his plans. id=234637438385246&cpos=360000*

Sentence (9) shows that the action expressed by the verb was expected *(*უნდა ჩამოსულიყო *unda čamosulix'o) (should have arrived).* In the next sentence the verb of the same semantics is given with particle "not" (არ ჩამოსულა *ar čamosula) (he did not arrive)* i.e. the action is negated. Similar constructions are often found in complex sentences with conjunction მაგრამ **magram** (but). The situation is the same with regard to sentences (10) and (11). In sentence (10) logical necessity is expressed by the parenthetical „წესით" **c'esit (obviously),** whereas in example (11) the first clause contains a modal construction, whereas the third clause negates the logical expectation expressed in the first clause. The Corpus of Georgian Language abounds in constructions of similar semantics.

Similar constructions with the verb „ყოფილიყო" **x'opilix'o (should have been)** are of different semantics. There are numerous constructions with „უნდა ყოფილიყო" **unda x'opilix'o** in the Corpus, namely 4992 units. Their majority express assumption **and logical necessity**. This fact is due to the verb semantics: absence of being and existence cannot be peculiar to every context. The Table below focuses on the constructions with the verb ყოფილიყო and their semantics:

Construction	The number of examples in the Corpus	Semantics
უნდა ყოფილიყო unda x'opilix'o (should have been)	4992	Logical necessity; logical necessity with no result.
არ უნდა ყოფილიყო ar unda x'opilix'o (shouldn't have been)	664	Logical necessity with the semantics of assumption.
რა უნდა ყოფილიყო ra unda x'opilix'o (what should have been)	90	Logical necessity with emotive charge (surprise, astonishment...).
რომ უნდა ყოფილიყო rom unda x'opilix'o (that it should have been)	20	Logical necessity

(12) თუკი ის ვინმეს ხელს უშლიდა, ძნელი არ უნდა ყოფილიყო მისი თავიდან მოშორება…

tuk'i is vinmes xels ušlida, zneli **ar unda x'opilix'o** misi tavidan mošoreba.

if he were in somebody's way, it should not have been difficult to get rid of him. id=234637438385246&cpos=7601033

(13) ზოგისთვის გაუგებარი იყო, რა უნდა ყოფილიყო მისი მუშაობის სფერო.

zogistvis gaugebari ix'o, **ra unda x'opilix'o** misi mušaobis spero.

For some people it was unclear what should have been the field of his activities. id=234637438385246&cpos=5849709

(14) ჩვენ საუბარი გვაქვს იმ ტრადიციულ, ეროვნულ ღირებულებებზე დაფუძნებულ განათლების რეფორმაზე, რომელიც სამწუხაროდ, ახლა საქართველოში არ არის, თორემ, რეფორმა რომ უნდა ყოფილიყო, ამაზე ორი აზრი არ იყო.

čven saubari gvakvs im tradiciul, erovnul γirebulebeze dapuz'nebul ganatlebis repormaze, romelic, samc'uxarod, axla sakartveloši ar aris, torem reporma rom **unda x'opilix'o**, amaze ori azri ar arsebobs.

We are talking about the educational reform based on the traditional national values that have, unfortunately, become a matter of the past. As for the reform, it is undoubtable that it **should have been** implemented. id=234637438385246&cpos=112469022

Sentence (12) implies both logical necessity and assumption. It may be substituted by a sentence: "It is highly probable that it was not difficult". Example (13) implies logical necessity and surprise, which is vividly expressed by the form „რა" **ra (what)**. [7] Sentence (14) implies logical necessity.

Thus, it can be concluded that the key semantic peculiarity of the construction with modal form უნდა **unda** and **Resultative Two** is the expression of **logical necessity and result**.

3. უნდა **unda + Present Subjunctive**

Present subjunctive is generally characterized by indefiniteness of time i.e. the forms of this screeve have a complex content: based on the mood, they express irreal actions, whereas, based on tense, they are general and not concrete. (Papidze 1984, p. 83-84) The forms of present subjunctive combined with the modal form უნდა **unda** express epistemic necessity with an additional semantic colouring:

(15) კლუბების ხელმძღვანელობას უნდა ახსოვდეს თავისი პასუხისმგებლობა

klubebis xelmz'γvanelbas **unda axsovdes** tavisi p'asuxismgebloba.

*The administrations of the clubs **must remember** their responsibilities. id=234637438385246*

(16) რომელიმე კონკრეტული ფეხბურთელით არ უნდა განისაზღვრებოდეს გუნდის თამაში და შედეგი.

romelime k'onk'ret'uli pexburtelit **ar unda ganisazγvrebodes** gundis tamaši da šedegi.

*No concrete footballer **must define** either the game or its result id=234662252741051&cpos =18885*

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[7] „რა" (what) is an interrogative pronoun, often used also in exclamatory sentence „რა ლამაზია!" **(What Beauty!)** – expresses delight, pleasure, surprise and other emotions depending on the context.

(17) „დანდიმ" მეორე მარცხი იწვნია დიდი ანგარიშით, რაც პირველ რიგში,
ალბათ, დაცვის პრობლემებზე უნდა მიუთითებდეს.

dandim meore marcxi ic'vnia didi amgarišit, rac, p'irvel rigši, albat, dacvis problemebze
unda miutitebdes.

*"Dandy" lost for the second time with great difference in the score, which, above all, **must
probably be due to** the problems in the defense.*   id=234637438385246&cpos=190921

A modal construction consisting of the modal form უნდა and **Present Subjunctive**
expresses the speaker's opinion accompanied by obvious desire i.e. desirability. In example
(15) the speaker considers that the administrations must remember their responsibilities.
As it was mentioned above, the screeve form does not denote concrete time. The time
is general in this case. Thus, the adverb of time– ყოველთვის **(always)** could be easily
added to the given sentence. Examples (16) and (17) do not denote any concrete time
either. However, sentence (17) also bears the semantics of **assumption**. The key semantic
peculiarity of the given construction is **logical necessity, generalization of time** and an
additional modal meaning – **desirability** or **assumption.**

Conclusions

The modal form უნდა (must) is highly productive and it is polysemantic in contemporary
Georgian. Epistemic necessity expressed by the modal form უნდა and the notional verb
has the following semantics:

Construction	Semantic function
უნდა + **subjunctive two, first person plural form** (უნდა ვთქვათ...) *(We should say..)*	Subjective attitude of the speaker, based on logical necessity and bearing the meaning of objective truth.
უნდა + **subjunctive two** (უნდა შეიცვალოს...) *(it must be changed)*	The speaker's position is based on subjective perception and represents the truth based on logical necessity. It expresses an action that must be implemented in the future and bears additional semantics of desirability.
უნდა + **second resultative** (უნდა ჩამოსულიყო...) *(he must have arrived)*	Logical necessity and result.
უნდა + **present subjunctive** (უნდა ახსოვდეს...) *(he must remember)*	Generalization of time, logical necessity and the additional meaning of desirability or assumption.

All these semantic functions are an issue of separate research. Corpus research is very
important for the in-depth study of the issue, although, due to the agglutinative nature
of the Georgian language, new methods should also be applied. Therefore, analysis of the
given issue is obviously an important direction of further research.

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EPISTEMIC MODALITY IN GEORGIAN

Summary

The object of this paper is to describe the constructions and semantic of the modal form "unda" in the Georgian language. The basic material for the research is the working version of the Corpus of Georgian Language.

This paper focuses on one semantic context: epistemic necessity expressed by the modal form უნდა **unda** (must, should)**.** Epistemic modality is one of the distinguished forms of modality.

There are the following sub-types of epistemic modality in Georgian: **logical possibility and logical necessity.** The epistemic modality of necessity is expressed in Georgian by the form უნდა **unda** (must), which in contemporary Georgian does not change its form. უნდა **unda** is obtained from the third person singular form of a notional verb „ნდომა" **ndoma (wish, desire)**. In contemporary Georgian it is used as a notional verb and as an unchangeable element added to the verb form with the aim of achieving certain semantics.

The semantics of epistemic and deontic modality of the form უნდა **unda** appeared in Middle Georgian.

Epistemic modality reveals the speaker's attitude to the reality expressed by the sentence – The utterance is true to the extent that the speaker attaches a status of truth to it. The attitude of the speaker, in its turn, is defined by his/her knowledge and belief.

Epistemic modality in Georgian is mainly expressed by the modal element უნდა "unda" and **the subjunctive mood of the verb**.

The modal content is often enhanced by additional language means which make it obvious that the meaning expressed by **the modal form and the verb** is a conclusion, a result of the speaker's attitude.

One of the productive means of expressing epistemic necessity is the use of the verb in the **first person**. The first person of the verb stresses the subjective nature of the opinion expressed by the speaker. In the construction with the first person of the verb plurality underlines that the position and attitude of the speaker is objective necessity and fact, albeit based on the subjective position.

Semantic analysis of the ample data yields three types of constructions denoting epistemic necessity.

The most widespread are the constructions consisting of the modal form უნდა **unda** and **Subjunctive Two**. Epistemic necessity expressed by უნდა **unda + subjunctive two** refers to the speaker's position based on his/her vision and opinion. For the speaker it is **logical truth**. The construction also implies the semantics of **desirability,** i.e. what is logical necessity for the speaker is also desirable for him/her.

The key semantic peculiarity of the construction with modal form უნდა **unda** and **Resultative Two** is the expression of **logical necessity and result**.

A modal construction consisting of the modal form უნდა and **Present Subjunctive** expresses the speaker's opinion accompanied by obvious desire i.e. desirability. The screeve form does not denote concrete time. The time is general in this case. The key semantic peculiarity of the construction is **logical necessity, generalization of time** and an additional modal meaning – **desirability** or **assumption.**

KEY WORDS: epistemic Modality; modality**.**