

## Discursive units in scientific texts

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**Abstract.** Discursive units are text elements that ensure its coherence, direct attention to the context, make text clear etc. Undeveloped theory of semantic description and its lexicographical representation complicates the description of the discursive units. There are also difficulties in dictionary definitions formulating, as discursive units are often very integrated into the context. Because of this, it is difficult to define system boundaries and build up the correct classification. The main criterion for merging of heterogeneous units into one class of discourse units is their joint function of regulation and organization of the communication process. It is impossible to classify discursive units only by grammatical (morphological and syntactic) features. In terms of morphology, these units are also difficult to combine into one class. In our opinion, it is functional feature that is the most relevant for determining discursive units in the text. Therefore, semantic-pragmatic characteristics are most relevant for the determination of the discursive units in the text.

**Keywords:** discursive units, discursive markers, scientific text, formal characteristics of discursive units

Discursive units (DU) are text elements that ensure its coherence, direct attention to the context, make text clear, focus reader's attention on different of context elements. Discursive units provide clarity, structure to the language, regulate emotional coloring, and make text more clear. Their marker functions in the context are varied from statement organizing, shifting from one topic to another to expressing of text macrostructure and autoreflexion (individual point of view) etc.

Discursive units "regulate the flow of discourse" [6] and have composition-structural, regulatory and modal-assessment functions. There are no texts that do not contain discursive units, scientific texts are no exception. They accompany author's main communicative intentions. According to M. Kozhina [5], discursive units are "specially created" for the scientific style.

Introductory words, modal words and phrases (безсумніву, власнекажучи), conjunctions (якщо, але), particles (ж, просто, якраз), phrases (в зв'язку з цим, в данному випадку) and even sentences (підсумуємо найбільш важливе, список можна продовжити) could function as discursive units. Clearly, that from the lexical and morphological (and even syntactical) point of view DU are very dissimilar, and

that is why it is almost impossible to classify them by lexical-grammatical parameters, i.e. refer them to a specific part of the language. [2]

There are also difficulties in dictionary definitions formulating, as discursive units are very often integrated into the context. Undeveloped theory of semantic description and its lexicographical representation complicates the description of the discursive units. Because of this, it is difficult to define system boundaries and build up the correct classification.

The main criterion for merging of heterogeneous units into one class of discursive units is their joint function of regulation and organization of the communication process. N. Bogdanova [9] thinks that DUs are units of the functional-pragmatic level, despite the fact that they have different semantics and structure. Note that DUs have no denotative meaning. The fuzziness, semantic complexity of the units of this class usually does not allow to use the traditional lexicographic method of definition decomposition onto semantically deterministic components.

Different DUs could have the same discursive function. For example, you could start your speech with such discursive units as first of all, therefore, and often the choice of a particular unit in such a situation is difficult to motivate formally. A large number of DUs are interchangeable, that's why we think that they are contextually synonymous, but that synonymy, however, cannot be always semantically classified at the level of lexical meanings. Due to such uncertainty of meaning discursive units are difficult to describe linguistically [3].

Nowadays there is no even minimal list of discursive markers that might help to determine discursive units in the text, as well as the complexity of their system signs.

It is impossible to classify discursive units only by grammatical (morphological and syntactic) features. For example, syntactic characteristics are not enough to determine DUs in the text, although DUs have some syntactic features. In terms of morphology, these units are also difficult to combine into one class, because morphologically similar words might be discursive units or not. In our opinion, functional feature are the most relevant for determining discursive units in the text.

Therefore, semantic-pragmatic characteristics are most relevant for the determination of the discursive units in the text. For example, a unit that has formal noun characteristic, having DU function in the context, it may lose some of its characteristics and get characteristics of another part of speech. Similar phenomenon is described by V. Ivanov in his book "Linguistics of the third millennium": "It seems especially difficult to select noun (and especially noun group as a part of a sentence, separate from the verbal group) in polysynthetic languages where noun is often appears only truncated morph that is incorporated into the verbal form. Native American, who taught me the irokez language Onondaga, had refused to translate word "tree" into English, saying that morphs with a similar meaning could only be a part of verbal form [4].

E. V. Khachatryan [7] made an attempt to determine the main formal characteristics of DUs:

- isolated discursive units cannot form an answer to a question;
- they are not used with negation (unless negation is a part of a discursive unit);
- they are usually omitted in indirect speech;
- they cannot be repeated in echo-question;
- unlike parts of sentences, position of a discursive unit (that has no syntactic

function in sentence) is not fixed, but is determined by a semantic criteria;

- usually, discursive unit or the entire construction with it in a speech is distinguished by lexical means (like pauses).

Forexample (examples are from «Ukrainian-Russian-English Dictionary for physicists» by S. M. Yudina):

1. *Более или менее / Більш або менш*

This situation is *more or less* appropriate for a liquid solution.

Ця ситуація *більш-менш* придатна для рідкого розчину.

Эта ситуация более или менее подходит для жидкого раствора.

2. *Брать на себя смелость / Брати на себе сміливість*

*We dare suggest* that there is no real scientific reason for such situation: instead, it occurs due to excessive conservativeness and inertia of thought.

*Беремо на себе сміливість* припустити, що для такої ситуації немає реальної наукової причини: навпаки, це відбувається через надмірну консервативність і інерцію думки.

*Берем на себя смелость* предположить, что для такой ситуации нет реальной научной причины: напротив, это происходит из-за чрезмерной консервативности и инерции мысли.

3. *Якобы / Нїбито*

In fact, Minkowski preferred to ignore recent results that *allegedly* refuted the theory of relativity.

Насправді, Мінковський надавав перевагу ігноруванню нещодавніх результатів, які *нїбито* спростовують теорію відносності.

На самом деле, Минковский предпочитал игнорировать недавние результаты, которые *якобы* опровергают теорию относительности.

4. *Эквивалентно/или, что эквивалентно/Еквівалентно/або, що еквівалентно*

Using Equations (A4) [or, *equivalently*, Equations (B2)], we obtained the following expressions.

Використовуючи рівняння (A4) [або, *що еквівалентно*, рівняння (B2)], ми отримали наступні вирази.

Используя уравнения (A4) [или, *что эквивалентно*, уравнения (B2)], мы получили следующие выражения.

5. *На самом деле (действительно) / Насправді (дійсно)*

*Actually*, neither silicon nor germanium crystals have been satisfactory for this application.

*На самом деле*, ни кристаллы кремния, ни германия не были удовлетворительными для этих целей.

*Насправді*, ані кристали кремнію, ані германію не були задовільними для цих цілей.

The last example represents special semantic condition – superposition [8], where discursive or non-discursive meaning depends from the position in the sentence. (Actually, neither silicon nor germanium crystals have been satisfactory for this application. – A blackbody does not really exist in nature.)

A. N. Kolmogorov firstly used the concept of semantic condition. V. A. Shyrovkov developed the theory of semantic condition, and according to it any word (any language unit) in a context or in a language stream is in some semantic condition. For the units of a lexical level it is a combination of characteristics of

grammatical and lexical semantics, since grammatical and lexical meanings are the two main language aspects [9].

The repertoire of discursive units, the frequency of their usage and formal grammatical structure are associated not only with the structure of a particular language, but also with individual linguistic view of the world. Since language and culture are inseparable, using of foreign languages in isolation from the culture is impossible; the difference between cultures usually has no clear recordings in dictionaries, so researchers point out that cross-language cultural barrier creates additional problems to the lingual communication. It is very important for the modern scientific communication. In addition, it is of great interest to study functioning of discursive units in languages for special purposes.

Stated determines the relevance of this research area and its perspectives in theoretical and applied linguistics.

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