The Lexical and Semantic Field of Memory in Bulgarian and Ukrainian

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Abstract. We present a contrastive study of the lexical and semantic field of memory in Bulgarian and Ukrainian based on material from a parallel bilingual corpus. The correspondences between several principal roots from which the lexemes of this field are formed, the word-formation patterns and their frequencies are examined, and the most frequent collocations are analysed. We also look into some aspects of translation strategies.

Keywords: Bulgarian Language, Corpus Linguistics, Memory, Semantics, Ukrainian Language.

1 Introduction

Encyclopaedia Britannica defines **memory** as 'the encoding, storage, and retrieval in the human mind of past experiences', going on to state: 'That experiences influence subsequent behaviour is evidence of an obvious but nevertheless remarkable activity called remembering' (Britannica, 2025). This definition is obviously too restrictive: animals can remember too; we can also talk about plants and even inanimate objects having memories, albeit less and less literally as we get to more sentient entities. The metaphor goes so far as *memory foam*, *memory metal*, etc., materials of which the ability to retain or recall their original or acquired shape is a defining characteristic, as well as calculators and computers, whose *memory* is not a function or faculty but a physical component. But it is not unrestricted: tellingly, although we can say that books *talk* or that they *tell* this or that, we never say that they *remember* the information written in them; would this be because in fact they do nothing else?

With memory being such a pervasive phenomenon in nature, so crucial to human existence, and at the same time so abstract and complex a conceptual field, it is interesting to see how languages address it, what concepts they create words for, how they derive them, how and why closely related languages differ. Some questions to ask are:

- What elements does the lexical and semantic field of memory include?
- What other semantic fields does it intersect with?
- What roots and affixes express the meanings?
- What collocations are in use?

2 Exposition of the Investigation

What are the principal elements of the semantic field of memory, logically speaking?

- As well as the ability to record information from past experience, the English word *memory* also denotes a token *recollection*, a *record* of a thing or an event. The first use of the word is uncountable, the second is countable; the first sense is abstract, the second often concrete. In other languages they can be expressed by different words with greater regularity.
- In the domain of eventualities, there is the state of keeping information about something in one's memory. There is the process (or event) of transferring such information from the operating to the long-term memory, as well as of transferring information from the long-term to the operating memory. The English verb *remember* can serve all three purposes, although there are specialised words such as *memorise* for the second or *recall* for the third. Causative counterparts of the third meaning, involving speech or not (*mention*, *remind*), are also prominent. Finally, there is the antonym *forget*, which may refer to failure to transfer information from long-term to operating memory or to its ultimate erasure from memory.

In addition to these main elements of the semantic field, languages often have words for concepts whose relation to memory is less direct and more complex (nouns: *memento*, *memorial*, *mnemonic*, *memory foam*, *forget-me-not*; adjectives: *memorable*, *forgetful*, etc.). Such are the terms that we can expect to find in any language.

In this work we study the lexical and semantic field of memory in two closely related Slavic languages, Bulgarian and Ukrainian, which have not been the object of such an analysis to date. We will restrict our attention to the oldest and most fundamental words, leaving aside recent and borrowed vocabulary.

At the core of the inherited Indo-European source material from which Bulgarian and Ukrainian construct their memory words we find three roots:

1. *$mn̥$- (as in Bg *мн-ение* 'opinion', English *mind*, Latin *mens* 'mind') with prefix *$pā$-/$pǎ$- 'after', i. e., 'knowledge or conscience of something following its occurrence' > Bg *па-ме-т* 'memory', *по-м(е)н-* 'commemoration; remember', *с-по-мен-* 'recollection; mention', Uk *па-м'я-ть/та-* 'memory/remember', *по-мин-* 'mention' (Duridanov, 1999: 33, 511; Mel'nyčuk, 2003: 272);

2. *$gʰōd$- > (especially in Ukrainian) *гад-* (*з-гад-ати* 'recall', *на-гад-ати* 'remind'); in Bulgarian the words with this root (*гад-ая* 'divine, foretell; guess', but also *на-гад-* 'adjust, attune', *год-ен* 'fit, suitable') are not related to memory, but in Ukrainian not all are either (cf. *гад-ати* 'think, reason; imagine', *про-гад-ати* 'miscalculate', *год-ний~гід-ний* 'worthy') (Georgiev, 1971: 223, 232; Mel'nyčuk, 1982: 449);

3. *soi-t- > (not in Ukrainian) *сет-* (Bg *сет-я се* 'divine, guess; recall, think of', but also *сетиво* 'sense', *усет* 'insight, feeling, flair'), a root featured only in Bulgarian and Serbo-Croatian among the Slavic languages; here cognates with mystical meaning can be found too, but in other Indo-European languages (Lithuanian *saisti* 'divine, predict', Old Norse *seiðr*, Welsh *hud* 'enchantment, spell') (Racheva, Todorov, 2002: 628).

The last two roots build bridges to other meanings (semantic fields) which are likewise related to the appearance of information in the operating memory, but it comes from the outside world (Bg *усещам* 'feel, notice') or from processing other information (Bg *досещам се* 'guess, conjecture') rather than long-term memory.

As for Bg *забравя*, Uk *забути* 'forget', they are derived from roots whose semantics is as neutral as it can be (Bg *боравя* 'do something, manipulate'; Uk *бути* 'be') with a prefix which in the Bg word means placement behind oneself, behind one's back, in the past (Georgiev, 1971: 570), and in the Uk word means being (somewhere, at something) for too long and losing sight of something else (Mel'nyčuk, 1982: 215). In Bg *запомням*, Uk *запам'ятати* 'commit to memory' the same prefix is interpreted in a completely different way, namely 'behind = in[to] a secure place'; but cf. Russian *запамятовать*, Czech/Polish *zapomenout*/*zapomnieć* 'forget'.

In view of the complexity of the conceptual field and the variety of ways in which it can be lexicalised, we will want to see what words and expressions each language has, how they rank in frequency, what the correspondences (quantitatively speaking) between the two languages are, and what asymmetries we find. For this we turn to drawing data from a parallel corpus.

3   The Composition of the Corpus

The bilingual corpus consists of Bulgarian and Ukrainian parallel texts available in electronic libraries or obtained by us from paper editions through scanning, optical character recognition and error correction by *ad hoc* software tools and by hand. For this reason, the corpus is composed of fictional works, mostly of novels, which dominate in such sources.

Because original and translated parallel texts for Ukrainian and Bulgarian are hard to come by, especially in online-accessible computer-readable form, we also use Bulgarian and Ukrainian literary translations from other languages as corpus material. Thus CUB has several sectors, all roughly equal in size, each of which covers parallel Bulgarian and Ukrainian texts with the same original language. The current version of CUB includes ten sectors, each measuring approximately 1.52 million words on the Bulgarian and 1.34 million words on the Ukrainian side, with eight original languages, namely Bulgarian, English, French, German, Italian, Polish, Russian and Ukrainian. There are two sectors with Russian and two with English originals.

For this study we only employ the five sectors of the corpus where the original is in one of the four Slavic languages, with a total volume of 14.2 million words.

4   Results

The most frequent nouns in the two languages, bearers of the various meanings of English *memory*, are:
- Bulgarian: *памет* (692), *спомен* (727);
- Ukrainian: *пам'ять* (934), *спогад* (379), *згадка* (250), *спомин* (52).

In both lists the first word is the most abstract one, the following one(s) being more concrete.

In Table 1 each word is the most frequent one of a group of words with similar meanings (thus Bg *спомен* also includes *възпоменание*, which only occurs 4 times, and Uk *пам'ять* also includes *пам'яток*, which only occurs 5 times).

Table 1. The most frequent abstract nouns of the two languages.

	пам'ять	*спогад*	*згадка*	*спомин*	other	total
памет	**603**	1	5	1	82	**692**
спомен	108	**344**	121	46	112	**731**
other	228	34	124	5		
total	**939**	**379**	**250**	**52**		

Not surprisingly, the most frequent correspondence is *памет* : *пам'ять*. It accounts for some collocations, such as Bg *ако не ме лъже паметта* 'if memory does not deceive me', with 9 occurrences, on 7 of them corresponding to Uk *якщо мене* (or *мені*) *не зраджує пам'ять* 'if memory does not betray me':

(1) *Ако не ме лъже паметта, това е задачата, която вие сама ми поставихте → Якщо мені не зраджує пам'ять, ви самі поставили переді мною це завдання.* 'If memory serves, this is the task you gave me yourself.' (B. Raynov, *Typhoons with Gentle Names*)

The many occurrences of the correspondence *спомен* : *пам'ять* include several set prepositional phrases: *за спомен* : *на пам'ять* (22), *като спомен* : *на пам'ять* (3), *като спомен* : *як пам'ять* (3).

(2) *Тогава избери си нещо друго за спомен от леля. → То виберіть собі щось інше на пам'ять про тітку.* 'Then choose something else in memory of my aunt.' (B. Raynov, *Don't Make Me Laugh*)

(3) *Тази подковичка ми е скъпа като спомен. || Мені ця підківка дорога як пам'ять.* 'This little horseshoe is dear to me as a memento.' (M. Bulgakov, *The Master and Margarita*)

The converse, the correspondence of Bg *памет* to Uk *спогад*, *згадка* or *спомин*, is extremely rare. It includes several occurrences of variants of the above expression:

(4) *В памет на радостното събитие тя дала на детето името Исаак, което има връзка с думата „смея се". || На спомин про радісну подію вона дала дитині ім'я Ісаак, близьке за значенням до слова «сміятися».* 'In memory of the joyful event she gave the child the name Isaac, which is cognate with the word "laugh".' (Z. Kosidowski, *Biblical Stories*)

There are also significantly more (228) occurrences where Uk *пам'ять* does not correspond to any Bg memory noun than *vice versa* (82). As a partial explanation of this, Ukrainian often uses set expressions with the noun *пам'ять* (*зринути в пам'яті, прийти на пам'ять* 'come to memory=mind') where Bulgarian prefers verbs (*помня* 'remember', *спомням си* 'recall'):

(5) *Спомни си* ниския тлъст господин Бочек и неговата жена, която тежеше най-малко сто килограма. || *В пам'яті зринули* низенький товстенький пан Бочек і його жінка, яка важила, мабуть, щонайменше сто кілограмів. 'He remembered little, plump Mr Boczek and his wife, who must have weighed at least a hundred kilogrammes. / Little, plump Mr Boczek and his wife … floated up in his memory.' (T. Dołęga-Mostowicz, *The Career of Nicodemus Dyzma*)

(6) *Такова събитие като първите пленници се помни дълго.* || *Така подія, як перші полонені, западає в пам'ять надовго.* 'Such an event as the first prisoners is remembered / sinks into memory for a long time.' (K. Simonov, *The Last Summer*)

(7) *Той помнеше* как вече два пъти около техния дом тръбеше трембитата ← *За його пам'яті* вже двічі коло їх хати трембітала трембіта 'He could remember the trembita sounding / To his memory the trembita had sounded near their house twice already' (M. Kotsiubynsky, *Shadows of Forgotten Ancestors*)

Also on 22 occasions Uk *пам'ять* corresponds to Bg *ум* 'mind, wit, intellect':

(8) *И всичко пак прекара през ума си, всичко премисли.* → *I знов усе перебрав у пам'яті, все передумав.* 'And he passed everything through his mind / memory again, he reconsidered everything.' (Y. Yovkov, 'Shibil')

(9) *Пък и моят ум е такъв, търговски.* ← *Та й пам'ять у мене така, торговельна.* 'And then my mind / memory is like that, commercial.' (V. Drozd, *Yriy*)

Let us now look at the two languages' main verbs of keeping in and storing into operating memory. Here they are:

- Bg: *помня* 'remember' (1436), *спомня си*, *припомня си* 'recall' (2906), *спомена* 'mention' (742), *сетя се* 'recall; guess' (694), *досетя се* ditto (795);
- Uk: *пам'ятати* 'remember' (1542), *пригадати* 'recall' (961), *згадати* 'recall; mention; guess' (2811), *(з)догадатися* 'guess' (1056).

Table 2 summarises their frequencies. Each perfective verb (which is all except for the 'remember' ones, which denote states) in the table stands for itself and its imperfective correlate. In the case of Ukrainian some very infrequent synonyms have also been counted in; this includes the predicative adverb *впомки* or *впомку* 'remembered' (1 in each form).

Table 2. Verbs of keeping in and storing into operating memory.

	пам'ятати	*пригадати*	*згадати*	*(з)догадатися*	other	total
помня	**1144**	58	21	0	213	**1436**
спомня си	210	**787**	1703	1	205	**2906**
спомена	0	3	**407**	0	335	**745**
сетя се	5	21	**245**	158	265	**694**
досетя се	0	3	21	**610**	161	**795**
other	185	92	437	287		
total	**1544**	**964**	**2834**	**1056**		

In the pairs *спомня(м) си* : *пам'ятати* as a rule the Bulgarian verb is of the imperfective aspect; there are only 11 instances of perfective verbs, all in translations from Polish or Russian, with one exception:

(10) <u>*Спомнете си, писах ви!*</u> → <u>*Пам'ятаєте, я писала вам!*</u> 'Recall / (Do) you remember, I wrote to you!' (S. Dichev, *The Road to Sofia*)

Among the 210 examples there are only two in which the verb is *припомням си*. It is generally rarer than *спомням си*, but in this function the difference is especially drastic.

In the pairs *помня* : *пригад(ув)ати* the Ukrainian verb is also usually imperfective; there are three exceptions (translations from Russian), and in those *не пригадаю* or *не пригадає*, though formally future, do not mean 'won't recall' but 'can't (*or* wouldn't be able to) recall'. Things are different with *помня* : *згад(ув)ати*. There the Ukrainian verb is imperfective only on two occasions (translations from Bulgarian). In the other examples (11 with Russian and three each of Polish and Ukrainian originals) it is perfective. Some of them are accounted for by the expression *помнете ми думата* : *згадаєте моє слово* 'remember my word' (modulo the grammatical form). But generally speaking the question of the reason for the difference between *пригад-* and *згад-* here remains open.

Finally, there is Bg *(до)сетя/-щам се*, which has two (not always easily separable) meanings, both amounting to storing information to the operating memory, but differing in whether it comes from long-term memory ('recall', Uk *згад(ув)ати* and to a lesser degree *пригад(ув)ати*) or from reasoning and intuition ('guess, conjecture', Uk *(з)догад(ув)атися*). As can be seen from the table, the prefixless Bg verbs tend to express the former meaning and the prefixed ones the latter one, but the correspondence is not absolute. The 'non-memory' meaning of *досетя се* is close to *отгатна, отгадая*, *разгадая* 'solve, unpuzzle', whose roots **гат-** and **гад-** – etymologically distinct but phonetically similar and converging for this reason (Georgiev, 1971: 233) – are not related to the field of memory in Bulgarian, though in Ukrainian they can be.

On 22 occasions the Uk counterpart of Bg *сетя се* (in both meanings) is the expression *спадати на думку* lit. 'fall to thought':

(11) *И изведнъж* <u>*се сети*</u> *за знахаря от воденицата.* || *I тут їй* <u>*спав на думку*</u> *старий знахар із млина.* 'And suddenly she thought of the quack from the mill.' (T. Dołęga-Mostowicz, *The Quack*)

(12) *Как не* <u>*се сетихме*</u> *досега да огледаме околността?* || *Як це нам раніше не* <u>*спало на думку*</u> *оглянути околиці?* 'How did we not think of surveying the surroundings until now?' (A. Belyaev, *The Amphibian Man*)

This interplay of roots and meanings (memory-related or not) in the two languages is summarised in Table 3.

Table 3. Roots and meanings.

root	Bulgarian		Ukrainian	
гад-	——	*разгадая* 'solve, unpuzzle'	*згадати* 're-member'	*розгадати* 'solve, unpuzzle'
па/о-м(н)-	*памет* 'memory', *помня* 'remember'	*спомена* 'men-tion'	*пам'ять* 'memory', (*спомин* 'recol-lection')	(*пом'янути* 'mention')
сет-	*сетя се* 'think of', *подсетя* 'remind'	*досетя се* 'think of'	——	——
	memory	**other**	**memory**	**other**

Apart from the nuclear elements of the semantic field, both languages lexicalise a number of more complex concepts. For the most part the two of them do this in similar ways, and the words likewise tend to be structurally similar. The infrequent mismatches, however, are of interest. Such is the Uk adverb *напам'ять* (lit. 'upon memory') 'by heart', often corresponding to Bg *наизуст* (lit. 'on out of mouth'):

(13) *Той знаеше* <u>*наизуст*</u> *много тропари, ирмоси и катавасии.* → *Він знав* <u>*напам'ять*</u> *багато тропарів, ірмосів і катавасій.* 'He knew by heart many troparia, heirmoi and katabasias.' (Y. Yovkov, *Countrymen*)

Or the words Bg *злопаметен* and Uk *злопам'ятний* are exactly parallel in structure and meaning 'rancorous, inclined to remember ill', but in Uk *пам'ятливий* can be used in the same meaning, whereas its Bg counterpart *паметлив* only has the positive meaning 'good at remembering, endowed with a good memory', enabling a somewhat unexpected correspondence:

(14) *Сега Маланка е добра, не е* <u>*злопаметна*</u>*, не се сърди на Андрий.* ← *Тепер вона добра, не* <u>*пам'ятлива*</u>*, у неї немає серця проти Андрія.* 'Now she (Malanka) is good, she is not inclined to remember (ill), she is not angry with Andriy.' (M. Kotsiubynsky, *Fata Morgana*)

5   Conclusions

As the two languages are closely related, it is natural that they construct the semantic field of memory in essentially the same concepts and its lexical content from shared roots and affixes. But similarity is not identity: some morphemes are only used in one language (as the root *cem-* in Bulgarian), and the frequencies of the lexical correspondences show some interesting mismatches. We can separate the centre of the field, where the concepts have to do with memory alone, from its periphery, which communicates with such concepts as sensation, conjecture, intellect and thought. Finally, we also see certain differences in the frequencies of the lexical correspondences between the sectors of the corpus, which reveal the impact of the original language in translated texts.

References

Britannica, The Editors of Encyclopaedia (2025, 19 February). *memory*. *Encyclopaedia Britannica*. https://www.britannica.com/science/memory-psychology

Duridanov, I. (Ed.). (1999). *Bâlgarski etimologichen rechnik*. [*Bulgarian Etymological Dictionary*.] Vol. V: padèzh–pùska. Sofia: Prof. Marin Drinov.

Georgiev, V. (Ed.). (1971). *Bâlgarski etimologichen rechnik*. [*Bulgarian Etymological Dictionary*.] Vol. I: A–Z. Sofia: Bulg. Acad. of Sci.

Mel'nyčuk, O. S. (Ed.). (1982). *Etymolohičnyj slovnyk ukrajins'koji movy*. [*Etymological Dictionary of the Ukrainian Language*.] Vol. 1: A–G/H. Kyjiv: Naukova dumka.

Mel'nyčuk, O. S. (Ed.). (2003). *Etymolohičnyj slovnyk ukrajins'koji movy*. [*Etymological Dictionary of the Ukrainian Language*.] Vol. 4: N–P. Kyjiv: Naukova dumka.

Racheva, M., Todorov, T. (Eds) (2002). *Bâlgarski etimologichen rechnik*. [*Bulgarian Etymological Dictionary*.] Vol. VI: pùskam–slovàr². Sofia: Prof. Marin Drinov.