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THE ROLE OF EXTRALINGUISTIC INFORMATION IN BUILDING UP THE BILINGUAL MENTAL LEXICON

In the modern world enhancing language contacts dictate the necessity of the use of the English language as a means of communication. Unfortunately, not always can a bilingual listener master L2 at a level, when communication is carried out without perception and comprehension difficulties due to prosodic and inherent linguistic discrepancies of the languages in contact. Presently, the question about whether a non-native listener uses a single vocabulary choosing from it contextually determined lexical units and arranging them according to the principles of bilingual interactive models¹, or separate vocabulary storages, is not fully solved. The strategies of a foreign text perception and comprehension are greatly determined by the type of context and extralinguistic information, i.e. the communicative environment. Thus, the bilingual mental lexicon is shaped by the interaction of prosodic, linguistic and extralinguistic information.

Key words: language contacts, bilingualism, strategies of perception, extralinguistic information, mental lexicon.

In globalization mastering a foreign language becomes indispensable for an individual to be part of a multilingual environment. This is the main prerequisite for our research into foreign speech recognition and comprehension based on texts of various genres.

Despite numerous attempts to model the processes of a foreign text perception, the final decision hasn't been suggested yet. It is common knowledge that a viable model can be created simultaneously with the invention of AI (artificial intelligence). Presently the research in the field is concentrated either on the search for delimiting features of the speech continuum, or the so-called priming of separate speech units and segments. Yet, research into different types of context through the prism of bilingual perception and comprehension has been rarely conducted, which makes the peculiarities and variability of the bilingual comprehension of a multimedia text topical and worth discussing.

To shape the role of contextual predictability in the bilingual comprehension of a multimedia text, we have resorted to a psycholinguistic association experiment with elements of comparative analysis as the main method of the research.

Initially, to determine the minimal segment for an oral text comprehension we focused on the narration, which is traditionally considered to be the easiest genre for non-native listeners to comprehend due to the facultative character of extralinguistic information. The audio texts of English tales were read by professional anchors.

¹ J. F. Kroll and E. Stewart's RHM 'the Revised Hierarchical Model' (1994); T. Dijkstra and U. Van Heuven's BIA 'the Bilingual Interactive Activation Model' (1998–2000); M. Brysbaert and W. Duyck's studies (2010).

Though the units of lower levels are known to identify themselves in the units of upper levels, the speech segments used by non-native listeners for better text comprehension in the conditions of subordinative bilingualism are not clearly determined, and, in our opinion, for quite obvious reasons. One, and the most important, reason is the ambiguity of comprehension errors. The example is given below.

“I smell the blood of an Englishman! ‘ Be he a` live, / or ‘ be he `dead, / I’ll `grind his , bones /to, make my , bread!”

Instead of the verb *to grind* the listeners perceived the variant *to drain*. On the phonetic level we observe a difficulty in the identification of the vocal plosives [g] and [d], as well as the diphthongs [ai] and [ei]. To make the right choice the listeners give their preference to the verb *to grind*, because its meaning is closer to the meaning conveyed by the syntagm *to make my bread*, for to make one’s bread one should make flour, and to make flour one should grind seeds. Compare it with the Russian ideomatic phrase *косточки по ветру развеять* ‘to blow one’s bones away’.

What factors is this comprehension error predetermined by, and which is primary in the comprehension of a foreign oral text – the phonetic structure of the constituent words or the listener’s planning the further events of the text? The question can be given a partial solution through the listeners’ choice of a required segment to remove comprehension errors, because an allophone at a word junction, a word, a phonetic word are identified in a unit of an upper level, i.e. a syntagm.

We have worked out a system of classification of comprehension errors to determine the speech segment a bilingual listener chooses in each case of miscomprehension to eliminate the error. The typical mistakes are: the use of false prepositions and words; the replacement of correct lexical units by resembling ones; the difficulties of key words identification; the use of non-existent lexical units; the use of syntactically incorrect utterances; the replacement of some syntagms by phonologically similar and syntactically acceptable; the recognition of prosodically inadequate utterances instead of correct ones due to identification of false word junctions; general miscomprehension of utterances.

The proportion of these inadequacies varied depending on the subjects’ levels of the English language command. Particularly, the highest percentage of registered comprehension flaws was due to the replacement of correct lexical units by resembling ones (20,5 % in well-trained subjects, and 46 % in ill-trained subjects); the replacement of some syntagms by phonologically similar (20,5 % in well-trained subjects, and 19 % in ill-trained subjects); the use of false prepositions (20,5 % in well-trained subjects, and 20,6 % in ill-trained subjects).

To remove these comprehension errors the subjects used the following speech segments: in case of recognition of prosodically inadequate utterances due to identification of false word junctions – a phonetic word, a syntagm or an utterance; in case of the use of false prepositions and words – a syntagm, an utterance, a superphrase unity, a text (text meaning); in case of recognition of non-existent

lexical units – a syntagm, a superphrase unity, a key word; in case of the replacement of some syntagms by phonologically similar – a syntagm, an utterance, a superphrase unity, a text (text meaning).

By the results of the experiment it is possible to assume that the segment which a bilingual listener uses to remove a comprehension error in most cases of inadequate comprehension is a syntagm. Consequently, a syntagm can be viewed upon like a reference point to build a model of foreign text perception and comprehension.

At subsequent stages of the experiment we resorted to the media and movie texts to investigate the role of extralinguistic information in building up the bilingual mental lexicon.

In a BBC newscast the anchor, commenting upon a scandalous stunt performed by the group “Pussy Riot” in one of the paramount orthodox temples, remarked: “*They 'called on 'Virgin ,Mary / to get ` rid of ,Putin*” ‘они призывали Деву Марию избавить от Путина’. The respondents, 4-th year students, reproduced the utterances *they called on marriage of Putin* (grammatically incorrect: Putin’s marriage), *they called on Virgin Mary to breed Putin* (semantically and lexically incorrect). When asked to translate them, the students presented the perceived variants *they referred to Putin’s marriage* ‘они ссылались на свадьбу Путина’, *they asked Virgin Mary to bring Putin to reason* ‘они зывали к Деве Марии образумить Путина’. The right variant was found only by searching for the corresponding information on the Internet. Thus, the respondents couldn’t recognize the unstressed part of the utterance *to get rid of*, that entailed the emergence of the non-existent sound [d3] and the noun *marriage* due to the sound [t] of the preposition *to* attached to the proper name *Mary*.

Thus, the perceptive vocabulary, which is associated with the phonemic level, is part of the listener’s mental vocabulary, and the correct comprehension of the perceived information occurs due to their overlapping and interaction.

In 2011 there was conducted an experiment on the bilingual comprehension of academic texts aimed at determination of the role of the subjects’ environmental knowledge in the texts comprehension. It was revealed that environmental knowledge facilitated the comprehension of a written text with the lexical coverage of 94 % and higher (Schmitt et al.). Thus, such factors as the type of discourse, lexical coverage and the subjects’ environmental knowledge should be emphasized in a foreign text comprehension [1].

Obviously, in newscasts and newspaper articles the bilingual listener tackles problems of comprehension of stylistically marked lexical units. According to our observations, the degree of metaphor comprehension is not related directly to the absence or presence of equivalent units in L1. If correspondence occurs at the level of concepts, the meaning is deduced from the context. Supposedly, it is concepts, not units that make part of the bilingual mental lexicon.

In the head *Couture politics* ‘высокая политика’ native speakers can’t but notice an allusion on a frequently used collocation *haute couture* ‘высокая мода’. The topic becomes quite obvious after reading the first paragraph containing allusions on the animal world.

*In the animal world, the male is usually the fancy dresser. But in the masculine jungle of global politics, it is the first lady who has to **seduce a fickle public** on behalf of her **dully plumaged partner**.*

A State official is called *a dully plumaged partner* ‘партнер с бледным оперением’, and first lady is supposed to *seduce a fickle public* ‘соблазнять слабую общественность’.

An article devoted to Hillary Clinton’s electoral campaign contained the utterance *they **choked** on their own **gorilla dust***. The exact translation of the utterance ‘эти гориллы подавились своей же собственной пылью’ resembles the Russian variant *наступит на свои собственные грабли* ‘to step on one’s own rake’. But the generalized meaning doesn’t give the reader an opportunity to get a full picture of the events described. Only resorting to background information on the Internet allows to fully comprehending the meaning. Internet dictionaries give a variety of meanings of the collocation *gorilla dust*, which can be interpreted as ‘пустые попытки запугивания’: “bluffing, posturing, or hollow attempts at intimidation”; “yellow journalism, bluffing and intimidation in the reporting of facts to the citizenry” [2].

The newspaper article *Survival strategies* ‘стратегии выживания’ evokes associations with people’s survival in difficult conditions. But the nominal clause used as a headline doesn’t give the reader a full picture of what he is supposed to read about. The contents become obvious only after the reader’s getting familiar with the lead *Landscape Dungeness on the English coast is as rich as it is remote* ‘пейзаж местечка Дандженесс на английском побережье настолько разнообразен, насколько удален от цивилизации’.

There’s an allusion on the last century’s artist, Heath Robinson, who became famous due to humorous pictures containing unusual mechanical constructions.

*This working landscape has some fabulously **Heath Robinson-style touches**; on one visit I admired the ingenuity of a fishing boat slipway made out of redundant central heating radiators.*

Undoubtedly, such figure of speech as zeugma presents additional difficulty for a bilingual listener. There are two examples of it in only one passage.

*The next time I was there they were gone; **taken by the sea, perhaps, or maybe a scrap metal merchant**. Tenuous transport links – even today there are only two roads in and out of Dungeness – and the barrier formed by Romney Marsh have kept the region remote, underpopulated and, for centuries, uninviting; historically it was **a hotbed of smugglers and malaria**.*

In a newspaper text about the reconstruction of the well-known historic monument Stonehenge the lack of extralinguistic information didn't allow the respondents to comprehend a variety of utterances. For example:

*What greater task could the keeper of England's heritage have than to create a fitting setting for the country's ultimate ancient monument? This grand dither also occurred in the period in which the National Lottery came into being, which surely have had few more important tasks – rather than sponsor centres of bogus ecology, highly branded vacuity or **the Millennium Dome** – than to help fix Stonehenge.*

To comprehend the meaning of the proper noun **the Millennium Dome**, the respondents had to browse the Internet to find some information about an edifice called like that, built on the Greenwich peninsula in South-Eastern London to house the exhibition “Millennium Experience”, held in 2000. The project was heavily criticized, because the expected attendance wasn't reached, which resulted in financial complications. Presently, the exhibition doesn't exist, and the dome has become part of an entertaining area, whose part is Arena O2 [3].

Particularly, the respondents were unaware about the cases of vandalism aimed at destroying the picture.

*The site's atmosphere was also slashed by two roads – the busy A303 and the smaller A360. As the significance and power of the place is not just about the stone circle, but about an extensive landscape strewn with prehistoric mounds and barrows, **these roads are not unlike spray paint on the Mona Lisa.***

Naturally, the meaning can be decoded only drawing on the events of the distant past: in 1956 it was splashed with sulfuric acid, in 1974 – with paint.

The next utterance also contains the element that might cause difficulties of interpretation.

*Some version of **a Wiltshire farm building** would be plain anachronistic, and it's a matter of gratitude that the temptation was resisted to create pseudo-barrows, to half-bury the building in the style of a Neolithic nobleman.*

On addressing the Internet one can see how a farmhouse looked centuries ago on the cover of Pamela Slocombe's book “Wiltshire Farm Buildings 1500–1900” and read about old farmhouses that make Britain's historic heritage. The students didn't know how to translate the concept ‘фермерский двор’ into English, but taking into consideration that Belarus is enhancing its connections with the outer world by attracting tourists and developing agritourism, it would be useful to enhance their mental lexicon with another lexical unit *farmstead* ‘хозяйство, подворье, усадьба’.

The data obtained show that contextual predictability contributes to the variability of bilingual comprehension and interpretation of a media text. The processes of a foreign text bilingual comprehension are multilayer and impeded by individual variability of the subjects' perception and comprehension.

It is impossible to give a one-off answer how to model the cognitive processes of word recognition. Nowadays hybrid models of speech perception and comprehension are quite common because they allow to considering the complex matter in all its linguistic and psychological aspects.

Presumably, on decoding explicit texts containing only a small amount of ambiguous and hidden information, such as narratives, linear methods of analysis and sequential activation models of bilingual text perception and comprehension are more suitable. While on decoding such texts as movie scripts, newscasts and newspaper texts parallel activation models are more applicable due to the necessity of bilingual listeners to resort to extralinguistic information.

LITERATURE

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