

■ research papers

Storytelling in Speakers With and Without Brain Damage: A Macrolinguistic Approach

Mira B. Bergelson

HSE University, Moscow, Russia

Mariya V. Khudyakova

HSE University, Moscow, Russia

Yulia S. Akinina

HSE University, Moscow, Russia

Olga V. Dragoy

HSE University, Moscow, Russia;

Institute of Linguistics, Russian Academy of Sciences, Moscow, Russia

Abstract. Narrative discourse is investigated in clinical and healthy populations. This study explored the discourse strategies used to tell stories, comparing the patterns of people with left- and right-hemisphere brain damage, as well as healthy speakers. We analyzed picture-elicited discourses by four people with aphasia, two people with right hemisphere damage, and four healthy speakers. We examined their microlinguistic properties, as well as macrolinguistic features, such as the discourse production type of utterances and patterns of story component usage. We identified two storytelling strategies used by the speakers: a narrative strategy marked by a prevalence of narrative discourse production type utterances and scarce use of evaluation clauses, and a quasi-narrative strategy with the opposite pattern. These strategies were used by both healthy speakers and participants with brain damage.

Correspondence: Mira B. Bergelson, mbergelson@hse.ru, National Research University Higher School of Economics, 21/4 Staraya Basmannaya Street, Office 528, Moscow 105066, Russian Federation; Mariya V. Khudyakova, mariya.kh@gmail.com, Yulia S. Akinina, julia.akinina@gmail.com, Olga V. Dragoy, odragoy@hse.ru.

Keywords: discourse, discourse strategies, picture-based narrative, aphasia, brain damage

Copyright © 2021. Mira B. Bergelson, Mariya V. Khudyakova, Yulia S. Akinina, Olga V. Dragoy. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided that the original authors are credited and that the original publication in this journal is cited, in accordance with accepted academic practice.

Acknowledgements. The authors are thankful to all participants of the study. We also extend our gratitude to Zara Melikyan who recorded narratives of the right-hemisphere-damaged participants, and to Natalia Shitova and Anna Yurchenko who helped to analyze part of the data. The study was supported by the Russian Science Foundation, Project No. 20-18-00-399.

Received May 19, 2020, accepted December 28, 2020.

Introduction

For decades, there has been a growing interest in studies of discourse in clinical populations: people with acquired language disorders due to focal brain damage, as well as people with psychiatric and neurodegenerative diseases (for example, see Corcoran et al., 2020; Linnik et al., 2016). This trend in clinical linguistics can be attributed to the change of perspective from assessing segregated linguistic skills to the idea that communication skills should be assessed as a whole. For example, Holland (1980, 1982) introduced the concept of *functional communication*, which underlies the ability of people with language impairments to achieve their communicative goals despite linguistic difficulties they may experience (Meuse & Marquardt, 1985). This functional orientation explains the ever-growing number of clinical studies that focus on the most important genres of everyday discourse such as narratives, conversations, and procedural and exposition discourse (for a review, see Blake, 2010; Linnik et al., 2016).

People spend most of their lives telling stories (Schank, 1995), so it is more than reasonable that stories are widely studied in clinical and healthy populations. Clinical discourse studies may include intergroup comparison, or a macro- vs. microlinguistic skills comparison for a particular cohort group of people with aphasia (PWA) or right hemisphere damage (RHD) (for example, see Johns et al., 2008; Blake, 2006; Linnik et al., 2021). Typically, the discourse of these groups is compared with the discourse of non-brain-damaged (NBD) speakers, which is regarded as a normative baseline. However, there is great variability in how NBD speakers construct and communicate their stories, even based on the same experience (e.g., Norrick, 2000). In particular, there are different patterns of switching between the narrative and descriptive types of discourse production, which we will refer to as *discourse strategies*.

In the current study, we propose a novel way to investigate picture-elicited discourse through the prism of discourse strategies. We analyzed several stories by PWA, RHD and NBD speakers. The stories were assessed in terms of discourse production type (DPT) and genre (standard elements of the story genre scheme). We also looked at deficits at the microlinguistic (lexical, morphological and syntactic) levels.

Discourse in Aphasia and Right Hemisphere Damage

Aphasia is an acquired language impairment resulting from damage to the brain's language-dominant hemisphere (usually the left; Dronkers & Baldo, 2009). Aphasia of different types can manifest in disturbances to both the production and comprehension of language at different levels: phonetic, lexical-semantic, morphological, syntactic and discourse. In recent years, there has been an increase in studies of discourse in aphasia and other neurological conditions (Armstrong, 2000; Bryant et al., 2016; Johns et al., 2008; Linnik et al., 2016; Sherratt & Bryan, 2012; Stark et al., 2020).

Despite extensive previous research in brain-damaged populations, the effect of lesions in the language-dominant hemisphere on discourse production and comprehension is still under discussion. The difficulties at word and sentence levels that are common in aphasia after damage to the left

hemisphere do not always result in a failure to produce a sensible story and achieve communicative success. Additionally, existing research points to a discrepancy between language competence on micro- and macrolinguistic levels by PWA (Armstrong, 2000; Bergelson et al., 2014; Linnik et al., 2016; Wright, 2011). Although early studies showed that discourse structure is not impaired in aphasia (Ulatowska, Doyel, et al., 1983; Ulatowska, Freedman-Stern, et al., 1983), a number of more recent studies have demonstrated that that is not necessarily true. For example, some researchers found that informativeness and coherence were significantly lower in aphasic discourse (Linnik et al., 2021; Nicholas & Brookshire, 1993; Van Leer & Turkstra, 1999; Wright et al., 2010), while other researchers reported the opposite results (Glosser & Deser, 1991; Marini et al., 2005).

Damage to the non-language-dominant hemisphere (usually the right), on the other hand, is not directly linked to any lexical or syntactic deficits, but results in impaired prosody (for a review, see Weed & Fusaroli, 2020) and pragmatic skills (for a review, see Blake, 2017), as well as difficulties in language comprehension and production at the discourse level (Akhutina, 2009; Blake, 2010; Brookshire & Nicholas, 1984; Minga, 2016; Tompkins et al., 1997). Spared grammar and vocabulary do not assure coherent speech. Some studies have shown that RHD patients are not capable of maintaining the logic and structure of a story (Marini, 2012).

In clinical linguistics, several discourse genres are commonly analyzed: stories, as well as procedural, descriptive, conversational and expository discourse (for a review, see Dipper & Pritchard, 2017). The genre of the elicited discourse can depend not only on the elicitation task, but also on the wording of the instruction given. For example, Olness (2006) compared different types of pictures and elicitation instructions and concluded that instructions for the elicitation of picture-based stories commonly used in standardized tests (such as 'Tell me what you see in the picture') result in the production of descriptions rather than traditional coherent narratives. In such cases, even using a picture that includes a climax to the story did not elicit narratives. However, giving an instruction that prompts temporal sequencing ('Make up your own story about what happened, with a beginning, a middle, and an end') may elicit a more coherent discourse in the form of a story in PWA.

Discourse Genres and Production Types

There is no single established classification of discourse genres in linguistic discourse analysis, nor in literary theories. Used initially for the needs of literary analysis only, genres became one of the main instruments of studying discourse in general (Bakhtin, 1986). Nonetheless, discourse genres are not elementary concepts. One of the ways to characterize them is by identifying functionally relevant components (Swales, 1990). This presumes that we can define a specific discourse genre through a set of its components, their distribution and ordering. For example, genres can be defined through *genre schemes* (or superstructure; see Van Dijk, 1976, 1981), a schematic organization of the global meaning (macrostructure) through the use of elements (e.g., setting, evaluation, coda). Specific genre distinctions are within the focus of research in general discourse analysis.

Another way to analyze the structure of a discourse genre is based on *discourse production types* (DPT; see Kibrik, 2009; similar to types of passages in Longacre, 1996, 1983, and discourse modes in Smith, 2003). In this study, we classified types of discourse production based on two communicative functions. The *informative function* includes both informing and sharing, as described in Tomasello (2008). The *interactional function* includes interaction with the addressee per se, in addition to directly affecting the addressee's behavior (Longacre, 1996).

Types of discourse production are much more homogeneous entities as compared with discourse genres. One can always refer to the primary linguistic means that characterize production types. While studies of formal markers demonstrate that neither vocabulary nor morphosyntactic constructions can serve as distinctive parameters for the discourse genre (Bamberg, 1987; Biber, 1989), there are certain formal features used to characterize production types. For the narrative production type, those will be the perfective mode and the past tense of verbs in the story's mainline, as shown in the classical works by Labov (1972) and his followers (Berman, 1996) and then confirmed by proponents of a newer, interactional approach to storytelling (Johnstone, 2016).

Whatever the basis for classification of the discourse genres, narratives (or stories) will be among them (cf. Biber & Conrad, 2009; Eggins & Martin, 1997; Kibrik, 2009). The main function of narratives as a genre is to communicate a previous experience by listing a sequence of events that took place. So far, the term *narrative* has been used here both to refer to one discourse genre (or even a set of discourse genres), and as one type of DPT. To avoid ambiguity, we will use the term *narration*, or *narrative DPT*, for the specific discourse production type and, following Chafe (1980) and Polkinghorne (1995), leave the term *story* as a synonym of the narrative discourse genre.

When telling a story, speakers create or evoke a mental picture of some episode in their memory. This picture includes both various entities and events. Some of these entities are participants of the event and may belong to the event structure. Speakers mentally travel through space in this picture, choosing events and entities to verbalize them into utterances. While doing so, speakers mostly shift between *narrative* and *descriptive* DPTs, which allows them to manage the way the new information is presented to the addressee (Bergelson, 2006, 2007). Using the narrative DPT, speakers can narrate their personal experience to other people for whom this information, presumably, will be new. In order to interpret this new information, the addressees must be capable of relating it to their own experience. To that end, speakers provide them with additional information which belongs to common or shared knowledge. Normally, this is done through the *descriptive* DPT, though in certain cases an *expository* production type may be used (Bergelson, 2007). The balance between narrative and descriptive DPTs depends on many parameters of the communicative situation: primarily, on the relationship between the speaker and the addressee, their previous interaction within the situation, and the speaker's ability to dynamically construct a model of the addressee's consciousness. The markers of those two DPTs are the verb's form (past vs. present) and its function (story line event vs. descriptive state of affairs).

An intermediate stage, *quasi-narration*, can be described as direct reporting, where the opposition between the narrative and descriptive DPTs is blurred. On the one hand, narrative passages lack past perfective verbs, featuring instead actual present forms. On the other hand, the story genre structure is more or less intact, demonstrating local and global coherence and cohesion markers.

Current Study

The current study focused on discourse strategies that people with left- and right-hemisphere brain damage, as well as NBD speakers, used to tell a story. We utilized a single picture elicitation task that is one of the most commonly used methods for discourse assessment in clinical linguistics, both in fundamental research and in clinical settings. The discourse strategy was analyzed in two aspects: first, patterns of use of narrative and descriptive DPTs; and second, the use of informational and interactional components of discourse. We demonstrate that elicitations based on visual stimuli result in a specific kind of story; besides narration and description, speakers may use quasi-narration. We analyzed picture-based discourse to see whether the patterns of use of narration and description, or information and interaction, differ in PWA and RHD speakers compared to the discourse production strategies of healthy individuals.

Method

Participants

Six participants with brain damage of various localizations and etiology took part in the study; see Table 1 for details. People with left hemisphere damage who had aphasia (P1, P2, P3, and P4) were recruited and tested in the inpatient department of the Center for Speech Pathology and Neurorehabilitation, Moscow. Participants with right hemisphere damage (P5 and P6) were recruited and tested in the N.N. Burdenko Scientific Research Neurosurgery Institute, Moscow. All participants were native Russian speakers. Participants with left hemisphere damage were admitted to the clinic due to language-related problems, and their language and cognitive deficits were comprehensively assessed following standard clinical procedures. Their aphasia types were diagnosed based on Luria's classification (Akhutina, 2015; Luria, 1962), and then they were identified as either fluent (P1 and P2) or non-fluent (P3 and P4). Participants with right hemisphere damage did not reported experiencing any language deficits.

Four healthy control participants (three females) within the same age range, all with higher education (15 years of education), also took part in the study.

Materials and Procedure

At the discourse elicitation stage, we used a single picture method. The 'Cat Prank' picture is a staged colored photograph which presents a mess in the kitchen, a man scolding a boy and a cat hiding under the table (see Figure 1). This picture was originally designed for the present study to represent the climax of an event: this way, the viewer can infer the temporal-causal progression of the event (what happened before and after the depicted scene), which can form the basis of the discourse response in the story genre (Olness, 2006).

Table 1. Demographic Data of the Participants with Left Hemisphere Damage Resulting in Aphasia, and Right Hemisphere Damage

	ID	Gender	Age	Education	Clinical diagnosis	Aphasia
Left hemisphere damage, fluent aphasia	P1	F	36	Higher	Traumatic brain injury to temporal region	Amnesic aphasia, semantic aphasia
	P2	M	49	Higher	Traumatic brain injury to the left hemisphere	Acoustic-amnesic aphasia, sensory aphasia
Left hemisphere damage, non-fluent aphasia	P3	F	35	Secondary professional	Infarction in the left middle cerebral artery distribution	Dynamic aphasia, complex motor aphasia
	P4	F	46	Incomplete higher	Infarction in the left middle cerebral artery distribution	Complex motor aphasia, dynamic aphasia
Right hemisphere damage	P5	F	53	No data	Aneurism of the right middle cerebral artery, post-ischemic changes in the right frontal-parietal regions	No reported language problems
	P6	M	27	No data	Aneurism of the right anterior cerebral artery — anterior communicating artery, hemorrhage in medial-basal regions of the right frontal lobe	No reported language problems

The experimenter first asked the participant to look at the picture and then presented the instruction orally. The instruction was adapted from Olness (2006) as follows: ‘Please tell a story about what happened here. Let it be a real story with a beginning, something that happens in the middle and an end’. The participants were explicitly asked to create a temporally sequenced output, since this instruction prompts telling a story as opposed to just describing the picture. During the narration, the experimenter was allowed to ask general questions that provoked further elaboration of the storyline (e.g., ‘What

happened next?’). The elicited stories were audio-recorded. A warm-up session with an example picture designed according to the same principles preceded the experimental session. Both the training and the experimental pictures represented a complication of an action with obvious after-effects.

Analysis

All of the elicited stories were orthographically transcribed and divided into clauses and utterances (an utterance is comprised of an independent clause with its dependent, subordinate or coordinate, clauses; cf. segmentation into utterances in the TalkBank, MacWhinney, 2000). Then, the clauses were annotated for story components by an expert and verified by a second expert (both professional linguists with experience in working with speech produced by PWA); in questionable cases, a consensus between the two experts was reached by discussion. The DPT analysis was performed by five independent expert raters (all professional linguists with experience in working with speech produced by PWA); each utterance was assigned the DPT attributed by the majority of raters.

Microlinguistic Analysis

As measures of microlinguistic abilities, we calculated the number of clauses and utterances, the mean length of utterance (MLU) in syllables, and the proportion of agrammatic clauses. Agrammatic clauses were defined as the ones containing at least one grammatical error, such as an incorrect word form (as in 1a and 1b), or a predicate omission (as in 1b).

The number of clauses per utterance was calculated as a measure of syntactic complexity. Also, the proportion of nouns, predicates (including verbs and predicate



Figure 1. Visual stimulus: the ‘Cat Prank’ picture

(1)	a	И... и... ты виновата мужчина
		And... and you are <i>guilty [feminine]</i> man
	b	Сосиски... и кетчуп вообще со стол... это... [пропущено: уронил]
		Sausages and ketchup well from the <i>table [incorrect case]</i> ... well... [omitted: dropped]

constructions of various types) and pronouns to the total number of words was calculated. We suggested that the microlinguistic analysis would be consistent with the specific language deficits typical for each diagnosis.

Story Component Analysis

The story component analysis was mainly inspired by Labov (2010) and Polanyi (2005) and was performed at the clause level. At first, each clause was classified as belonging to the *world of the story* (that is, describing the characters, objects and events of the story) or to the *world of the narration* (describing personal attitudes, opinions and comments of the storyteller or their interaction with the addressee). Then the world of the story clauses were classified as *story events* or *descriptive clauses*, and the *world of the narration clauses* were classified as *evaluation clauses*, *interaction components* or *other*. Also, interaction components were annotated within some of the clauses of the other types.

The world of the story clauses:

- *Story event*, or *main line*, *clauses* are semantically non-iterative, non-habitual and temporarily bounded. The story event clauses refer to either actual events in the story world (event predicates, actions of the characters, etc.; e.g. clauses 2a–c) or epistemic quasi-events (speech and mental activities of the characters; e.g. clauses 3a–b, 5a).
- *Descriptive clauses* describe the state of affairs which persist over some interval of time in the world of the story, rather than occurring at one discrete instant. Descriptive clauses are defined as background information for the events in the story world (e.g. 2d–f). The contents of the speech and mental acts of the characters framed as direct or indirect speech also fall under this category (e.g. 3c–d).

The world of the narration clauses:

- *Evaluation clauses* are linguistic means that make it clear to the listener which circumstances and events are crucial for the point being made. Evaluation clauses describe the story world from the point of view of the speaker; in other words, they express the individual’s emotional, deontological, epistemological or other evaluation of the elements of the story (e.g. 3f–h).
- *Interaction components* are verbal interactions between the storyteller and the interviewer. Anything that pertains to the level of interaction between the speaker and the listener is regarded as an interaction component, namely: fillers, word search, false starts, feedback markers, appellations to the listener, repetitions and other discourse markers. Interaction components may be found both within the clause, (e.g. 2e, 4a; the interaction component is marked in italic) or appear as a separate clause (e.g. 3e).
- The *other* category comprises abstracts (e.g. 4a–c) and codas (e.g. 5b).

(2)	a	Story event	Он быстро подошел к столу He approached the table quickly
	b	Story event	Сел неправильно Sat clumsily
	c	Story event	Дернул за скатерть He pulled the tablecloth
	d	Description	Так как мальчик был непослушный Since the boy was naughty
	e	Description+ Interaction	Ну давайте назовем уж мальчика Вовочкой Let’s call the boy Vovochka
	f	Description	Вовочка был непослушный Vovochka was naughty
(3)	a	Story event	А мальчик оправдывается And the boy makes excuses
	b	Story event	И говорит то And says
	c	Description	Что нет That no
	d	Description	Что не абсолютно это не его вина This is absolutely not his fault
	e	Interaction	И если посмотреть повнимательнее And if you look with more attention
	f	Evaluation	То видно... Then you can see...
	g	Evaluation	На самом деле In fact
	f _{continued}		...на картинке In the picture
	h	Evaluation	Чья именно это вина Whose fault this is
(4)	a	Other + In- teraction	Нет, ну как бы я не знаю No, well, I don’t know
	b	Other	Как рассказывать истории How to tell stories
	c	Other	Можно рассказать только в стиле сказки какой-то It’s possible to tell as some kind of a tale
(5)	a	Story event	Кот был наказан The cat was punished
	b	Other	Конец The end

(6)	a	Narrative	Мальчик <i>сидел</i> и <i>пил</i> чай с вареньем.	The boy <i>sat</i> and <i>had</i> tea with jam
	b	Narrative	Потом <i>раздался</i> грохот	Then <i>there was</i> a crash sound
	c	Narrative	И в кухню <i>вбежал</i> отец	And the father <i>ran</i> into the kitchen
	d	Narrative	Он <i>увидел</i> на полу сосиски, размазанное варенье	<i>He saw</i> hot dogs on the floor and the spilled jam
	e	Narrative	Варенье также <i>было</i> размазано по столу, по скатерти	The jam <i>was</i> also spilled on the table and the tablecloth
(7)		Narrative	Мужчина <i>ругает</i> мальчика, а <i>должен</i> ругать кошку	The man <i>berates</i> the boy while he <i>must</i> berate the cat
(8)		Quasi-narrative	Ну, <i>судя по тому</i> , что у ребенка выражение лица все-таки среднее между шkodным и немножко испуганным, то предвосхитить в общем-то события не очень просто	Well, <i>judging by</i> the fact that the kid's expression is average of naughty and a bit scared, it is not very easy to predict what will happen
(9)	a	Quasi-narrative	Ну виноват как раз <i>тот</i> , кто сидит под столом, виноват-то кот	Well, the guilty one is <i>that one</i> who sits under the table, the cat is guilty
	b	Quasi-narrative	Ну мальчик здесь абсолютно ни при чем	Well the boy is absolutely not guilty
	c	Narrative	Скорее всего, кот <i>полез</i> за едой и <i>уронил</i> скатерть	Most likely, the cat <i>went</i> to get the food and <i>dropped</i> the tablecloth

Discourse Production Type Analysis

Unlike the story component analysis, the discourse production type analysis was performed at the utterance level. An utterance was subject to the DPT analysis only if it belonged to the world of the story; that is, it should have contained at least one story event or descriptive clause. The goal was to decide whether the utterances could be defined either as *narrative* or *quasi-narrative* DPT. In assigning the DPT, we relied mostly on the definitions provided below, rather than on purely formal markers such as verb tense, discourse markers and pronoun use.

Narrative utterances manifested mental representations of the situation reconstructed in the mind of the speaker for which the structure of narration, and the temporal-causal organization in particular, should be built. All of the utterances in (6), (7) and (9c) are of the narrative DPT (the formal markers are shown in *italic*). The formal markers of the narrative DPT were, for instance, the pronouns in the anaphoric function (6d), verbs in the past (6a–e) and historical present forms (7).

Quasi-narrative utterances, on the other hand, were determined by the visual stimulus; the sequencing and structuring of the storytelling were predisposed by the parts of the picture which were at that moment in time in the speaker’s focus of attention. The utterances in (8) and (9a–b) are of the quasi-narrative DPT. The formal markers of a quasi-narrative utterance were, for instance, pronouns in the deictic function, discourse markers of presence (‘if you look here’, ‘here is’ etc.) or verbs in the present tense.

Given the uneven but generally small sizes of samples at each level of analysis, qualitative rather than quantitative analysis was performed.

Results

Six narratives in the group of participants with brain damage (mean length in words = 116; range: 32–367 words; SD= 126.78) and four narratives in the group of NBD speakers (mean length in words = 183.75; range: 141–214 words; SD=32.19) were elicited, transcribed and analyzed at micro- and macro-linguistic levels.

Microlinguistic Level

The numbers of words, clauses, utterances, ratio of clauses per utterance and MLU in syllables for the participants with brain damage and for the control group are presented in Table 2.

Story Components

The proportions of story component clauses to all clauses, as well as the proportion of clauses where the interaction component is present, are shown in Table 3.

Discourse Production Type

The proportions of utterances of narrative and quasi-narrative DPT are presented in Table 4. The agreement between raters, calculated as the proportion of raters that agreed upon a particular DPT for a given utterance, was relatively good. For the neurologically healthy group, 48 out of 55 total analyzed utterances (87.27 %) were rated with 80 to 100 % agreement between raters. In the group

Table 2. The Numbers of Words, Clauses, Utterances, Ratio of Clauses per Utterance and MLU

	ID	N _{words}	N _{clauses}	N _{utterances}	MLU (syllables)	Clauses per utterance	Agrammatic clauses (ratio)	POS (ratio)		
								Nouns	Predicates	Pronouns
Speakers with fluent aphasia	P1	120	35	14	18.86	2.50	0	0.23	0.25	0.19
	P2	367	78	27	24.74	2.89	0	0.13	0.19	0.12
Speakers with non- fluent aphasia	P3	32	12	9	7.67	1.33	0.25	0.22	0.28	0.06
	P4	51	15	8	13.25	1.88	0.2	0.24	0.20	0.04
Speakers with RHD	P5	48	11	6	16.33	1.83	0	0.15	0.23	0.08
	P6	78	19	4	34.75	4.75	0	0.14	0.18	0.13
NBD speakers	N1	214	54	15	29.07	3.60	0.02	0.21	0.19	0.08
	N2	202	52	33	12.09	1.58	0	0.26	0.26	0.09
	N3	178	41	16	23.94	2.56	0	0.22	0.24	0.07
	N4	141	35	9	28.89	3.89	0	0.23	0.22	0.10

Note. The ratios were calculated from the total number of words (for nouns, predicates and pronouns) and clauses (for agrammatic clauses).

Table 3. Story Components and Interaction Components

	ID	Story event clauses	Descriptive clauses	Evaluation clauses	Other (abstract, coda)	Clauses with interaction component
Speakers with fluent aphasia	P1	51.43	22.86	22.86	0.00	22.86
	P2	20.51	23.08	44.87	5.13	51.28
Speakers with non-fluent aphasia	P3	50.00	41.67	0.00	8.33	58.33
	P4	46.67	13.33	6.67	20.00	86.67
Speakers with RHD	P5	27.27	36.36	18.18	9.09	27.27
	P6	10.53	31.58	26.32	15.79	36.84
NBD speakers	N1	22.22	27.78	29.63	5.56	31.48
	N2	46.15	40.38	7.69	5.77	1.92
	N3	26.83	26.83	34.15	7.32	17.07
	N4	45.71	45.71	0.00	5.71	11.43

Note. The numbers represent the percentages from all clauses.

of participants with brain damage, 35 out of 49 total analyzed utterances (71.34%) were rated with at least eighty-percent agreement. Since we would expect that paraphasias could confound the rating process and cause discrepancies between the raters, we also analyzed the aphasic subgroup (participants P1, P2, P3 and P4). Thirty-one out of 44 total analyzed utterances (70.45%) were rated with at least eighty-percent agreement.

Discussion

Microlinguistic Level

The differences observed at the microlinguistic level, within the groups of brain-damaged and non-brain-damaged participants, were generally consistent with expected perfor-

mance (see Bergelson & Dragoy, 2010). Non-fluent patients P3 and P4 exhibited the lowest proportion of pronouns in their narratives (6.25% and 3.92%, respectively), confirming the expected impairment at the microlinguistic level. Agrammatic clauses were also mainly present in patients with non-fluent aphasia (25.00% of the clauses in P3 and 20.00% in P4) and totally absent (0.00%) in patients with fluent aphasia and RHD. One agrammatic phrase appeared in the speech of NBD1 (1.85%), but none of the other NBD speakers produced agrammatic clauses. This result is generally consistent with the notion of fluency in aphasia. Although people with different types of aphasia may exhibit mistakes at all language levels, agrammatism is among the most prominent features of non-fluent aphasia and is generally not so common in the speech of people with fluent aphasia (cf. Chapman & Ulatowska 1994; Ferguson, Craig

Table 4. DPT Distribution

ID	Quasi-narrative utterances	Narrative utterances
Speakers with fluent aphasia		
P1	42.86	57.14
P2	37.04	25.93
Speakers with non-fluent aphasia		
P3	11.11	77.78
P4	0.00	62.50
Speakers with RHD		
P5	33.33	16.67
P6	50.00	0.00
NBD speakers		
N1	33.33	33.33
N2	3.03	87.88
N3	37.50	6.25
N4	0.00	77.78

Note. An utterance was subject to DPT analysis only if it contained at least one story event or descriptive clause; the numbers represent the percentages from all utterances. In NBD3, one utterance was skipped by one of the raters, which resulted in a fifty-fifty proportion of narrative and quasi-narrative labels. Said utterance is not considered in this table.

& Spencer 2009). People without aphasia (participants with RHD and NBD speakers) were not expected to have difficulties with constructing grammatically correct clauses either. The results show that the study participants demonstrated language skills typical for the type of brain damage they had.

Macrolinguistic Level

Speakers with non-fluent aphasia exhibited a preference for narrative DPT over quasi-narration (78 % vs 11 % of utterances in P3; 63 % vs 0 % in P4). At the story component level, they demonstrated frequent use of story event clauses (50.00 % in P3; 46.67 % in P4, respectively) and scarce use of evaluation clauses (0 % and 6.67 %, respectively). P3 and P4 also recurred frequently to interaction components (58.33 % in P3; 86.67 % in P4).

As opposed to non-fluent aphasic speakers, patients with fluent aphasia demonstrated a more equal distribution of narration and quasi-narration in their stories (57 % vs 43 % of utterances in P1; 26 % vs 37 % in P2). Patterns of use of story event clauses and evaluation clauses were quite different in P1 and P2 (51 % vs 23 % in P1; 21 % vs 45 % in P2), as was the use of interaction components (23 % in P1 and 51 % in P2).

Patients with RHD showed a reduced use of narrative utterances and a preference for quasi-narrative DPT (17 % vs 33 % in P5 and 0 % vs 50 % in P6). They also demonstrated a reduced use of story event clauses (27 % in P5 and 11 % in P6) and evaluation clauses (18 % in P5 and 26 % in P6). The use of interaction components was more comparable to that of fluent aphasic speakers than of non-fluent ones (27 % in P5 and 37 % in P6).

In general, we can define two different narration strategies used by the speakers with brain damage. The *narrative storytelling strategy* is marked by narrative utterances and

a decreased use of evaluation clauses, and is demonstrated by non-fluent aphasic speakers. The *quasi-narrative storytelling strategy* is characterized by quasi-narrative utterances and extensive use of evaluation clauses, and is observed in speakers with fluent aphasia and RHD.

While the two strategies are dependent on the diagnoses of the speakers in the clinical set of narratives, we cannot claim that they result purely from the type of brain damage. Moreover, NBD speakers demonstrate both strategies. For instance, NBD2 and NBD4 demonstrated patterns of the narrative strategy: they had few quasi-narrative utterances (3 % in NBD2 and 0 % in NBD4) and a very pronounced use of narrative utterances (88 % in NBD2 and 78 % in NBD4). The evaluation clause use in their narratives was also rather scarce (8 % in NBD2 and 0 % in NBD4). NBD1 and NBD3, on the contrary, demonstrated the quasi-narrative strategy. Quasi-narration was extensively used in their stories (33 % in NBD1 and 38 % in NBD3). Evaluation clauses comprised approximately one-third of their narratives (30 % in NBD1 and 34 % in NBD3). Interaction components were not as extensively used by NBD speakers as by the non-fluent aphasic speakers and were at the level of other participants' performance (31 % in NBD1, 2 % in NBD2, 17 % in NBD3, and 11 % in NBD4).

The extensive use of markers of interaction in the narratives only by the non-fluent aphasic speakers may be part of a specific discourse strategy used by P3 and P4. The revealed extensive use of interaction in our sample was mainly due to the recurrent formulaic expressions: fillers and regulators, such as 'well'; see example (10) (speaker P4; formulaic expressions are marked in *italic*) and their prominent proportion to the total number of clauses.

(10)	Ну мальчик кушает раньше... потом...
	<i>Well</i> the boy eats earlier... then...
	Ну нечаянно разбилось...
	<i>Well</i> accidentally broke...
	Кишка тоже спрятала=
	The cat also hid=
	Ну... мужчина разозлился...
	<i>Well...</i> the man got angry
	Ну все...
	<i>Well</i> , that's all

A possible explanation is that, in order to maintain the narration process, the non-fluent patients turn to the means available to them in order to compensate for their problems at different language levels, such as lexical retrieval and grammaticality. This is partially consistent with the study by Van Lancker Sidtis and Postman (2006), which revealed that participants with fluent aphasia used more formulaic expressions in their spontaneous speech than healthy controls.

In our study, we demonstrated that there are two discourse strategies used by people with brain damage as well healthy speakers. Thus, the differences between the strategies cannot be interpreted as a sign of a particular language impairment but must be explained by other factors.

For example, the stimulus used for story elicitation has two prominent features: high complexity (measured by

the number of different objects in the picture) and the emotional intensity of the situation depicted (described by the complexity of the emotional states expressed by the two human figures in the picture). Study participants are uncertain about what is going on between the acting agents in the picture. Since telling a story presumes creating a cognitive picture that includes participants, a sequence of events and — most importantly — a point to be made, confusion about the participants and events going on in the picture prevents speakers from making a point, which leads to their easy shift from storytelling to describing the visually presented material. While the same shift happens in the storytelling of people with brain damage, the linguistic traces of the shift might be given a different interpretation due to their speech impairments.

Another factor influencing the results demonstrated by the NBD speakers is the specifics of the test situation. Unlike personal or everyday conversational stories where people know what they are talking about (they have a mental picture of a chunk of their personal experience) and why they want to tell that specific story (their point in communicating the experience), the communicative situation in the case of the test-elicited stories lacks both. The overall goal of telling the story is different. It is not to inform and share and thus relate the story to the addressee. The test situation creates different motivations, such as ‘See how good I am at performing this task’, or ‘Ok, you make me do these foolish things, so I will do it’. The former motivation causes people to use a discourse strategy that we call ‘Best Student’; the latter we call the ‘As Is’ strategy. Our participants without brain damage demonstrated both: NBD1 and NBD3 used the ‘Best Student’ strategy, and NBD2 and NBD4 used the ‘As Is’ strategy. In the former, the focus is on details and concern on the side of the narrator to perform well, which results in more interaction with the interviewer. In the latter, the narrators prefer to stick to the mainline without much concern for providing arguments for what they say.

The above mentioned factors influencing the macrolinguistic structure of the narratives — stimulus complexity and the test situation — should be taken into account in a situation of discourse assessment in a formal setting. However, the effect of these factors cannot be totally avoided. There is always a trade off between ecological validity and control in any formalized standardized assessment.

Conclusion

Narrative research addresses a variety of linguistic skills that human beings use in social verbal interactions. People use different strategies depending on many factors within a given communicative situation. In clinical linguistics, we investigate some of the skills that are compromised as compared to the performance of healthy speakers. In this study, we demonstrated that this comparison should not be unidirectional, and that speakers with and without brain damage both use multiple discourse strategies (narrative and quasi-narrative). What is often considered to be a deficit may be just another instance of discourse variety, and this perspective may help us to discover new strategies that speakers use in storytelling.

References

- Akhutina, T. (2009). Role of right hemisphere in the text construction [Rol pravogo polushariya v postroenii teksta]. *Psycholinguistics*, 2009(3), 10–28. (In Russian). Retrieved from <https://psycholing-journal.com/index.php/journal/issue/view/18/3-2009-pdf>.
- Akhutina, T. (2015). Luria's classification of aphasias and its theoretical basis. *Aphasiology*, 30(8), 1–20. <https://doi.org/10.1080/002687038.2015.1070950>
- Armstrong, E. (2000). Aphasic discourse analysis: The story so far. *Aphasiology*, 14(9), 875–892.
- Bakhtin, M.M. (1986). *Speech genres and other late essays*. Austin, TX: University of Texas.
- Bamberg, M.G. (1987). *The acquisition of narratives: Learning to use language* (Vol. 49). De Gruyter Mouton. <https://doi.org/10.1515/9783110854190>
- Bergelson, M., & Dragoy, O. (2010). Telling a story or describing a picture: Cognitive differences and similarities across aphasic and normal speakers. In *Proceedings of the Fifth international conference on cognitive science* (22–27.06.2010, Tomsk) (Vol. 1, pp. 26–27). Tomsk.
- Bergelson, M.B. (2007). Sociocultural motivation of narratives. In L.L. Iomdin, N.I. Laufer, A.S. Nariniani, & V.P. Selegy (Eds.), *Computational Linguistics and Intellectual Technologies. Papers from the Annual international conference Dialogue* (pp. 38–43). Moscow: RSUH. (In Russian).
- Bergelson, M.B. (2006). Opora na lingvokulturnye modeli pri interpretacii diskursa [Using linguo-cultural models when interpreting discourse]. In *Izmeneniya v yazyke i kommunikacii: XXI vek [Changes in language and communication: the 21st century]* (pp. 73–97). Moscow: RSUH. (In Russian).
- Bergelson, M.B., Akinina, Y., Shitova, N., Khudyakova, M.V., Melikyan, Z., & Dragoy, O.V. (2014). Asymmetric brain damage effects on narrative production. In *Proceedings of the Sixth international conference on cognitive science, June 23–27 2014, Kaliningrad, Russia* (pp. 728–729). Kaliningrad.
- Berman, R.A. (1997). Narrative theory and narrative development: The Labovian impact. *Journal of Narrative and Life History*, 7(1–4), 235–244. <https://doi.org/10.1075/jnlh.7.29nar>
- Biber, D. (1989). A typology of English texts. *Linguistics*, 27(1), 3–44. <https://doi.org/10.1515/ling.1989.27.1.3>
- Biber, D., & Conrad, S. (2009). *Register, genre, and style*. New York: Cambridge University Press. <https://doi.org/10.1017/CBO9780511814358>
- Blake, M.L. (2010). Communication deficits associated with right hemisphere brain damage. In J.S. Damico, N. Müller, & M.J. Ball (Eds.), *The handbook of language and speech disorders* (pp. 556–576). UK: John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781444318975.ch24>
- Blake, M.L. (2006). Clinical relevance of discourse characteristics after right hemisphere brain damage. *American Journal of Speech-Language Pathology*, 15(3), 255–267. [https://doi.org/10.1044/1058-0360\(2006\)024](https://doi.org/10.1044/1058-0360(2006)024)
- Blake, M.L. (2017). Right-hemisphere pragmatic disorders. *Perspectives in Pragmatics, Philosophy and Psychology*, 11, 243–266. https://doi.org/10.1007/978-3-319-47489-2_10
- Brookshire, R.H., & Nicholas, L.E. (1984). Comprehension of directly and indirectly stated main ideas and details in discourse by brain-damaged and non-brain-damaged listeners. *Brain and Language*, 21(1), 21–36. [https://doi.org/10.1016/0093-934X\(84\)90033-6](https://doi.org/10.1016/0093-934X(84)90033-6)
- Bryant, L., Ferguson, A., & Spencer, E. (2016). Linguistic analysis of discourse in aphasia: A review of the literature. *Clinical Linguistics and Phonetics*, 30(7), 489–518. <https://doi.org/10.3109/02699206.2016.1145740>
- Chafe, W. (Ed.). (1980). *The Pear stories: Cognitive, cultural, and linguistic aspects of narrative production*. Norwood, New Jersey: Ablex.
- Chapman, S.B., & Ulatowska, H.K. (1994). Differential diagnosis in aphasia. In R. Chapey (Ed.), *Language intervention strategies in adult aphasia* (pp. 121–131). Baltimore, MD: Williams & Wilkins.

- Corcoran, C.M., Mittal, V.A., Bearden, C.E., Gur, R.E., Hitzzenko, K., Bilgrami, Z., Savic, A., Cecchi, G.A., & Wolff, P. (2020). Language as a biomarker for psychosis: A natural language processing approach. *Schizophrenia Research*, 226, 158–166. <https://doi.org/10.1016/j.schres.2020.04.032>
- Dipper, L.T., & Pritchard, M. (2017). Discourse: Assessment and therapy. In F.R.M. Fernandes (Ed.), *Advances in Speech-language Pathology* (pp. 3–23). IntechOpen. <https://doi.org/10.5772/INTECHOPEN.69894>
- Dronkers, N.F., & Baldo, J.V. (2009). Language: Aphasia. In L.R. Squire (Ed.), *Encyclopedia of neuroscience* (pp. 343–348). Elsevier. <https://doi.org/10.1016/B978-008045046-9.01876-3>
- Eggins, S., & Martin, J.R. (1997). Genres and registers of discourse. In T.A. van Dijk (Ed.), *Discourse as structure and process* (pp. 230–256). SAGE.
- Ferguson, A., Craig, H., & Spencer, E. (2009). Exploring the potential for corpus-based research in speech-language pathology. In M. Haugh, & et al. (Eds.), *Selected proceedings of the 2008 HCSNet workshop on designing the Australian National Corpus: Mustering Languages* (pp. 30–36). Somerville, MA: Cascadia Proceedings Project.
- Glosser, G., & Deser, T. (1991). Patterns of discourse production among neurological patients with fluent language disorders. *Brain and Language*, 40(1), 67–88. [https://doi.org/10.1016/0093-934X\(91\)90117-J](https://doi.org/10.1016/0093-934X(91)90117-J)
- Holland, A.L. (1980). *CADL communicative abilities in daily living: A test of functional communication for aphasic adults*. University Park Press.
- Holland, A.L. (1982). Observing functional communication of aphasic adults. *Journal of Speech and Hearing Disorders*, 47(1), 50–56. <https://doi.org/10.1044/jshd.4701.50>
- Johns, C.L., Tooley, K.M., & Traxler, M.J. (2008). Discourse impairments following right hemisphere brain damage: A critical review. *Linguistics and Language Compass*, 2(6), 1038–1062. <https://doi.org/10.1111/j.1749-818X.2008.00094.x>
- Johnstone, B. (2016). 'Oral versions of personal experience': Labovian narrative analysis and its uptake. *Journal of Sociolinguistics*, 20(4), 542–560. <https://doi.org/10.1111/josl.12192>
- Kibrik, A.A. (2009). Modus, zhanr i drugie parametry klassifikacii diskursov [Mode, genre and other parameters of discourse classification]. *Topics in the Study of Language [Voprosy Jazykoznanija]*, 2009(2), 3–21. (In Russian). Retrieved from <https://vja.ruslang.ru/ru/archive/2009-2/3-21>.
- Labov, W. (2010). Narratives of personal experience. In P.C. Hogan (Ed.), *Cambridge encyclopedia of the language sciences* (pp. 546–548). Cambridge: Cambridge University Press. <https://doi.org/10.1515/9783110141894.1.1.6>
- Labov, W. (1972). *Language in the inner city: Studies in the Black English vernacular*. Philadelphia: University of Pennsylvania Press.
- Linnik, A., Bastiaanse, R., & Höhle, B. (2016). Discourse production in aphasia: a current review of theoretical and methodological challenges. *Aphasiology*, 30(7), 765–800. <https://doi.org/10.1080/02687038.2015.1113489>
- Linnik, A., Bastiaanse, R., Stede, M., & Khudyakova, M. (2021). Linguistic mechanisms of coherence in aphasic and non-aphasic discourse. *Aphasiology*. <https://doi.org/10.1080/02687038.2020.1852527>
- Longacre, R.E. (1983). Spectrum, profile and constituency structure in text analysis. In S. Hattori, & K. Inoue (Eds.), *Proceedings of the 13th International congress of linguists, August 29-September 4, 1982, Tokyo* (pp. 1024–27). Tokyo: Comité International Permanent des Linguistes.
- Longacre, R.E. (1996). *The grammar of discourse: Topics in language and linguistics*. New York: Plenum.
- Luria, A.R. (1962). [Higher cortical functions in man and their disturbances in local brain lesions]. Moscow: Moscow University Press. (In Russian). <https://doi.org/10.1007/978-1-4615-8579-4>
- MacWhinney, B. (2008). Part 1: The CHAT transcription format. In *The CHILDES Project: Tools for Analyzing Talk-Mahwah, NJ: Lawrence Erlbaum Associates*. <https://doi.org/10.21415/3mhn-0z89>
- Marini, A. (2012). Characteristics of narrative discourse processing after damage to the right hemisphere. *Seminars in Speech and Language*, 33(1), 68–78. <https://doi.org/10.1055/s-0031-1301164>
- Marini, A., Boewe, A., Caltagirone, C., & Carlomagno, S. (2005). Age-related differences in the production of textual descriptions. *Journal of Psycholinguistic Research*, 34(5), 439–463. <https://doi.org/10.1007/s10936-005-6203-z>
- Meuse, S., & Marquardt, T.P. (1985). Communicative effectiveness in Broca's aphasia. *Journal of Communication Disorders*, 18(1), 21–34. [https://doi.org/10.1016/0021-9924\(85\)90011-5](https://doi.org/10.1016/0021-9924(85)90011-5)
- Minga, J. (2016). Discourse production and right hemisphere disorder. *Perspectives of the ASHA Special Interest Groups*, 1(2), 96–105. <https://doi.org/10.1044/persp1.SIG2.96>
- Nicholas, L.E., & Brookshire, R.H. (1993). A system for quantifying the informativeness and efficiency of the connected speech of adults with aphasia. *Journal of Speech and Hearing Research*, 36(2), 338–350. <https://doi.org/10.1007/s10936-005-6203-z>
- Norrick, N. (2000). *Conversational narrative: Storytelling in everyday talk*. Benjamins. <https://doi.org/10.1075/cilt.203>
- Olness, G.S. (2006). Genre, verb, and coherence in picture-elicited discourse of adults with aphasia. *Aphasiology*, 20(2–4), 175–187. <https://doi.org/10.1080/02687030500472710>
- Polanyi, L. (2005). The linguistic structure of discourse. In *The handbook of discourse analysis* (pp. 265–281). Wiley. <https://doi.org/10.1002/9780470753460.ch15>
- Polkinghorne, D.E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education*, 8(1), 5–23. <https://doi.org/10.1080/0951839950080103>
- Schank, R.C. (1995). *Tell me a story: Narrative and intelligence*. Evanston, IL: Northwestern University Press.
- Sherratt, S., & Bryan, K. (2012). Discourse production after right brain damage: Gaining a comprehensive picture using a multi-level processing model. *Journal of Neurolinguistics*, 25(4), 213–239. <https://doi.org/10.1016/j.jneuroling.2012.01.001>
- Smith, C.S. (2003). *Modes of discourse: The local structure of texts* (Cambridge Studies of Linguistics, Vol. 103). Cambridge University Press.
- Stark, B.C., Dutta, M., Murray, L.L., Bryant, L., Fromm, D., MacWhinney, B., Ramage, A.E., Roberts, A., den Ouden, D.B., Brock, K., McKinney-Bock, K., Paek, E.J., Harmon, T.G., Yoon, S.O., Themistocleous, C., Yoo, H., Aveni, K., Gutierrez, S., & Sharma, S. (2020). Standardizing assessment of spoken discourse in aphasia: A working group with deliverables. *American Journal of Speech-Language Pathology*, Advance online publication. https://doi.org/10.1044/2020_ajslp-19-00093
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. New York: Cambridge University Press.
- Tomasello, M. (2008). *Origins of human communication*. Cambridge, MA: MIT Press.
- Tompkins, C.A., Baumgaertner, A., Lehman, M.T., & Fossett, T.R.D. (1997). Suppression and discourse comprehension in right brain-damaged adults: A preliminary report. *Aphasiology*, 11(4–5), 505–519. Retrieved from <https://core.ac.uk/reader/190622667>.
- Ulatowska, H.K., Doyel, A.W., Stern, R.F., Haynes, S.M., & North, A.J. (1983). Production of procedural discourse in aphasia. *Brain and Language*, 18(2), 315–341. [https://doi.org/10.1016/0093-934X\(83\)90023-8](https://doi.org/10.1016/0093-934X(83)90023-8)
- Ulatowska, H.K., Freedman-Stern, R., Doyel, A.W., Macaluso-Haynes, S., & North, A.J. (1983). Production of narrative discourse in aphasia. *Brain and Language*, 19(2), 317–334. [https://doi.org/10.1016/0093-934X\(83\)90074-3](https://doi.org/10.1016/0093-934X(83)90074-3)
- Van Dijk, T.A. (1976). Narrative macro-structures. *PTL: A Journal for Descriptive Poetics and Theory of Literature*, 1, 547–568.
- Van Dijk, T.A. (1981). Episodes as units of discourse analysis. In *Analyzing discourse: Text and talk* (pp. 177–195). Georgetown: Georgetown University Press.
- Van Lancker Sidtis, D., & Postman, W.A. (2006). Formulaic expressions in spontaneous speech of left- and right-hemi-

- sphere-damaged subjects. *Aphasiology*, 20(5), 411–426. <https://doi.org/10.1080/02687030500538148>
- Van Leer, E., & Turkstra, L. (1999). The effect of elicitation task on discourse coherence and cohesion in adolescents with brain injury. *Journal of Communication Disorders*, 32(5), 327–349. [https://doi.org/10.1016/S0021-9924\(99\)00008-8](https://doi.org/10.1016/S0021-9924(99)00008-8)
- Weed, E., & Fusaroli, R. (2020). Acoustic measures of prosody in right-hemisphere damage: A systematic review and meta-analysis. *Journal of Speech, Language, and Hearing Research*, 63(6), 1762–1775. https://doi.org/10.1044/2020_JSLHR-19-00241
- Wright, H.H. (2011). Discourse in aphasia: An introduction to current research and future directions. *Aphasiology*, 25(11), 1283–1285. <https://doi.org/10.1080/02687038.2011.613452>
- Wright, H.H., Koutsoftas, A., Fergadiotis, G., & Capilouto, G. (2010). Coherence in stories told by adults with aphasia. *Procedia — Social and Behavioral Sciences*, 6, 111–112. <https://doi.org/10.1016/j.sbspro.2010.08.056>

■ экспериментальные сообщения ■

Как рассказывают истории люди с поражениями мозга и без: макролингвистический подход

Мира Борисовна Бергельсон

Национальный исследовательский университет «Высшая школа экономики» (НИУ ВШЭ), Москва, Россия

Мария Викторовна Худякова

Национальный исследовательский университет «Высшая школа экономики» (НИУ ВШЭ), Москва, Россия

Юлия Сергеевна Акинина

Национальный исследовательский университет «Высшая школа экономики» (НИУ ВШЭ), Москва, Россия

Ольга Викторовна Драгой

Национальный исследовательский университет «Высшая школа экономики» (НИУ ВШЭ), Москва, Россия;
Институт языкознания РАН, Москва, Россия

Аннотация. Повествовательный дискурс широко изучается в клинической и здоровой популяциях людей. В настоящей работе исследовались дискурсивные стратегии, которые используют люди с поражением левого и правого полушарий головного мозга, а также здоровые индивидуумы, когда рассказывают истории. Мы проанализировали рассказы по фотографии, полученные от четырех человек с афазией, двух человек с повреждением правого полушария и четырех здоровых людей. Рассматривались микролингвистические характеристики, а также макролингвистические особенности, такие как дискурсивный тип изложения и соотношение различных компонентов жанровой схемы рассказа. Мы определили две используемые стратегии повествования: нарративную — с преобладанием нарративного типа изложения и редким использованием оценочных высказываний — и противоположную, квазинарративную стратегию, с обильным использованием оценок и преобладанием квазинарративного типа изложения. Эти стратегии использовались как здоровыми людьми, так и участниками с поражением мозга.

Контактная информация: Мира Борисовна Бергельсон, mbergelson@hse.ru, 105066, Москва, Старая Басманная 21/4, каб. 528; Мария Викторовна Худякова, maria.kh@gmail.com; Юлия Сергеевна Акинина, julia.akinina@gmail.com; Ольга Викторовна Драгой, odragoy@hse.ru.

Ключевые слова: дискурс, дискурсивные стратегии, рассказ по фотографии, афазия, поражение мозга

© 2021 Мира Борисовна Бергельсон, Мария Викторовна Худякова, Юлия Сергеевна Акинина, Ольга Викторовна Драгой. Данная статья доступна по лицензии [Creative Commons “Attribution”](https://creativecommons.org/licenses/by/4.0/) («Атрибуция») 4.0. всемирная, согласно которой возможно неограниченное распространение и воспроизведение этой статьи на любых носителях при условии указания авторов и ссылки на исходную публикацию статьи в данном журнале в соответствии с канонами научного цитирования.

Благодарности. Авторы благодарны всем участникам исследования. Мы также признательны Заре Меликян, которая произвела аудиозапись рассказов участников с поражением правого полушария; Наталье Шитовой и Анне Юрченко, которые помогли проанализировать часть данных. Исследование поддержано Российским научным фондом, грант 20-18-00-399.

Статья поступила в редакцию 19 мая 2020 г. Принята в печать 28 декабря 2020 г.

Литература

- Ахутина Т.В. Роль правого полушария в построении текста // Психолингвистика. 2009. № 3. С. 10–28. URL: <https://psycholing-journal.com/index.php/journal/issue/view/18/3-2009-pdf>.
- Бергельсон М.Б. Социокультурная мотивированность нарративов // Труды международной конференции «Диалог 2007». / Под ред. Л. Л. Иомдина, Н. И. Лауфер, А.С. Нариньяни, В. П. Селегея. М.: РГГУ, 2007. С. 38–43.
- Бергельсон М.Б. Опора на лингвокультурные модели при интерпретации дискурса // Изменения в языке и коммуникации: XXI-ый век. Москва: РГГУ, 2006. С. 73–97.
- Кибрик А.А. Модус, жанр и другие параметры классификации дискурсов // Вопросы языкознания. 2009. № 2. С. 3–21. URL: <https://vja.ruslang.ru/ru/archive/2009-2/3-21>.
- Лурия А.Р. Высшие корковые функции человека и их нарушения при локальных поражениях мозга. М.: МГУ, 1962.
- Akhutina T. Luria's classification of aphasias and its theoretical basis // Aphasiology. 2015. Vol. 30. No. 8. P. 1–20. <https://doi.org/10.1080/02687038.2015.1070950>
- Armstrong E. Aphasic discourse analysis: The story so far // Aphasiology. 2000. Vol. 14. No. 9. P. 875–892. <https://doi.org/10.1080/026870300050127685>
- Bakhtin M.M. Speech genres and other late essays. Austin, TX: University of Texas, 1986.
- Bamberg M.G. The acquisition of narratives: Learning to use language. De Gruyter Mouton, 1987. <https://doi.org/10.1515/9783110854190>
- Bergelson M., Dragoy O. Telling a story or describing a picture: Cognitive differences and similarities across aphasic and normal speakers // Proceedings of the Fifth international conference on cognitive science (22–27.06.2010, Tomsk). Tomsk: 2010. Vol. 1. P. 26–27.
- Bergelson M.B., Akinina Y., Shitova N., Khudyakova M.V., Melikyan Z., Dragoy O.V. Asymmetric brain damage effects on narrative production // Proceedings of the Sixth international conference on cognitive science, June 23–27 2014, Kaliningrad, Russia. Kaliningrad: 2014. P. 728–729.
- Berman R.A. Narrative theory and narrative development: The Labovian impact // Journal of Narrative and Life History. 1997. Vol. 7. No. 1–4. P. 235–244. <https://doi.org/10.1075/jnlh.7.29nar>
- Biber D. A typology of English texts // Linguistics. 1989. Vol. 27. No. 1. P. 3–44. <https://doi.org/10.1515/ling.1989.27.1.3>
- Biber D., Conrad S. Register, genre, and style. New York: Cambridge University Press, 2009. <https://doi.org/10.1017/CBO9780511814358>
- Blake M.L. Communication deficits associated with right hemisphere brain damage // The handbook of language and speech disorders / J.S. Damico, N. Müller, M.J. Ball (Eds.). UK: John Wiley & Sons, Ltd, 2010. P. 556–576. <https://doi.org/10.1002/9781444318975.ch24>
- Blake M.L. Clinical relevance of discourse characteristics after right hemisphere brain damage // American Journal of Speech-Language Pathology. 2006. Vol. 15. No. 3. P. 255–267. [https://doi.org/10.1044/1058-0360\(2006\)024](https://doi.org/10.1044/1058-0360(2006)024)
- Blake M.L. Right-hemisphere pragmatic disorders // Perspectives in Pragmatics, Philosophy and Psychology. 2017. Vol. 11. P. 243–266. https://doi.org/10.1007/978-3-319-47489-2_10
- Brookshire R.H., Nicholas L.E. Comprehension of directly and indirectly stated main ideas and details in discourse by brain-damaged and non-brain-damaged listeners // Brain and Language. 1984. Vol. 21. No. 1. P. 21–36. [https://doi.org/10.1016/0093-934X\(84\)90033-6](https://doi.org/10.1016/0093-934X(84)90033-6)
- Bryant L., Ferguson A., Spencer E. Linguistic analysis of discourse in aphasia: A review of the literature // Clinical Linguistics and Phonetics. 2016. Vol. 30. No. 7. P. 489–518. <https://doi.org/10.3109/02699206.2016.1145740>
- Chafe W. The Pear stories: Cognitive, cultural, and linguistic aspects of narrative production / W. Chafe (Ed.). Norwood, New Jersey: Ablex, 1980.
- Chapman S.B., Ulatowska H.K. Differential diagnosis in aphasia // Language intervention strategies in adult aphasia / R. Chapey (Ed.). Baltimore, MD: Williams & Wilkins, 1994. P. 121–131.
- Corcoran C.M., Mittal V.A., Bearden C.E., Gur R.E., Hitzzenko K., Bilgrami Z., Savic A., Cecchi G.A., Wolff P. Language as a biomarker for psychosis: A natural language processing approach // Schizophrenia Research. 2020. Vol. 226. P. 158–166. <https://doi.org/10.1016/j.schres.2020.04.032>
- Dipper L.T., Pritchard M. Discourse: Assessment and therapy // Advances in Speech-language Pathology / F.D.M. Fernandes (Ed.). IntechOpen: 2017. P. 3–23. <https://doi.org/10.5772/INTECHOPEN.69894>
- Dronkers N.F., Baldo J.V. Language: Aphasia // Encyclopedia of neuroscience / L.R. Squire (Ed.). Elsevier, 2009. P. 343–348. <https://doi.org/10.1016/B978-008045046-9.01876-3>
- Eggs S., Martin J.R. Genres and registers of discourse // Discourse as structure and process / T.A. van Dijk (Ed.). SAGE, 1997. P. 230–256.
- Ferguson A., Craig H., Spencer E. Exploring the potential for corpus-based research in speech-language pathology // Selected proceedings of the 2008 HCSNet workshop on designing the Australian National Corpus: Mustering Languages / M. Haugh, et al. (Eds.). Somerville, MA: Cascadilla Proceedings Project, 2009. P. 30–36.
- Glosser G., Deser T. Patterns of discourse production among neurological patients with fluent language disorders // Brain and Language. 1991. Vol. 40. No. 1. P. 67–88. [https://doi.org/10.1016/0093-934X\(91\)90117-J](https://doi.org/10.1016/0093-934X(91)90117-J)
- Holland A.L. CADL communicative abilities in daily living: A test of functional communication for aphasic adults. University Park Press, 1980.
- Holland A.L. Observing functional communication of aphasic adults // Journal of Speech and Hearing Disorders. 1982. Vol. 47. No. 1. P. 50–56. <https://doi.org/10.1044/jshd.4701.50>
- Johns C.L., Tooley K.M., Traxler M.J. Discourse impairments following right hemisphere brain damage: A critical review // Linguistics and Language Compass. 2008. Vol. 2. No. 6. P. 1038–1062. <https://doi.org/10.1111/j.1749-818X.2008.00094.x>
- Johnstone B. 'Oral versions of personal experience': Labovian narrative analysis and its uptake // Journal of Sociolinguistics. 2016. Vol. 20. No. 4. P. 542–560. <https://doi.org/10.1111/JOSL.12192>
- Labov W. Narratives of personal experience // Cambridge encyclopedia of the language sciences / P.C. Hogan (Ed.). Cambridge: Cambridge University Press, 2010. P. 546–548. <https://doi.org/10.1515/9783110141894.1.1.6>
- Labov W. Language in the inner city: Studies in the Black English vernacular. Philadelphia: University of Pennsylvania Press, 1972.
- Linnik A., Bastiaanse R., Höhle B. Discourse production in aphasia: a current review of theoretical and methodological challenges // Aphasiology. 2016. Vol. 30. No. 7. P. 765–800. <https://doi.org/10.1080/02687038.2015.1113489>
- Linnik A., Bastiaanse R., Stede M., Khudyakova M. Linguistic mechanisms of coherence in aphasic and non-aphasic discourse // Aphasiology. 2021. <https://doi.org/10.1080/02687038.2020.1852527>
- Longacre R.E. Spectrum, profile and constituency structure in text analysis // Proceedings of the 13th International congress of linguists, August 29–September 4, 1982, Tokyo. / S. Hattori, K. Inoue (Eds.). Tokyo: Comité International Permanent des Linguistes, 1983. P. 1024–27.
- Longacre R.E. The grammar of discourse: Topics in language and linguistics. New York: Plenum, 1996.
- MacWhinney B. Part 1: The CHAT transcription format // The CHILDES Project: Tools for Analyzing Talk Mahwah, NJ: Lawrence Erlbaum Associates, 2000. <https://doi.org/10.21415/3mhn-0z89>
- Marini A. Characteristics of narrative discourse processing after damage to the right hemisphere // Seminars in Speech and Language. 2012. Vol. 33. No. 1. P. 68–78. <https://doi.org/10.1055/s-0031-1301164>

- Marini A., Boewe A., Caltagirone C., Carlomagno S. Age-related differences in the production of textual descriptions // *Journal of Psycholinguistic Research*. 2005. Vol. 34. No. 5. P. 439–463. <https://doi.org/10.1007/s10936-005-6203-z>
- Meuse S., Marquardt T.P. Communicative effectiveness in Broca's aphasia // *Journal of Communication Disorders*. 1985. Vol. 18. No. 1. P. 21–34. [https://doi.org/10.1016/0021-9924\(85\)90011-5](https://doi.org/10.1016/0021-9924(85)90011-5)
- Minga J. Discourse production and right hemisphere disorder // *Perspectives of the ASHA Special Interest Groups*. 2016. Vol. 1. No. 2. P. 96–105. <https://doi.org/10.1044/persp1.SIG2.96>
- Nicholas L.E., Brookshire R.H. A system for quantifying the informativeness and efficiency of the connected speech of adults with aphasia // *Journal of Speech and Hearing Research*. 1993. Vol. 36. No. 2. P. 338–350. <https://doi.org/10.1007/s10936-005-6203-z>
- Norrick N. Conversational narrative: Storytelling in everyday talk. Benjamins, 2000. <https://doi.org/10.1075/cilt.203>
- Olness G.S. Genre, verb, and coherence in picture-elicited discourse of adults with aphasia // *Aphasiology*. 2006. Vol. 20. No. 2–4. P. 175–187. <https://doi.org/10.1080/02687030500472710>
- Polanyi L. The linguistic structure of discourse // *The handbook of discourse analysis* Wiley, 2005. P. 265–281. <https://doi.org/10.1002/9780470753460.ch15>
- Polkinghorne D.E. Narrative configuration in qualitative analysis // *International Journal of Qualitative Studies in Education*. 1995. Vol. 8. No. 1. P. 5–23. <https://doi.org/10.1080/0951839950080103>
- Schank R.C. Tell me a story: Narrative and intelligence. Evanston, IL: Northwestern University Press, 1995.
- Sherratt S., Bryan K. Discourse production after right brain damage: Gaining a comprehensive picture using a multi-level processing model // *Journal of Neurolinguistics*. 2012. Vol. 25. No. 4. P. 213–239. <https://doi.org/10.1016/j.jneuroling.2012.01.001>
- Smith C.S. Modes of discourse: The local structure of texts. Cambridge University Press, 2003.
- Stark B.C., Dutta M., Murray L.L., Bryant L., Fromm D., MacWhinney B., Ramage A.E., Roberts A., den Ouden D.B., Brock K., McKinney-Bock K., Paek E.J., Harmon T.G., Yoon S.O., Themistocleous C., Yoo H., Aveni K., Gutierrez S., Sharma S. Standardizing assessment of spoken discourse in aphasia: A working group with deliverables // *American Journal of Speech-Language Pathology*. 2020. https://doi.org/10.1044/2020_ajslp-19-00093
- Swales J. Genre analysis: English in academic and research settings. New York: Cambridge University Press, 1990.
- Tomasello M. Origins of human communication. Cambridge, MA: MIT Press, 2008.
- Tompkins C.A., Baumgaertner A., Lehman M.T., Fosssett T.R.D. Suppression and discourse comprehension in right brain-damaged adults: A preliminary report // *Aphasiology*. 1997. Vol. 11. No. 4–5. P. 505–519. URL: <https://core.ac.uk/reader/190622667>
- Ulatowska H.K., Doyel A.W., Stern R.F., Haynes S.M., North A.J. Production of procedural discourse in aphasia // *Brain and Language*. 1983. Vol. 18. No. 2. P. 315–341. [https://doi.org/10.1016/0093-934X\(83\)90023-8](https://doi.org/10.1016/0093-934X(83)90023-8)
- Ulatowska H.K., Freedman-Stern R., Doyel A.W., Macaluso-Haynes S., North A.J. Production of narrative discourse in aphasia // *Brain and Language*. 1983. Vol. 19. No. 2. P. 317–334. [https://doi.org/10.1016/0093-934X\(83\)90074-3](https://doi.org/10.1016/0093-934X(83)90074-3)
- Van Dijk T.A. Narrative macro-structures // *PTL: A Journal for Descriptive Poetics and Theory of Literature*. 1976. Vol. 1. P. 547–568.
- Van Dijk T.A. Episodes as units of discourse analysis // *Analyzing discourse: Text and talk*. Georgetown: Georgetown University Press, 1981. P. 177–195.
- Van Lancker Sidtis D., Postman W.A. Formulaic expressions in spontaneous speech of left- and right-hemisphere-damaged subjects // *Aphasiology*. 2006. Vol. 20. No. 5. P. 411–426. <https://doi.org/10.1080/02687030500538148>
- Van Leer E., Turkstra L. The effect of elicitation task on discourse coherence and cohesion in adolescents with brain injury // *Journal of Communication Disorders*. 1999. Vol. 32. No. 5. P. 327–349. [https://doi.org/10.1016/S0021-9924\(99\)00008-8](https://doi.org/10.1016/S0021-9924(99)00008-8)
- Weed E., Fusaroli R. Acoustic measures of prosody in right-hemisphere damage: A systematic review and meta-analysis // *Journal of Speech, Language, and Hearing Research*. 2020. Vol. 63. No. 6. P. 1762–1775. https://doi.org/10.1044/2020_JSLHR-19-00241
- Wright H.H. Discourse in aphasia: An introduction to current research and future directions // *Aphasiology*. 2011. Vol. 25. No. 11. P. 1283–1285. <https://doi.org/10.1080/02687038.2011.613452>
- Wright H.H., Koutsoftas A., Fergadiotis G., Capilouto G. Coherence in stories told by adults with aphasia // *Procedia — Social and Behavioral Sciences*. 2010. Vol. 6. P. 111–112. <https://doi.org/10.1016/j.sbspro.2010.08.056>