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The Cognitive Modelling of Textual Modality

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Abstract

The article is devoted to the cognitive modelling of modality on the basis of information-content structure of the English short story text. The cognitive, modal and textual functions interaction may be represented as the hierarchical system of textual modality hyperframe, which comprises as essential parts frames of referential and subjective modalities. In its turn, the referential modality frame as the basic layer of the text content embraces the scenes and scenarios of subject, action/state, object, temporality and locality. The subjective modality frame is subdivided into subjective–personal (author – text) and subjective–interpersonal (author – recipient) modalities. Correspondingly, the former consists of the scenes of sensor, emotive (psychic reaction), mental, evaluative and compositional modalities; the latter implies the epistemic, axiological and deontic modalities. The provided textual analysis reveals the interaction of language units of different levels (phonetic, lexical, grammatical, syntactical), activating frames of referential and subjective modalities.

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1. Introduction

The category of modality as anthropocentric category reflects different aspects of human activities, the person’s relationships with objects and phenomena of the outer reality. Since the object of our research is the textual modality, we can state that it expresses various kinds of text information attitude to outer reality objects and events, as well as different types of subjective qualification of the reported. The given article is written within the

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framework of anthropocentric paradigm as leading scientific trend. Since the category of modality in all its aspects is comprehensively represented within the text format, we consider it urgent to focus our attention on investigating the phases of “information processing”, which is characterized in the terms of “schemes”, “models”, “frames”, “scenarios”, “scenes”. The given article is aimed at disclosing interaction of various cognitive structures, cognitive systems within the frame theory. In spite of a great number of scientific works in the field of cognitive description of the language, the investigation paradigm is not yet established; there should be solved the problems connected with categories identification, cognitive mechanisms of information distribution into “figure” and “ground” types, cognitive procedures of metaphoric and metonymic semantic shifts. Therefore, among all the mentioned, the problem of modality as a textual hyperframe study alongside with language means of its activation seems to be essentially topical.

2. Objectives, methodology and research design

The objectives of our scientific research, thus, are to reveal the language means representing cognitive, modal and textual functions interaction in English short stories texts, i.e. the way the modal information is implemented in the text.

The methodology implies the theoretical assumptions outlined in the scientific works devoted to cognitive linguistics, concentrating, first and foremost, on revealing essential characteristics of language and its functions in the human cognitive activities, language being considered here as means of information (knowledge) accumulating, storing and transferring (Arbib, 1985; Croft, 1991; Fauconnier, 1985; Herskovits, 1986; Jackendoff, 1983-1988; Lakoff, 1988; Langacker, 1987; Rosch, 1978; Roseman, 1984; Talmy, 1978, 1983; Taylor, 1995), pragmatics and discourse, regarding the human factor as the basic one in treating textual information, highlighting the author-recipient relationships concerning the text/discourse (Beaugrande, Dressler, 1980; Chatman, 1978; Chafe, 1984; Eco, 1979; Mann, Matthiessen, Thompson, 1992; Searl, 1979; Sweetser, 1990; Tomlin, 1990; Virtanen, 1990).

The research design is made up as follows: the empirical data reflecting objective reality – certain Actions fulfilled by certain Subjects under certain Temporality and Locality conditions, as well as the Objects of these interactions – form such cognitive structures as Scenes. As these separate units undergo categorization they (scenes) combine into Scenarios. The specific lexico-grammatical means that a certain language provides for denominating and describing the categories and relationships implied in a scenario comprise Frame. While interpreting the text the Recipient makes up his own particular World Model, reflecting the outer realia. The whole realm of schemes developed in the process of interpretation by the Recipient which is predetermined by his awareness of frames in the text, is called Text Model.

3. Discussion of the research outcomes

The provided investigation allows to summarize some theoretical groundings and practical results concerning the cognitive modeling of the category of modality in the texts of English short stories. The general overview of the present-day scientific literature on the given problem reveals the fact that there is no unanimity as to the categorial status and content of modality. In the whole, the scholars share the viewpoint that the category of modality as anthropocentric category reflects different aspects of human activities, conveys the person’s attitude to objects and phenomena of the outer reality. Moreover, modality belongs to the basic notional categories of natural language, i.e. it is the language universal – the obligatory component of any utterance/sentence and expresses various kinds of text information attitude to the outer world in the aspects of reality/irreality, as well as conveys different types of subjective qualification of the reported facts. Since the object of our investigation is modality in the written text, the units of analysis are the modal components of lexical and grammatical levels of the English language: modal words, modal word-groups, modal particles. Morphological means are represented as synthetic and morphological forms of notional words and form words, which have modal semantics: mood forms, modal verbs, emotive-evaluative suffixes. The verbal mood is recognized as the basic means of reality modality implementation. Syntactic means embrace different kinds of syntactic constructions, parenthetical sentences, syntactical phraseological units and other structures activating a wide range of meanings of subjective semantics. Thus, on analyzing miscellaneous views on
the character of modal meanings we can state that modality in the whole is regarded as “interlevel” category penetrating all the layers of the language – phonetic, lexical, grammatical (morphological and syntactical) and text.

The aim of our scientific research is to reveal the language representation of cognitive, modal and textual functions interaction in English short stories texts, i.e. the way the modal information is implemented in the text. The mechanism of modal information construing in the text is perceived through cognitive modelling on the basis of such a unit of analysis as sentence, varying from a small text segment to a whole text (Issakova, 2014).

From the point of view of modal information representation the given cognitive model falls into two interacting language blocks united by the Information-content structure of the text (Kalimullina, 1996): language frames of referential and subjective modalities (Baranov, 1993).

1. The downright model of Referential modality frame:

```plaintext
S1(Q) — Act/St1(Q) — O1(Q) — T1(Q) — L1(Q)
S2(Q) — Act/St2(Q) — O2(Q) — T2(Q) — L2(Q)
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2. The horizontal model:

\[ S1(Q)-S3(Q) — Act1/St(Q)-Act3/St(Q) — O1(Q)-O3(Q) — T1(Q)-T3(Q) — L1(Q)-L3(Q) \]

Since the Referential modality frame is considered to be the basic level of the whole structure, the frame of Subjective modality is treated as somewhat superficial, optional. It is subdivided into subjective–personal (author – text) and subjective–interpersonal (author – recipient) relationships. Correspondingly, the scenes of sensor modality, emotive and psychic reaction, mental, evaluative and compositional modalities form the given subjective-personal modality:

\[ Ms/p < M_{sens} + M_{emot} + M_{ment} + M_{eval} + M_{comp}. \]

Thus, speaking of the Referential modality frame, we should note that the downright model of Information-content structure of the text provides for the dynamic and profound view of the modal structure of the text, allowing a deep insight into modal implication of the whole text.

As for the horizontal model, it focuses the Recipient’s attention on separate scenario blocks of consistently represented modal information, on its linear arrangement, static and discrete character of textual relations (Mukhtarullina, 2004).

To illustrate the case, let us consider the scheme of Referential and Subjective modal frames activation and interrelation in the short story by S. Maugham (https://englishextra.github.io/...) “The Man with the Scar” on the basis of horizontal model of Information-content structure of the text.

Thus the basic level (Referential modality frame) is represented by a series of interrelated scenes. The scenario block of the story’s title “The Man with the Scar” implies the information on the Subject and its qualification \( SQ_1 \). The title of the story is of retrospective character, since modal information implied in it acquires additional shades of meaning in the course of reading and the true sense of the story is revealed only in case of flashback. The story is structurally not homogenous, the author narrates the story of a man with the scar on behalf of another character – which represents “text within a text” composition. The story of the main character allows the unfolding of the plot structure of the text, the general tone of the story is rather pathetic through the greater part of the story and it falls to irony in the end of it. Accordingly, the expressive means involve mostly emotive and evaluative lexical units: but I have made no attempt to tone down his rather high-flown language. In the end of the story, as has been said, the author employs the technique of “deceived expectations” – the Recipient is eager to hear the heroic version of the scar getting in a cruel battle (as from the story the reader comes to know that the main character is a warrior, he was a general in the past), however, the end of the story is rather ironic in its modality, the reason by which the general has got his scar turns out to be rather trivial. The corresponding lexical units convey that incompatible unity of two stylistic layers – high elevated, rather pathetic style and low derogatory style. Thus, the initially positive modal implication of the word “scar” acquires quite the opposite negative sense by the end of the story.

The frame analysis of Referential modality of the text brings to the fore the scene of \( S_1 \) and other scenes correlated with it: \( S_1 - the\ man, he,\ general, an\ exile, a\ ruffian, a\ bandit\ и\ др.; S_2 - i, you; S_3 - an\ acquaintance, \)
companion, I, friend, he; etc. The information on the secondary personages is explicated in the scenes of other subjects: S4 ... S7 - the others, the five of them, the general, he, San Ignacio, she, a woman, a girl. The qualifying part of the scene S1Q is represented by lexemes conveying information on the appearance of the personage, his moral and spiritual merits and social status: a powerful (man) of more than common height, (the man) with the scar, not a bad (fellow), the condemned (rebel), etc. Correspondingly, S3Q – “attribute”: my (companion), my (acquaintance), my (friend).

The scene of actions/state A/St1 is activated by a series of verbs implying the properties of the above-mentioned subjects and of correlated objects: used to come, made his living, refused, threaded his way, passed on, etc.; A/St2: noticed, wondered, was standing, shook, etc.; A/St3: nodded, give, guess, was opening, etc. The information potential of some of these verbal units reveals the intensification of the dynamic aspect of the scene and represents the specific character of the action (threaded his way, shook, tossed down, turned away); indicates the subjects’ mental state (paused, knew, think, guess, liked), conveys the direction of the action (came up, passed on, held out, tossed down, threw away); temporality (I think he was ..., He’s an exile). Some of the verbal units activate several frames at a time: Referential modality (temporality) and Subjective modality (whether there was anything they wished: I guess he knew what was coming to him). The basic concept “time” (temporality) overlaps with the second-level concepts – of Subjective modality “desire”, “assumption”, “knowledge”. The qualifiers of the action scene are the following: A/St1Q - A/St3Q: oddly, leisurely, with a little smile, as for the twentieth time, as well as I could, affably, how he managed to retain possession of it, etc. These lexical units stress different aspects of the scene: the manner of action (leisurely, without a word, affably), tool (with a short pack), evaluation (oddly, far from clean), intensification (with a hoarse cry of passion), quantity (more than half a dozen times, as for the twentieth time), etc.

The following block of modal information comprises the scenes of objects of the action performed by corresponding subjects – O1: features, body, lottery tickets, it, way, the numbers, a brand, etc.; O2: him, this, anyone, head, etc.; O3: him, pesos, a bottle of ginger ale, etc. Further on, in the scene of objects there are singled out such parts as: animacy/non-animacy (her, him, it, this), appearance (features, the scar, head, lips), tool (a knife, the glass, a bottle of ginger ale), abstract notions (the truth, what he told me), etc.; OQ1-3: small and undistinguished (features), corpulent (body), a very shabby grey (suit), a battered (sombrero), his (way), my (head), his (tickets), a few (pesos). Qualifiers highlight such parts of scene as “attribute”, “quantity”, “aesthetic evaluation” etc.

The extensive scene of temporality is activated by the following language means: T1: had, went, was, never, used to come, every day, at cocktail time, when no notice was taken of, now, etc.; T2: now and then, one evening; when the man with the scar came up, etc.; T3: nodded, What will you have, don’t know, ever, stopped, etc. The scene of temporality comprises parts of reality/irreality scenes. The lexical units in the meaning denoting reality indicate such aspects of temporality as: 1) priority (... I wondered whether this had been caused by a saber; He told me he’d never had such a run of bad luck); 2) progressiveness (I was standing at the bar; I was opening it); 3) sequence of actions (He tossed it down and put the glass back on the table); 4) parallel actions (I was standing at the bar one evening, ..., when the man with the scar came up); 5) reiteration of actions (He used to come); 6) phase: beginning - The rebel advanced a step or two; continuation - The rebel knew where he was striking; ending - The officer went up; Our friend finished his cigarette. The predominant language units that activate the scene of temporality in the meaning of reality are mostly the morphological forms of verbs, though lexical units also add to the meaning of reality. The frame of temporality in the meaning of irreality is associated with such language units as: 1) It must have been due to a formidable wound... (supposition); 2) If this was the way he made his living it must have been a poor one (condition and supposition); 3) They fell strangely, (as though they were puppets in a toy theatre; Her loveliness was such that as she ran, (...), a gasp of surprise was wrung from those indifferent soldiers who looked at her (comparison); 4) Business is none too good, but it might be worse (possibility). ‘I have translated what he told me as well as I could, ... ’ (capability).

The scene of locality L1 is activated in the text by lexical units: into the Palace Hotel at Guatemala City; round the bar, among the tables, passed on, came up, tossed down, from Nicaragua, etc.; L2: at the bar, on the rail, on his face. Here such parts of the locality scene are focused as: place of action (in Guatemala, in gaol), direction and change of the place (from Nicaragua, came up, marched to the waiting car), the location of objects respective of other objects (among the tables, against a wall, side by side), etc. The interaction of various scenes of action,
temporality and locality may be exemplified by the following verbal phrases: passed on, came up, tossed down.

**LQ1-3:** at each table, in these countries, at the prison door, to the spot indicated, from his ragged shirt, from the cut vein, by her side.

Thus the prototype scheme of the Referential modality frame correlated with subjects 1, 2, 3 is represented as follows:

![Diagram](https://via.placeholder.com/150)

The frame of **subjective personal modality** of the analyzed text implies the following scenes: 1) **sensor modality** - It was on account of the scar that I first noticed him; I never saw him in anything but a very shabby grey suit; 2) **emotive modality and psychic reaction**: a) direct definite nomination - They fell strangely; b) indirect nomination - her face was dead white; 3) **mental modality**: a) supposition - I think he was for the most part a trifle too worse for the liquor; b) knowledge - The rebel knew where he was striking; non-knowledge - I don’t know whether you ever met him; c) confidence - He’s a ruffian of course and a bandit; d) possibility/non-possibility - it was impossible to staunch the blood; 4) **evaluative modality**: a) general evaluation (absolute, positive) - not a bad fellow; with intensifiers - ‘Not so bad, Business is none too good, (comparative) but it might be worse’; b) intellectual evaluation - ... he had lost more matches than a reasonable man could use in a lifetime; c) aesthetic evaluation - That’s a terrific scar on his face; It doesn’t add to his beauty, does it?; d) ethic evaluation – “It was a noble gesture,” he said at last; e) normative evaluation - The usual formalities were performed; f) utilitarian evaluation - To tell the truth I think it suits the story; 5) indirect realization of subjective modal meanings occurs when the cognitive process of metaphorical and metonymic shift of meaning takes place.

In our case, the text analysis reveals the predominance of mixed cases of metaphors and metonymies – **metaphonymies**: the scar ran, broad and red; His face went oddly with his corpulent body; threaded his way among the tables; He tossed it down; into one who was still alive emptied two barrels of his revolver; soul of my heart; a gasp of surprise was wrung from those; flung herself into his arms; burs burst a cry of horror; they sprang forward; A murmur of approbation broke. **Metonymy**: this had been caused by a sabre; offered a drink; ‘... they make a very good dry Martini’; ‘What will you have, general?’ ‘A brandy.’; 6) **compositional modality**: a) pleonasm (the speech act explication): To tell the truth I think it suits the story; b) the logic connection of contradiction: But my companion nodded affably; c) the logic connection of junction: ‘Then I have time to smoke another cigarette’; And at the same moment he drew a knife from his ragged shirt... d) composition-stylistic means: emphasis - ... and no sooner did he buy a new stack than he lost it; barbarisms - ‘Qué tal, general?’; ‘Gracias.

Thus, schematically the frame of subjective personal modality of the given story may be represented as follows:

\[
\begin{array}{c}
\text{Ms/p} \rightarrow \\
\text{M sens.} \rightarrow \\
\text{M emot.} \rightarrow \\
\text{M ment.} \rightarrow \\
\text{M eval.} \rightarrow \\
\end{array}
\]

- visual
- direct / indirect nomin.
- knowledge
- supposition
- certainty
- possibility
- general /
partitive → intell.  
  → aesth.  
  → ethic  
  → norm.  
  → utilit.  

\[ M_{\text{metaph/meton.}} \rightarrow \text{metaphor} \]
  
  \[ \rightarrow \text{metonymy} \]

\[ M_{\text{comp.}} \]

Or in a more concise way:

\[ Ms/p < M_{\text{sens}} + M_{\text{emot}} + M_{\text{ment}} + M_{\text{eval}} + M_{\text{metaph/meton}} + M_{\text{comp}} \]

The frame of the Subjective interpersonal modality is activated by different language means: subjective-evaluative predicates, performative verbs, the socio-cultural context in the whole. The larger part of the given story is compositionally represented as description, therefore we can find here mainly the language units activating the frame of referential modality, those which establish the textual connection with objective reality on the one hand, and reveal the epistemic conception of the text as depicting “the world as it is” on the other hand. The narration is done in the first person singular, the story in the end is made up by two information blocks of specific type – the axiological and deontic modalities, which represent the picture of the world as “the world should be”: Such things are rather summary in these countries, you know, and he was sentenced to be shot at dawn. As we can observe from the text analysis, the modal information is distributed in the text as follows – the epistemic modality serves as the background of current events in the story, whereas the information individualizing and characterizing subjects in the text implies active zones of axiological and deontic modalities brought into the fore.

Thus, the scheme of frame of subjective-interpersonal modality realization may be represented as follows:

\[ Ms/i = M_{\text{epist}} + M_{\text{axiol}} + M_{\text{deont}} \]

The hierarchy of modal meanings in the text may be represented as:

Textual modality hyperframe

\[ \uparrow \downarrow \]

- subjective-personal modality (optional)

- subjective-interpersonal modality (optional)

- referential modality (obligatory)

The whole cognitive model of modality of the given story is as follows:

\[ M_{\text{r}} < S Q_1 - S Q_2 - S Q_3 \]

\[ A Q_1 - A Q_2 - A Q_3 \]

\[ O Q_1 - O Q_2 - O Q \]

\[ T Q_1 - T Q_2 - T Q_3 \]

\[ L Q_1 - L Q_2 - L Q_3 \]

\[ M_{\text{text}} < M_{\text{sens}} + M_{\text{emot}} + M_{\text{ment}} + M_{\text{eval}} + M_{\text{metaph/meton}} + M_{\text{comp}} \]

\[ Ms/i < M_{\text{epist}} + M_{\text{axiol}} + M_{\text{deont}} \]
Thus, the text analysis has allowed us to reveal the interrelation and interaction of frames of referential and subjective modalities. The cognitive modelling is based on the frame system of hierarchically represented blocks of modal information.

4. Conclusion

The theoretical issues discussed and textual analysis provided have led us to draw certain conclusions:

1. At different historical periods various aspects of modal meanings studies came afore: the description of modality levels, the analysis of language means of modality expression, the ontological character of modality, the correlation of modality with other parameters of the semantic structure of the utterance/sentence, etc. At present the scholars however unanimously adhere to the opinion that modality is the basic notional category of language, i.e. it is the language universal - the obligatory component of any utterance/sentence and expresses various kinds of attitude to the outer world in the aspects of reality/irreality, as well as conveys different subjective characteristics of the reported facts.

2. The elaboration of the complex procedure of the cognitive modelling of modality is aimed at revealing cognitive, modal and textual functions interaction in English short stories texts, i.e. the way the modal information is implemented in the text. As the basis for the cognitive modelling of modality serves the Information-content structure of the text and frame theory. Correspondingly, the hierarchal structure of the cognitive model of modality comprises the textual modality hyperframe, which is subdivided into frames of referential and subjective modalities. The latter is based on the sub-frames of subjective-personal and subjective-interpersonal modalities which imply all sorts of subjective qualification of textual information. The Referential modality frame in its turn falls into scenes of subject, action/state, object, temporality, locality, they all constitute the obligatory component of textual information. The subjective-personal modality representing author-text relationship is activated through the scenes and scenarios of sensor, emotive (psychic reaction), mental, evaluative and compositional modalities. The subjective-interpersonal modality conveys the relationship between the author and the recipient and is activated through the scenes and scenarios of epistemic, axiological and deontical modalities.

3. The provided analysis of modal meanings in the short story text by S. Maugham “The Man with the Scar” has proven the statement that modality is essentially the “interlevel” category penetrating all the layers of the language – phonetic, lexical, grammatical (morphological and syntactical) and text. The basic language means of modal meanings realization are lexical and grammatical: modal words and word-groups, particles; verbal mood, modal verbs, evaluative affixes.

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