

Discussions of Wikipedia Talk Pages: Manipulations Detected by Lingual-Psychological Analysis

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Abstract. The article focuses on key Wikipedia issues and lingual-psychological analysis of the Wikipedia Talk Page discussion in order to reveal linguistic manipulation in the Wikipedia Talk Page “Media Manipulation”. One of them concerning Wikipedia article quality management as well as a variety of linguistic interpretation of the discussion has been considered. The importance of professional linguistic skills has been emphasized. The generalized sequence of manipulations concerning the most heated conversation has been provided. Implicit and explicit forms of manipulations using linguistic markers as well as psychological insights and manipulative techniques have been revealed. The frequency of occurrence of specific linguistic units has been estimated. Taking into account information quality model and crucial characteristics of well-written text, the linguistic quality control model has been provided. Three groups with the relevant features of the model have been allocated. The basic requirements for the linguistic quality control model have been suggested.

Keywords: Social Media, Information Pattern, Discourse Marker, Mass Media, Psychological Manipulation, Global Networks

1 Preamble

The advantages and significance of Wikipedia are well-known today. The project is the biggest and most popular reference book organized in the traditional encyclopedic way. The importance of this service consists in great popularity, large database of the content and high authority between users [1, 2].

What really matters in Wikipedia is that it is the largest volume of articles in different languages and with a various content. Users have an opportunity to edit the content using Wikipedia Talk pages where they may discuss the most controversial issues and decide upon the following topics. Of course, English Wikipedia takes the biggest part of all articles available [3]. However, English Wikipedia suffers from slight reduction because of the information flow, which arises nowadays [4]. But what concerns Wikipedia Talk pages, they are increasing as the amount of users are working on improvement of encyclopedic articles [5]. As a result, one of the key issues in Wikipedia

is to provide information in languages, which are available. Wikipedia in English is often used as a basic language for translation activities with an aim to improve Wikipedia articles in different languages. There is a lack of translation tools and opportunities in Wikipedia, nevertheless such means should be implemented and constantly upgraded [6, 7].

A lot of ways to automatically process and obtain necessary information from Wikipedia has been developed. Apart from the computational methods aimed at enhancing the quality of the Wiki article, it is required to provide the ongoing professional proofreading and linguistically oriented means for meaningful structuring of discussions, checking whether the information is relevant, necessary, useful, etc. We should bear in mind that communication between users is performed on Wiki Talk pages - the discussions are usually unstructured, there is a lot of unnecessary information, they are often conducted in an arbitrary way. However, all possible dialogues are required for future development of complete article in Wikipedia space. There is a challenge of quality management of the target text, as anyone can contribute anything into the article, in order to subsequently transform the source text into high-quality Wiki article.

The aim of Wikipedia discussions is to make a deal between users who are editing the content and the quality parameters the articles should stick to. The Wikipedia Talk page or, as it is called, Wikipedia discussion page is used for purposeful and meaningful conversation between registered users in terms of enhancing the Wikipedia content [4]. One should pay attention to the content which should be improved. Sometimes the content being encyclopedic may be extended into non-encyclopedic, and the volume of the Wikipedia article is growing [8]. There is always a risk that some anonymous users develop controversies. But those controversial disputes often turn into profound articles [9]. So, each participant and every content suggested or discussed is of importance for the Wikipedia future high-quality articles.

2 Related works

While generating a text, those creating manipulation discourse usually prefer the most semantically neutral words. However, even they may perform the role of impact – in an explicit or implicit representation, followed by a variety of discourse markers relevant to discourse analysis, linguistic and psychological techniques. Discourse analysis takes place between two people involved into conversation and the way they use language is studied [10].

The way users interact is represented in a textual form. Since text is regarded in terms of constant information flow [11, 12], its quality features should be considered. The concept of quality is regarded as the characteristics which are required to meet all the necessary standards [13, 14].

Within the discourse, the way the conversation flows is considered. It involves the fact where people are speaking. Moreover, it ranges from a social and cultural framework to body language, images and symbols.

We have chosen the rubric “Media Manipulation” in Wikipedia Talk Page [15] due to intensification of the impact function, found in modern mass media.

Concerned users are searching for new ways, attracting new linguistic means in order to draw attention to any facts [16, 17].

Wikipedia Talk pages should not be used individually but rather serve as a space for collaboration, views exchange, etc. [18].

The page in Wikipedia entitled “Media manipulation” [15] serves as an example of a constructive dialogue between two users concerned in that branch, judging from the nature of their statements. Why only two participants? There are a couple of others, but they remain unspotted. Of course, we can count the most frequent users and their comments, and that would be the reason. But the first striking mechanism while analyzing discussion, utterances, statements, etc. is their psychological perception and further linguistic interpretation. The aim of the paper is using the basic NLP techniques mentioned in [1, 2, 19] to provide a thorough linguistic discourse analysis, psychological analysis and analysis of media-texts of the above article concerning the media manipulation insights as one of the most tackling issues in linguistic manipulation topics.

3 Future of Wikipedia

We are used to reading some good news about growing Wikipedia’s volume and popularity, but maybe it is high time for the question “What future awaits Wikipedia?” The answer to this question is not so obvious because of several reasons shortly described below.

Firstly, Wikipedia lacks a clear outline of the future development. There is not any list of topics to extend, the timelines and the fixed or indicative set of the articles for creating, updating etc., as well as a clear system of priorities of tasks. Thus, there is a big risk of losing actuality of the content of Wikipedia and appearing of gaps in its topics. Secondly, there are no strong criteria for authors of Wikipedia. Of course, the main idea of Wikipedia is the ability to freely edit resource, but now it is high time for creating not common but profound specific articles about facts, objects and phenomena that require a deep professional knowledge about the certain scientific topic. The management of Wikipedia did not propose any stable and reasonable system of motivations for well-educated authors (probably scientists), that is a source of the long-term risk of losing better part of the editors’ community. This risk is actualized additionally by some sort of internal conflicts within the community like trolling, bullying or hidden manipulations. Thus, the common level of the authors can face degradation with the next deterioration of quality of the content.

Thirdly, the strong requirement of Wikipedia concerning the paper-based confirmation of facts in articles does not look like very useful in the not-too-distant future because of changes within the global media system such as losing popularity of traditional journals, appearing of a lot of low-quality informational sources. This factor can be alarming combining the previous one, because only the high-educated specialists will be able to separate real good-verified sources from pure or fake ones. Addi-

tionally, a lot of knowledge of real scientists cannot be applied directly without usually meaningless and sometimes humiliating requirement of “verification” that makes scientists less motivated to be engaged in Wikipedia community.

These three problems can be a strong base for the emergence of other more specific issues with the quality of particular articles and common structure of the whole Wikipedia content, in particular, removing unwanted content or mixing different layers of reality.

Theoretically, any fact or object of the Universe can be described in Wikipedia, but its rules do not allow such wide areas to limit them to some “important” facts or objects. But the real problem is obscure, the character of such rules is blurred. We cannot distinguish the “important” things from unimportant ones without subjective decisions of editors. Moreover, in this situation in the foreground remains a problem with the high-grade authors and their motivations. Without underlying motivations we are at the risk of arising of the system of hidden motivations based on some professional, political or commercial interests. As a result, the rule about importance could be effectively operated for censoring Wikipedia, removing some unwanted content by negatively motivated, mischievous or poor educated editors.

Mixing different layers of reality is a very common practice in Wikipedia because of the poorly controlled hypertext navigational system between articles based on their titles. As a result, some object in Wikipedia can be liberally used in articles about nature, real word, scientific hypotheses, fictional worlds and religions. For sample, “Mars” is the real planet of the Solar system and a planet from different fictional topics like articles about some sci-fi books or movies. Because of such mixing, the common value of Wikipedia is degrading the same way as scientific TV channel which includes some alternative science programs. The risk of mixing is realized by lowering of editor’s level and absence of a clear plan of writing articles and linking each other.

The risks and problems described briefly above are not just hypothetical. Of course, nowadays Wikipedia is a leader between different sites, encyclopedias, catalogues. Nevertheless, we could not ignore the fact of practical failure of affiliates of Wikipedia, based on the same principles and ideology: Wikivoyage, Wikiversity and Wikibooks. They could not bridge the wide gap that appeared at the beginning – the direct affiliation, the community and the content exchange with Wikipedia. Each of them lost the leadership in the competition with the better-organized community sites, which were maintained by more qualified editors’ community with a better system of motivation and responsibility (e.g. Coursera).

Moreover, there is the regrettable experience regarding some others projects with the same features as those of Wikipedia. One of these failures is very illustrative: several years ago, the biggest directory of web sites – ODP (Open Directory Project) – was shuttled down. In early 2000s, the project was the main navigational and catalogue service over the Internet, its database was used in the core algorithms of Google and other big search engines and freely replicated hundred sites. The basic principles of Wikipedia as an easily built free-to-use online knowledge base are highly likely principles of the actually dead project. Furthermore, the problems of ODP were appearing firstly in ODP affiliate projects – special directories of recipes, books, restraints that

cannot draw direct analogies with Wikipedia projects. Thus, there are strong reasons not to defer some risks of failure or degradation of Wikipedia in the middle term or long time perspective if no sufficient and reasonable strategic actions are taken. One of them should be improving of content quality control based on new principles like a formal linguistic modeling.

4 Linguistic Quality Control Model

The process of interaction between users is represented in a textual form. Since text is regarded in terms of constant information flow [20, 21, 22], its quality features should be considered.

Textual content within Wiki discussions may vary greatly, as every day people share a great information flow. Text quality may be considered within model of information quality [23]. Several features of information quality may coincide with the textual quality features in terms of:

- 1) context: information matters when it constitutes some value, the same with the written representation of information (value-added); up-to-date information (as in oral as in written form), which corresponds to the relevant topic (relevancy); full layout of information, necessary details (completeness); easy to perceive information with an aim not to exaggerate (amount of information);
- 2) representation of information: ability to explain, paraphrase, easy to render and convey information (interpretability); to the point, clear information (easy to understand); logical layout of information (consistency); precise, accurate information (conciseness).

However, such feature as checking whether the information is represented in a well-written way or not refers to the text quality, not to the information one. Here, we may talk about language correctness as the main linguistic quality feature. One more quality feature relating to linguistic quality control is a creative way of using language, e.g. stylistical/rhetorical devices. Language correctness deals with the appropriate usage of words in the text according to the language standards [24]. By the way, there may be some changes in words, for example, ‘what is up?’ and ‘wazzap’ [25].

Still, languages are subject to constant development, and, what is peculiar in one context can be misinterpreted in another one. For instance, if there is a nickname ‘how-arudoing111’ on the Wiki talk page, automatic spell and grammar checkers might regard it as an inappropriate, language incorrect expression. But, if a linguist checks it, there will be no troubles in differences between nicknames and common English contractions.

Undoubtedly, the Wikipedia Talk page is not an instrument for quality management, although, it is a basis for eliminating future linguistic incorrectness in Wikipedia article. Talk page is a central platform for discussion including article development and work coordination. It serves to be a medium for both active contributors and passive readers.

Wikipedia is defined as a source of attempts of different communities overwhelmed with one aim - to boost the most spread virtual content [26]. There are cases where different significant roles were found out by the analysis of behavior quantity [27].

Based on six main traits of good writing and information quality model, a linguistic quality control model of Wikipedia article was provided (Fig.1).

It covers a consistency of textual logical concepts, evolving, structuring, tones, the correct word for the context, the right order of sentence. Some of those features are extended, others are eliminated concerning the significance of linguistic aspect.

It is to say that what was mentioned in a written form on a Wiki Talk page should be strictly peer reviewed by a linguist to complete a Wikipedia article.

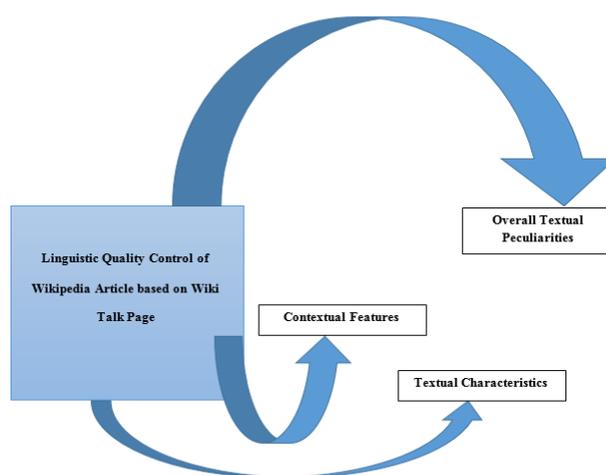


Fig. 1. General linguistic quality control model of Wikipedia article

Let us consider Wiki Talk page to be a source text (ST) and Wikipedia article - a target text (TT).

The first group 'Overall Textual Peculiarities' indicate the general "mood" of the future article. It focuses more on the overview of the article, its length, correspondence of the title, consistency of the content in general. It includes such features as:

- accuracy and currency (precise and exact layout, correspondence of the plot, up-to-date, relevant content);
- neutrality (it is a feature necessarily to be eliminated, as preferably in discussions participants are active or passive, in favour of or against, and if a piece of talk has been considered to be neutral, it should be marked in 'Neutral' section);
- completeness (awareness of subject area; how full an amount of information is given, its length);
- coherence (all sentences in the text need to be logical in order for a recipient to apprehend the text properly)

- reputation (it deals with verifiability of sources the information has been taken from).

The second group ‘Contextual Features’ corresponds to the textual adaptation in terms of the context. The requirement is to adapt the article to the encyclopedia standards. It embraces such peculiarities as:

- value-added (it requires information that was not previously represented, it should be concise, precise and relevant);
- amount of information (it is close to ‘completeness’, but requires more verbosity to correspond to linguistic quality requirements);
- complexity (indicated the level of comprehension, ability of understanding).

The third group of ‘Textual Characteristics’ consists of:

- development (logical idea presentation, close to coherence);
- structure (usage of paragraphing, sectioning, highlighting the headlines);
- tone (formal style, informative content with clear structure);
- word choice (makes it sound natural, lively and precise);
- fluency (perfectionism while reading);
- conventions (abbreviations, capitalization, punctuation);
- understandability (refers more to readability);
- cohesion (as a consistent logical textual stream);
- illustration (images, tables, etc.);
- grammar and spelling (language correctness in terms of grammar and spelling).

It deals with the textual adequacy, its mainstreams of reviewing.

So, even if some features are common in general, in different groups they require various aims. The main task of a linguist is to skillfully and thoroughly trace and monitor all possible changes of the participants in terms of Wiki talk pages and provide corrections in Wikipedia article according to the model described above. The synergy of the methods of textual and psychologic analysis and analysis of media texts allows to reveal implicit or explicit, i.e. hidden or open forms of manipulation using the process of linguistic realization. The following analysis is represented in a narrative way as the interpretation method of discourse analysis is a paramount one when dealing with a textual research.

There are seven sections in the Wiki talk page under the rubric “Media Manipulation”. The most heated discussion is the fifth section concerning manipulation between two users Andrewaskew and Korny O’Near, dialogues of which we divide into 14 Oppositions (Table 1), as most of the time they argue: whether the text of the article is manipulative, using rhetoric and rhetorical devices, or is merely opinion-oriented. Here, original-sized quotations are provided, as the topic is related to the theoretical manipulative issues mentioned above.

Further sections are neglected as the degree of analysis intense is reduced, although they have been interpreted as well.

Table 1. Manipulative dialogues' extracts divided into 14 Oppositions between two users

#	Korny O'Near	Andrewskew
1	Rough perception of the nature of dialogue "suggesting true and objective samples", doubtful suggestions and advices "aren't there better examples", "a bit of a mess", opinion contrast "samples of speech and thoughts, not manipulation concerning news, radio and television"	Suppression with probable suggestions/ advices "wish to improve this page", "happy to support and assist your efforts", "let's make sure we know what we're working towards"
2	Uncertainty/ probability in comments "could concentrate on one, as greater part of samples is inclined to the same class" Hidden persuasion "How can it be", "create control in terms of news, radio and television", "as disputed", "simply someone stating his or her thought"	Protesting with further interpretation "a hypothetical example" Open persuasion "as a thought as an efficient tool"
3	Personal advocacy "Couldn't that be the person is just expressing his or her thoughts?" attempt of justification "not hypothetical - it's a real quote"	Expressive opposition not necessary to assume anything" repetitiveness and paraphrasing with emphasis "not to assume that" (2 times of occurrence, "issue at hand", agreement with another reply, standing by own confession "suppose that a thought is appropriate", "comment reaches controlling edge of speech"
4	Unacceptance of another reply "seems rather broad", "any sample of a thought being mentioned in media which wouldn't be taken as the one of it?"	Assertiveness in own statements, act of poaching "He likes cream" means "transmit", contraction or kind of?" Hidden persuasion, paraphrasing with emphasis "Are there not pieces of communication", "they resemble a sample of speech control"
5	Dodging – self-denying, seem incompetent, personal unjustified advocacy "I'm not an expert on "transfer", "the same inaccuracy as "media manipulation" ", : "these are thoughts used to exchange thoughts"	Credible justification with interpretation "this is not a sample of transmit", "absence of correlation of thoughts"
6	Agreement with another reply, suppression with probable suggestions/advices, effect of hopelessness, despair, positive interpretation of another reply, personal advocacy "That's right, I agree with you", "what really matters here", "should start with that", "having weighed the situation", "crucial here is purpose - to deceive the scheme"	Sharp generalization, suggestions, exemplification, justification, standing by own confession "discussing intentionality is problematic", "there are differences in terms of that analytical suggestion", "it is likely to be contentious and possibly even libelous", "it's not necessary to address in such a strict way to a person"

7	<p>Agreement with another reply, suppression with probable suggestions/advice, positive interpretation of another reply, justification with comparison, personal advocacy</p> <p>“that’s really a great study”, “those notions interpreted firstly are considered to be the greatest”, “whether there’s only a piece of it - this is good”</p>	<p>Agreement with another reply, justification with comparison, protesting</p> <p>“You’re right”, “Your analogy to manslaughter makes a lot of sense”, “It may be mild, but it is arguably pervasive and effective”</p>
8	<p>Agreement with another reply, positive interpretation of another reply</p> <p>“Of course there may be plenty of samples concerning manipulation”, the question is whether all of them are manipulative? “If not, what’s the dividing line?”</p>	<p>Agreement with another reply, standing by own confession, suppression with probable suggestions/advice, justification</p> <p>“Once again”, “reserved people”, “dispute over some things”, “there’s a disagreement that here is a limit line”, “are there any influences upon the information stream, or there are some implications?”</p>
9	<p>Unacceptance of another reply</p> <p>“the samples above are manipulative, but is it truly right?”</p>	<p>Explanation, exemplification</p> <p>“The real or fake utterance does not mean it is manipulative”</p>
10	<p>Positive interpretation of another reply, technique of trapping</p> <p>“thought itself attempting to alter a state is considered to be manipulative”, “Such an utterance as “All ought to eat less” makes sense?”</p>	<p>Agreement with another reply, repetitiveness and paraphrasing with emphasis</p> <p>“a person who is interested in manipulative detection will look for them on his own”</p>
11	<p>Agreement with another reply</p> <p>“Okay, that definition sounds fine to me”, “Although, there’s a disagreement that those samples have necessary information”, “Let me go back to the initial example I brought up”</p>	<p>Suppression with probable suggestions/advice</p> <p>Suggestions, exemplification</p> <p>“am on the lookout for interested editors”, “The strangest utterance here is the first, to my mind”, “Anyway those samples cannot be interpreted in terms of questions which arise here. Whatever it takes I see what you wanted to say”</p>
12	<p>Unacceptance of another reply, assuming agreement</p> <p>“What about samples - if to consider them right now, I do not suppose that such kind of samples matters in terms of this article”, “peculiar objective samples are not really considered beneficial, even though they might be interpreted as a summary”</p>	<p>Suggestions, exemplification</p> <p>“It seems to me that for you and me it may be considered as an objective one, if to take one part of it, and could be a great sample of manipulative techniques”</p>

13	Agreement with another reply “there’s no need to be against that”	Suggestions “Oh, I like that”, “that is very short and concise”, “I doubt if those examples may be used as the interpretation of ours”
14	Neglect in request “In my opinion, I do not see whether such separateness will help a lot”, “all our efforts could have been reduced to another section with lots of issues”, “we need to cut a lot in this article if we want to make it perfect, right?”	Suppression with probable suggestions/ advices Suggestions, exemplification “am on the lookout for interested editors”, “The strangest utterance here is the first, to my mind”, “Anyway those samples cannot be interpreted in terms of questions which arise here. Whatever it takes I see what you wanted to say”
15	Unacceptance of another reply, assuming agreement “What about samples - if to consider them right now, I do not suppose that such kind of samples matters in terms of this article”, “peculiar objective samples are not really considered beneficial, even though they might be interpreted as a summary”	Agreement with another reply “To my mind, I will do that anyway, my gratitude”

To conclude, a symbiosis of lingual, psychological and media-text discourse analyses was applied. It allowed to establish the interrelation between users, mainly those of the heated discussion – Andrewaskew and Korny O’Near, within the communication on the Wiki Talk Page “Media Manipulation”. The lingual discourse interpretation of the conversation along with the psychological insights were considered. As for the acceptance (approval, agreement) of the statement and unacceptance (disapproval, disagreement), the figure is 13 times in common for Korny O’Near and 3 in common for Adrewaskew. From the interpretation analyzed it is seen that the user Andrewaskew tends to smoothen all the conflicts (frequent notion of euphemism) unlike Korny contradicts, provokes, persuades, etc. The phenomenon of repetitiveness of the same statement, phrase, marker (7 occurrences) proves the necessity of opinion justification, necessity to emphasize with an aim to convince another user. Specific discourse marker of caution indicated the willingness not to be misinterpreted. A numerous occurrences of rhetorical questions were caused due to various aims: to poach, to convince/persuade, to sound competent, to interpret own statements, to evoke doubts, to heat debate, to generate a conflict, to trap another user, etc. The lingual and psychological techniques of poaching/dodging were aimed at convincing/implicit unacceptance of the statements. There were frequent comparisons within examples provided and statements as well. They serve to clarify the subject matter of the statements.

5 Conclusions

In the paper particular aspects of linguistic trace from the psychological manipulations in public communication within traditional social networks and forums were considered. Notwithstanding the fact that such manipulative techniques as agreement, unacceptance, protest, opposition, etc. dominate in this Wiki talk page, it is claimed that the user Andrewaskew managed to suppress the manipulative application of another user's statements. Often, total agreement or constant approval (even if one never tolerates it) allows to avoid sharp assertiveness of another user and prevent from arousing conflict.

All in all, the paper is a basis for further studies on linguistic manipulation, its influences and techniques in different types of communities of social networks.

The main issues concerning future development of Wikipedia were outlined. The articles in that medium should be reviewed more thoroughly involving cross-checking of the content overall the web, making sure that the articles do not represent the same information. Encyclopedic approach to the article layout is required, that is why linguistic skills are of importance, which, in the future, may become a consistent way to program the professional revision steps in order to enhance the Wikipedia content.

The complete article should be well studied, well written, comprehensive, official, coherent. Such features were considered to have been the most important requirements for the linguistic quality control model of Wikipedia article.

As for the perspectives, such a model may become an automatic recognition of the linguistic attempts described above concerning authors of Wikipedia, e.g. in a form of Wiki-bot, namely in terms of recommendations of Wikipedia.

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