

Ana Halas¹, Maja Bjelica Andonov
Odsek za anglistiku
Filozofski fakultet Univerziteta u Novom Sadu
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RELEVANCE ASSIGNMENT AS A COMPLEX ENDEAVOUR: THE CASE OF *THE BIG BANG THEORY*²

The paper presents an analysis of the specific discourse retrieved from the popular sitcom *The Big Bang Theory*, which abounds in dialogues containing a large amount of unnecessary and scientific-like explanations of common phenomena in everyday situations and as such are interesting to analyse from the Relevance Theory perspective. The aim of the paper is to construct a mechanism of relevance assignment in such specific discourse, having in mind the co-dependent relationship between contextual effects and processing effort. This relationship is influenced by three factors: background knowledge, speakers' communicative intentions and hearers' abilities to recognize them and respond accordingly, and the amount of information presented in a particular dialogue. On the basis of the presence or absence of these factors and their complex relationships, examples have been classified into two categories, depending on whether relevance has been successfully assigned or not. Moreover, examples in which relevance has been successfully assigned are further analysed according to the amount of processing effort one needs to employ in order to understand the message and respond accordingly. The examples of false or null relevance assignment are particularly interesting since they are a source of verbal humour in this type of discourse.

Keywords: Relevance Theory, relevance assignment, contextual effect, processing effort, humour

1. INTRODUCTION

In recent years, there have appeared a number of humorous television series in which a humorous effect is achieved through the “geek-like” conversational behaviour of the characters. Their geekiness is mostly reflected in their inappropriate use of scientific jargon in ordinary, everyday communicative situations so that even messages related to everyday routine or activities are communicated in an unusual, unexpected or over-explanatory way, which is a frequent source of humour. The American sitcom *The Big Bang Theory* can be regarded as a prime example of applying the “geek-like” conversational principle

¹ ana.halas@ff.uns.ac.rs

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as a humour mechanism. The dialogues in this sitcom abound in contextually either irrelevant or over-explanatory replies to directly put questions in everyday communicative situations. Processing of such messages is a rather complicated endeavour for the hearer, often resulting in a failure to assign any kind of relevance to the message sent, which is the predominant means of creating verbal humour used by the scriptwriters. As such, dialogues in this sitcom represent an interesting corpus for the analysis of the cognitive process of relevance assignment. This process, according to the relevance theory of communication, is a function of two factors. The first factor refers to contextual effects or a set of assumptions we, as hearers, formulate on the basis of contextual information and resources. The second factor is processing effort we need to put in in order to assign relevance to the speaker's message, which means that we are able to connect this message to our background knowledge, draw worthwhile conclusions and infer the implied meaning. This analysis is focused upon these two factors and the way in which they determine the strength of contextual effects in the given corpus, the influence of these effects on the amount of processing effort a hearer needs to invest to assign relevance to the speaker's message, and, finally, successfulness of such relevance assignment processes. The aim of the analysis is to prove that this theory can be successfully applied to the analysis of the relevance assignment process even in quite specific, comic discourses. Moreover, the analysis is aimed at providing a cognitively realistic explanation of this process when used as a mechanism employed in producing a humorous effect as well as offering a plausible interpretation of communicative behaviour in such discourses. The results of the analysis are expected to provide a clear insight into the components of the mentioned mechanism, the nature of their interplay and factors affecting them.

2. THE PRINCIPLE OF HUMAN COMMUNICATION FROM THE RELEVANCE THEORY PERSPECTIVE

2.1. From cooperation to the expectation of relevance

The beginnings of the pragmatic theory of conversation can be linked to H. P. Grice and his Cooperative Principle formulated in the following way: Make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged (Grice, 1967: 45). This means that you are expected to maintain communication by providing an appropriate amount of relevant and correct information necessary for a smooth flow of conversation and understanding among participants. This principle is further developed through the formulation of four conversational maxims – the maxim of Quantity (Make your contribution as informative as is required, for the current purpose of the exchange. Do not make your contribution more informative than is required.), Quality (Do not say what you believe to be false. Do not say that for which you lack adequate evidence.), Relation (Be relevant.) and Manner (Avoid obscurity of expression. Avoid ambiguity. Be brief, avoid unnecessary prolixity.

Be orderly.) (Grice, 1967: 45-46). Obviously, the Cooperative Principle is an attempt to analyse utterance meaning from the speaker's perspective and their intention in communication. The speaker produces an utterance with a certain goal in communication and has some expectations from the hearer in that they expect the hearer to receive the message sent and respond accordingly. Thus, in Grice's view, the essential element of communication is the expression and recognition of intentions since the speaker's utterance is understood as evidence of their intention to convey a message that is inferred by the hearer on the basis of the provided evidence (Wilson and Sperber, 2002: 249). If the speaker, for some reason, deliberately or not, breaches these rules of cooperative interaction and does not produce a complete utterance, they create implicatures, or the part of an utterance which is not said but which is communicated by the speaker. The hearer is, thus, expected to recognize that there is a conveyed meaning behind what is being said and infer the missing information. He does so by employing different strategies which rely on contextual information and background knowledge and ensures that the communication still flows smoothly.

Many articles have been written to support Grice's point of view and, consequently, his principle and the theory behind it have been taken for granted repeatedly. However, some authors believe that Grice's approach has serious drawbacks. Their theories start from the Cooperative Principle and they reinterpret it by taking a different perspective in relation to the utterance analysis. Sperber and Wilson are two authors whose work can be regarded as a true milestone in the development of pragmatic theory of conversation. They bring a new perspective into the theory of utterance analysis – the hearer's point of view. The two mentioned authors accept Grice's view that there are expectations in communication that lead the hearer towards understanding of the speaker's meaning or expectations of relevance but they deny that there is a need for the set of rules to explain the essential principle of human communication (Sperber and Wilson, 1995). Namely, their standpoint is that the interpretation of human communicative behaviour does not rely on a set of conventions or rules to be followed, but rather on the innate cognitive capacities of humans, or how human central cognitive systems have evolved. Their aim is "to explain in cognitively realistic terms" these expectations of relevance (Wilson and Sperber, 2002: 250). Therefore, Relevance Theory is said to be a cognitively more realistic, empirically testable and psychologically more plausible approach, and thus more intuitively acceptable than Grice's (Wilson, 2014: 129).

Relevance theorists rejected the fact that cooperation in communication relies solely on the speaker and said that there is no need for rules in communication. Wilson and Sperber claim that expectations of relevance do not arise because speakers adhere to the Cooperative Principle and its maxims but because they are a characteristic of human cognition (Wilson and Sperber, 2002: 251). Actually, they explain the process of utterance understanding with a single principle of relevance.

2.2. Relevance assignment as a function of two factors

According to Sperber and Wilson, an act of communication is based on the presumption of relevance, which means that when producing an utterance, the speaker must intend it to seem relevant to the hearer (Sperber and Wilson, 1995: 156). The speaker's utterance is relevant to the hearer if it, in the given context, produces a positive cognitive effect for the hearer, i.e. if the hearer is able to connect this message to their background knowledge or process it and draw worthwhile conclusions or grasp a contextual implication on the basis of both the context and the speaker's utterance (Wilson and Sperber, 2002: 251). Moreover, there are two factors that determine what relevance is: cognitive or contextual effects and processing effort. The first factor involves the interaction of a new stimulus and assumptions already existing in a cognitive system. The second factor refers to the effort a cognitive system has to make in order to correctly interpret incoming information (Huang, 2012: 27). According to Sperber and Wilson, the presumption of relevance states that the cognitive effect achieved by uttering a message is at the level which ensures that the given stimulus is worth processing by the hearer and that the effort made is never greater than is needed to achieve such a cognitive effect (Sperber and Wilson, 1995: 157). Moreover, relevance is graded depending on the relation between cognitive effects and processing effort in the sense that the greater the positive cognitive effects and the smaller processing effort needed the greater relevance of the input to an individual at the given moment (Huang, 2012: 27). Sperber and Wilson propose that understanding an utterance should require "the greatest possible cognitive effect for the smallest possible processing effort" (Sperber and Wilson, 1995: viii). Processing effort is, thus, said to be a negative factor in determining the relevance of the utterance (Sperber and Wilson, 1995: 124). This means that, other things being equal, the greater the processing effort, the lower the relevance.

Finally, Sperber and Wilson explained the notion of relevance formulating two principles, one cognitive and the other – communicative principle of relevance:

Human cognition tends to be geared to the maximization of relevance.
Every utterance conveys a presumption of its own optimal relevance.
(Sperber and Wilson, 1995, as cited in Huang, 2012: 27)

The cognitive principle is based on the idea that the human cognitive system has evolved in such a way that it automatically focuses upon potentially relevant stimuli and processes them in the most efficient way. The communicative principle refers to the claim that the speaker encourages the hearer to presume that his/her utterance is relevant enough to be worth the hearer's processing effort. In other words, any ostensive stimulus is optimally relevant when it is relevant enough to be worth the hearer's processing effort and when it is the most relevant one compatible with speaker's abilities and preferences. It might happen that a satisfactory level of relevance is not achieved and, as Sperber and Wilson explain,

the reason for this is not that the speaker has not tried to be optimally relevant but simply did not succeed in this (Sperber and Wilson, 1995: 159). Thus, in order to achieve optimal relevance, the hearer needs to follow the path of least effort and complement it until the resulting interpretation meets their expectations of relevance, i.e. until they find an appropriate set of contextual assumptions.

In the process of comprehending the speaker's utterance, according to Relevance Theory, the hearer follows the path of least effort, enriches the linguistically encoded speaker's utterance at the explicit level and complements it at the implicit level stopping this process when the interpretation meets the hearer's expectation of relevance (Wilson and Sperber, 2002: 258). In other words, the first interpretation is always the most literal one, while in order to recover other interpretations, like irony, sarcasm, metaphor, etc., the hearer needs to continue the process until they reach the interpretation that best satisfies their expectations of relevance. In order to do so, the hearer must successfully infer what is implicitly communicated by the speaker as well. An assumption implicitly communicated is an instance of an implicature and it is an assumption constructed exclusively on the basis of the context.

As it has already been pointed out, in the process of achieving the optimal relevance of an utterance, context plays a crucial role. In order to achieve the positive cognitive effect, the hearer needs to maximize the use of contextual information available at a given moment. Therefore, it is important to clearly define what is meant by the term "context" in pragmatics, and explain its importance for Relevance Theory. Cutting defines context in terms of text and differentiates between outside and inside the text context, thus classifying it in three types: 1) situational context, which includes the participants' knowledge about what they can see around them at a particular time in which the conversation takes place, 2) background knowledge context, which includes the participants' knowledge about each other, the world around them and its laws, and finally, 3) co-textual context, which includes the participants' knowledge about what they have been saying, i.e. the linguistic context in which the message has been placed (Cutting, 2007: 5). Similarly, Grundy defines context in terms of Relevance Theory and points out that the participants in conversation start from the assumption that what they receive in the talk exchange is relevant and that their task is to find an appropriate context which would prove the relevance of the message (Grundy, 2000: 107). Thus, "context is not treated as given common ground, but rather as a set of more or less accessible items of information which are stored in short-term and encyclopaedic memories or manifest in the physical environment" (Grundy, 2000: 107). He also makes a distinction between situational context, which he identifies as information stored in the participants' short-term memory and manifested in their physical environment, and background knowledge context, which he identifies as their encyclopaedic knowledge about the world around them or information stored in their long-term memory.

As Grundy points out, „Relevance Theory was able to account for the

understanding of failures which occur when the processing load is too great for relevant assumptions to be recovered or when the addressee lacks sufficient contextual resources to infer the explicatures and implicatures which prove the relevance of the utterance” (Grundy, 2000: 111). For this reason, Relevance Theory is taken to be the appropriate framework in analysing the given corpus consisting of conversations overloaded with contextually either irrelevant or over-explanatory responses to directly posed questions in everyday situations. The failure to process or easily process this type of information overload in inappropriate social circumstances is taken to be a source of verbal humour exploited by scriptwriters, especially scriptwriters of popular humoristic television shows or films, to create humorous situations or turn an everyday conversation into a hilarious one. This account recognizes the fact that not all utterances are successfully understood and that there are utterances that are understood in different ways or to different degrees by different hearers (Grundy, 2000: 111). Reasons for that are numerous: either interlocutors come from different cultural backgrounds, do not share the same contextual or scientific knowledge, or have different cognitive capacities. Moreover, they do not even have to have the same expectations from a conversation or goals/intentions in conversation. If the speaker overestimates the hearer’s abilities and/or resources, there is a possibility that implicit meanings will not be recovered successfully or it might take more time and effort to recover them.

3. CORPUS ANALYSIS

3.1. Corpus description

The television series entitled *The Big Bang Theory* is an American sitcom created by Chuck Lorre and Bill Prady, which started airing on CBS network in 2007 and is broadcast to this day. The series is about “a woman who moves into an apartment across the hall from two brilliant but socially awkward physicists [and] shows them how little they know about life outside of the laboratory” (*The Big Bang Theory*, 2007). This attractive blonde waitress and aspiring actress, named Penny, is contrasted with four Caltech geniuses: her neighbours Sheldon and Leonard, and their friends Howard and Raj, which in turn creates a comic effect. She has remarkable social skills, common sense and a completely different set of priorities, while the boys have, in their own opinion, superior intellect. The lack of common ground between the two sides creates gaps and obvious problems in communication among the characters, which is further emphasized by the nerd-like behaviour of male characters and their use of scientific language in everyday social contexts.

The stress is placed on the oddity and social ineptitude of the male characters, especially Sheldon Cooper, who is usually characterized as extremely intelligent, socially inept and rigidly logical with a superiority complex and obsessive-compulsive disorder (OCD). Sheldon’s “geekiness” is depicted also by the way

he talks. He uses complicated words and structures to describe simple ideas in such a way that, very often, the things he says are not quite understandable to the lay audience, or it is rather difficult or time consuming to process the messages he thus conveys. The nerd-like behaviour of the characters (Sheldon, but also Leonard, Amy, etc.) is reflected in their use of scientific terminology and scientific-like pattern of thinking and speaking in everyday conversations about usual and well-known situations, as can be seen in the following examples:

Example 1.

Leonard: Sheldon, this date is probably my one chance with Penny. What happens if I blow it?

Sheldon: Well, if we accept your premise, and also accept the highly improbable assumption that Penny is the only woman in the world for you, then we can logically conclude that the result of blowing it would be that you end up a lonely, bitter old man with no progeny. The image of any number of evil lighthouse keepers from Scooby Doo cartoons comes to mind.

Leonard: You're not helping.

(Season 1, episode 17 "The Tangerine Factor")

Example 2.

Leonard: That's probably enough about us, tell us about you.

Penny: Um, me? Okay. I'm Sagittarius, which probably tells you way more than you need to know.

Sheldon: Yes, it tells us that you participate in the mass cultural delusion that the Sun's apparent position relative to arbitrarily defined constellations and the time of your birth somehow affect your personality.

Penny: Participate in the what?

Leonard: I think what Sheldon's trying to say is that Sagittarius wouldn't have been our first guess.

Penny: Oh, yeah, a lot of people think I'm a water sign.

(Season 1, episode 1 "Pilot Episode")

Particularly interesting are the examples of dialogues where there is an obvious problem in communication between the participants due to either the lack of common ground and/or contextual knowledge. Moreover, the speaker's intentions are an interesting phenomenon to analyse since this type of verbal behaviour, at times, seems to have a sole purpose of conveying a message in a scientific-like model of thought, which involves the presentation of scientifically proven theories and evidence to support the arguments in conversation. It is based on excessive explanations, academic preciseness, maximal informativeness and science-like arguments, regardless of the situation in which the participants are communicating, the subject matter, or the shared knowledge between the participants.

3.2. Framework of analysis

We will start from the assumption that the general goal in any communication is assigning relevance to the message sent by the speaker. Thus, the result of the cognitive process involved in any talk exchange can be either success in relevance assignment or failure in doing so. Selected examples have been analysed on the basis of contextual effects whose strength determines the amount of processing effort needed to maintain a smooth flow of conversation or contribute to the failure in communication between the participants, depending on whether the processing effort results in finding an appropriate context in which the message sent would be regarded as relevant or not. Therefore, the selected examples have been classified into two major categories: those in which relevance was successfully assigned and those in which participants in communication failed to assign relevance to the message sent by the speaker.

As it has already been pointed out, relevance is assigned as a result of a co-dependant relationship between two factors: contextual effects and processing effort. The shortest way in relevance assigning is a path of maximizing contextual effects and minimizing processing effort. The two factors are in an inversely proportional cause-effect relationship, which means that the weaker the contextual effects, the greater the processing effort. Since the processing effort needed is a matter of degree, the first group of examples in which there is success in relevance assignment has been further subdivided into two subgroups on the basis of the amount of processing effort needed to successfully find the appropriate set of contextual assumptions which would assign relevance to the message sent by the speaker. Likewise, the second category in which there is failure in relevance assignment is analysed in terms of these two factors and their relationship, but despite the effort put in finding an appropriate set of contextual information, the search for relevance is unsuccessful which results in communication failing and participants resorting to different strategies in maintaining it.

On the basis of what has already been defined as context in the theoretical framework of the paper but also taking into account the specificity of the discourse in this particular television series, several factors that influence the contextual effects which assign or try to assign relevance to the utterance are considered. These factors are: 1) the amount of information provided in a talk exchange and whether or not there is a necessity for presenting that amount of information in the particular communicative situation and how that knowledge contributes to decreasing or increasing the processing effort, 2) participants' background knowledge and whether it is shared or not and 3) their intentions in communication and whether they are shared or not. The described theoretical framework of the analysis is presented by the following diagram created by the authors of the paper, which illustrates the functioning of the relevance assignment mechanism:

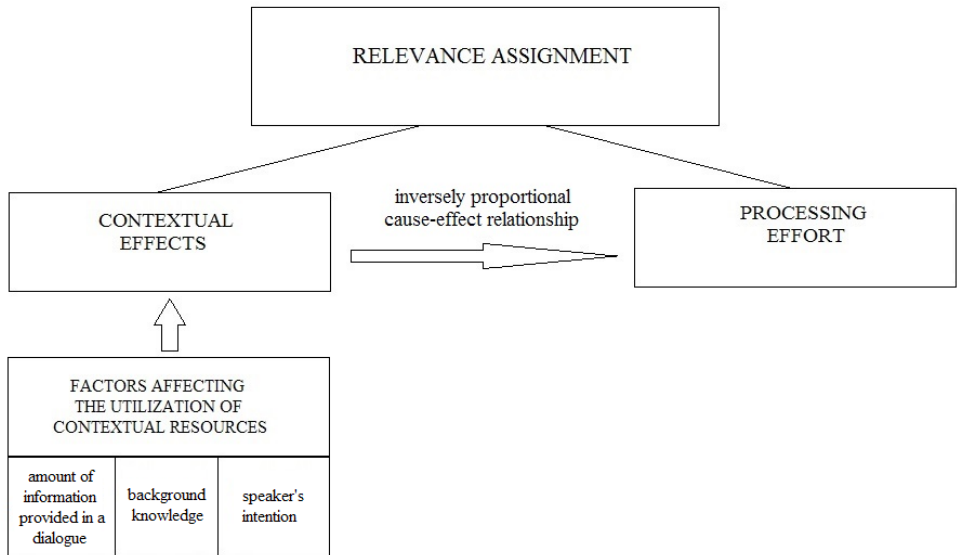


Diagram 1: Relevance assignment mechanism

3.2.1. Successful relevance assignment

Within this first large group, selected examples from the corpus will be analysed within two subgroups reflecting different amounts of processing effort made in the process of assigning relevance to the speaker's utterance, which depends on the strength of contextual effects.

3.2.1.1. Successful relevance assignment using a small amount of processing effort

The first subgroup includes examples in which relevance assignment required a relatively small amount of processing effort on the part of the hearer since contextual effects are strong due to the beneficial influence of two factors – shared communicative intentions and shared background knowledge. In this group of examples, the only factor contributing to the increase in the amount of processing effort is the amount of information provided by the speaker which is larger than expected. Moreover, due to the specific nature of the characters in the given sitcom and communicative situations they find themselves in, the information provided in a larger amount is often presented in a scientific-like manner, which is an additional unfavourable circumstance for the hearer in their endeavour to reach the relevance of the speaker's utterance.

A dialogue illustrating the influence of the mentioned factors upon the strength of contextual effects is the following one:

Example 3.

Penny: Mmm, what smells so good?

Sheldon: That is the intoxicating aroma of Kadai Paneer. A perfect culinary representation of the freedom this evening holds. Not only is it Indian cuisine, which Koothrappali loathes, it contains a generous helping of peanuts, which would reduce Wolowitz to a wheezing 97-pound blister. And finally, its main ingredient is paneer, a farmer's cheese that causes Leonard to render any room uninhabitable within minutes.

Penny: Yum. Well, enjoy your big evening.

(Season 2, episode 21 "The Vegas Renormalization")

In this dialogue, Penny asks Sheldon a simple question to clarify the nice, inviting smell of food that is coming from his bag, since, obviously, he is coming from a take-away restaurant. His response contains not only the explicit answer to the posed question, but also an explanation why this particular dish is a perfect choice if he plans to spend an evening alone, since due to bad reactions to it, none of his friends would come near him or the food while he is eating it. This explanation is an example of unnecessary and unexpected additional information provided in an everyday conversation. In this particular case, it requires from the hearer to put in more effort to process the speaker's message. However, Penny manages to infer Sheldon's intended meaning, which, besides the explanation why none of his friends would join him, also contains an implied message that Penny is not invited either, and she wishes him an enjoyable lonesome evening, or, as she calls it, his "big evening". Despite the abundance of information presented by Sheldon in order to explain his choice, although not asked to do so, Penny is able to assign relevance to his utterance and the understanding between the participants goes without any interruptions due to the beneficial influence of the two significant factors on the strength of contextual effects. Firstly, the participants in this conversation share background knowledge related to what Sheldon is talking about, i.e. the people he mentions are friends of theirs and they are both familiar with their characters, way of life, habits, preferences etc., which is relevant for the understanding of Sheldon's message. Actually, shared background knowledge can be regarded as the key factor in successful relevance assignment in this case. Secondly, it can be claimed that the participants share the same communicative intentions, or they recognize each other's intentions in communication and answer to them accordingly. Penny asks a simple question and Sheldon intends to answer it but he also gives such a long explanation with an additional intention – to send her the message that he wants to spend the evening all alone. This is a consequence of a recognized intention sent by Penny by uttering "mmm", which can be regarded as a desire to try the nice smelling dish Sheldon brought. Also, she successfully recognizes his desire to not invite her to do so, uttering an obviously ironic comment "yum" while having a squeamish expression on her face, as a result of Sheldon's unappetizing story about the dish he brought. The fact that their intentions in communication are at least partially identical and

successfully recognized contributes to the strengthening of contextual effects and the decrease of the required processing effort.

Another example of such a relation between contextual effects and processing effort is the following one:

Example 4.

Leonard: Lesley, I would like to propose an experiment.

Lesley: Hang on. I'm trying to see how long it takes a five hundred kilowatt oxygen iodine laser to heat up my cup of noodles.

Leonard: Pfff, I've done it, about two seconds, 2.6 for minestrone. Anyway, I was thinking more of a bio-social exploration with a neuro-chemical overlay.

Lesley: Wait, are you asking me out?

Leonard: I was going to characterise it as the modification of our colleague/friendship paradigm, with the addition of a date-like component. But we don't need to quibble over terminology.

Lesley: What sort of experiment would you propose?

Leonard: There is a generally accepted pattern in this area: I would pick you up, take you to a restaurant, then we would see a movie, probably a romantic comedy featuring the talents of Hugh Grant or Sandra Bullock.

Lesley: Interesting. And would you agree that the primary way we would evaluate either the success or failure of the date would be based on the bio-chemical reaction during the goodnight kiss?

(Season 1, episode 3 "The Fuzzy Boots Corollary")

In this particular example, Leonard's obvious intention in communicating the message is to ask Lesley out on a date. Not only does she infer the implied meaning and his communicative intention, despite the indirectness of the proposition, but she also continues using the proposed strategy in communication, thus referring to the date as an experiment. In addition to that, they share background knowledge about each other and the way they think and communicate, which is in a scientific-like manner, regarding everything in terms of science and experiments and using appropriate terminology in doing so. Thus, due to such an influence of these two factors, it can be claimed that, in this situation, the processing effort in inferring the intended meaning in their conversation and assigning relevance to it is relatively small. The only thing that puts more pressure on processing the message is this particular scientific-like way of communication and the amount of words spent in getting the message across. The sole purpose of this communication strategy is the achievement of indirectness in an awkward communicative context.

It can be concluded that the amount of processing effort made during assigning relevance to the speaker's utterance is relatively small due to the beneficial influence of two out of three factors determining the strength of contextual effects in this specific humorous type of discourse.

3.2.1.2. Successful relevance assignment using a large amount of processing effort

The degree of processing effort in relevance assignment in the following examples is raised due to a different influence of the observed factors on contextual effects. We will consider the following example, which is a conversation between Penny and Sheldon about the particular spot in the boys' apartment where Sheldon likes to sit:

Example 5.

Penny: So, sit next to me.

Sheldon: No, I sit there.

Penny: What's the difference?

Sheldon: What's the difference?!

Leonard: Here we go.

Sheldon: In the winter that seat is close enough to the radiator to remain warm, and yet not so close as to cause perspiration. In the summer it's directly in the path of a cross breeze created by open windows there and there. It faces the television at an angle that is neither direct, thus discouraging conversation, nor so far wide to create a parallax distortion. I could go on, but I think I've made my point.

Penny: Do you want me to move?

Sheldon: Well.

(Season 1, episode 1 "Pilot Episode")

Penny is obviously puzzled by Sheldon's need to sit in a particular spot in the room, refusing to sit anywhere else, so she asks for clarification why that particular spot is so important for Sheldon to sit in. Sheldon uses vivid explanations to make his point, which is not only to say why the particular spot is the most comfortable for him, but it is also an indirect way to ask her to move from it. Obviously, by asking if she needed to move, Penny shows that she successfully inferred the message conveyed. What influences the raise of the processing effort is the lack of background knowledge Penny has about Sheldon, his quirkiness and OCD-like behaviour (since this is one of their first encounters at the beginning of the series), as well as the amount of information Sheldon provides in his answer to Penny's direct question about the peculiarity of that particular spot he wants to sit in. However, despite the unbeneficial influence of these factors, this talk exchange results in successful relevance assignment due to the hearer's recognition of the speaker's communicative intentions, although more processing effort was required.

In the following example, Penny is furious because Leonard and Sheldon used a spare key to her apartment and went in to clean it while she was sleeping (since Sheldon suffers from OCD):

Example 6.

Penny: Do you understand how creepy this is?

Leonard: Oh, yes, we discussed it at length last night.

Penny: In my apartment, while I was sleeping?!

Sheldon: And snoring. And that's probably just a sinus infection, but it could be sleep apnoea, you might want to see an otolaryngologist. It's a throat doctor.

Penny: And what kind of doctor removes shoes from asses?

Sheldon: Depending on the depth, that's either a proctologist or a general surgeon. (*Leonard holds up a sign reading "Sarcasm"*) Oh!
(Season 1, episode 2 "The Big Bran Hypothesis")

Sheldon is very often unable to infer implied sarcasm and needs more time to successfully assign relevance to the message sent. He adheres to the path of least effort and manages to assign relevance to the literal meaning of Penny's words. In order to assign the true relevance to her question "And what kind of doctor removes shoes from asses?", Sheldon needed to recognize Penny's intention to place a sarcastic comment and thus show how frustrated she is with what they have done. He only does so after Leonard puts up a sign on which the word "Sarcasm" was written in order to explain the true purpose of her message. Therefore, Sheldon's inability to recognise Penny's intention but also his lack of required background knowledge, which is, in this particular case, related to social and cultural norms and adequate, appropriate and expected social behaviour, significantly increase the amount of effort Sheldon needs to put in in order to correctly assign relevance to Penny's message. What is even more, his disregard of her feelings, i.e. the situational context, puts additional pressure on assigning the relevance to Penny's words in the given situation and thus Sheldon needs even more processing in order to do so. However, the amount of information presented is not excessive in this context, thus being the only factor that does not have a negative influence on the processing effort.

The second subgroup of examples illustrates the positive influence of only one out of three relevant factors determining the strength of contextual effects. Due to such influence of the mentioned factors, the strength of contextual effects is decreased to a further extent in comparison to the examples from the first subgroup, while the processing effort is proportionally increased.

3.2.2. Unsuccessful relevance assignment

The analysed corpus also contains examples of unsuccessful relevance assignment, which is a frequent source of humour in the given sitcom. In such communicative situations, the smooth conversation flow is interrupted due to the inability of interlocutors to reach the relevance of a given response. The second main group contains examples illustrating communicative situations in which relevance is not assigned at all to the speaker's utterance or it is incorrectly assigned

since all the three observed factors have a negative influence on contextual effects, thus nullifying them and, consequently, maximizing the processing effort. This means that there is an abundance of information provided in a conversation while the participants do not recognize each other's communicative intentions and they do not share relevant background knowledge or even cognitive abilities necessary for assigning relevance to the given message, as it can be seen in the following dialogue between Penny and Sheldon about whether it is a good idea for Penny to take Leonard's offer and go out with him on a date:

Example 7.

Penny: Sheldon, do you have anything to say that has anything to do with, you know, what I'm talking about?

Sheldon: Well, let's see. We might consider Schrodinger's Cat.

Penny: Schrodinger? Is that the woman in 2A?

Sheldon: No. That's Mrs Grossinger. And she doesn't have a cat, she has a Mexican hairless, annoying little animal, yip, yip, yip, yip...

Penny: Sheldon!

Sheldon: Sorry, you diverted me. Anyway, in 1935, Erwin Schrodinger, in an attempt to explain the Copenhagen interpretation of quantum physics, proposed an experiment where a cat is placed in a box with a sealed vial of poison that will break open at a random time. Now, since no one knows when or if the poison has been released, until the box is opened, the cat can be thought of as both alive and dead.

Penny: I'm sorry, I don't get the point.

Sheldon: Well, of course you don't get it, I haven't made it yet. You'd have to be psychic to get it, and there's no such thing as psychic.

Penny: Sheldon, what's the point?

Sheldon: Just like Schrodinger's Cat, your potential relationship with Leonard right now can be thought of as both good and bad. It is only by opening the box that you'll find out which it is.

Penny: Okay, so you're saying I should go out with Leonard?

Sheldon: No, no, no, no, no, no. Let me start again. In 1935, Erwin Schrodinger...

(Season 1, episode 17 "The Tangerine Factor")

In order for Penny to effortlessly assign relevance to the message sent by Sheldon's response which includes an association to an experiment involving Schrodinger's cat, she would need to have a great deal of knowledge on the subject matter and how that particular knowledge can be applied in understanding the situation they are talking about. Obviously, Sheldon's explanation provides an abundance of information belonging to the field she does not know much about, and she does not understand and recognize the speaker's intention in mentioning it in the given context. In her attempt to assign relevance to Sheldon's message,

Penny employs various communication strategies, which is the main indicator of the processing effort she puts in during the conversation. Firstly, she asks for an additional explanation from the speaker (“Is that the woman in 2A?”). Secondly, she explicitly states that her attempt in assigning relevance to Sheldon’s message failed (“I’m sorry, I don’t get the point.”), after which she directly asks for clarification (“Sheldon, what’s the point?”). Only then does she manage to at least assume the potential relevance of Sheldon’s explanation. However, her attempt of relevance assignment is not successful since her assumption turns out to be incorrect as Sheldon’s reply confirms. The steps taken before arriving at the first assumption of relevance reflect the amount of processing effort made by the hearer in this situation, which was obviously too great for the hearer for relevance assignment to be successful.

Another example illustrating a communicative situation in which too large an amount of processing effort was required from the hearer is the following one in which Penny asks Sheldon not to tell Leonard that she lied to him about finishing a community college:

Example 8.

Sheldon: You’re asking me to keep a secret?

Penny: Yeah.

Sheldon: Well, I’m sorry, but you would have had to express that desire before revealing the secret, so that I could choose whether or not I wanted to accept the covenant of secret keeping. You can’t impose a secret on an ex post facto basis.

Penny: What?

Sheldon: Secret keeping is a complicated endeavour. One has to be concerned not only about what one says, but about facial expression, autonomic reflexes, when I try to deceive, I myself have more nervous tics than a Lyme disease research facility. (*Long pause.*) It’s a joke. It relies on the homonymic relationship between *tick*, the blood-sucking arachnid, and *tic*, the involuntary muscular contraction. I made it up myself.

Penny: Okay, look, if Leonard finds out that I lied, I will absolutely die of embarrassment.

(Season 2, episode 1 “The Bad Fish Paradigm”)

The analysis of Sheldon’s response in which he explains the reason why Penny cannot ask him to keep a secret reveals the complete reduction of contextual effects due to the same kind of negative influence of all the three observed factors as in the previous example. Since the processing effort imposed on the hearer is too large for them to assign relevance to the utterance, Penny employs the strategy of asking for clarification (“What?”). Sheldon provides a more detailed and more extensive explanation. However, even after such an explanation Penny does not manage to assign relevance to his message. This time, she employs a

different strategy to maintain the communication flow. Namely, she simply disregards Sheldon's utterance to which she could not assign any kind of relevance ("Okay, look...") and continues the conversation from her initial question related to Sheldon's willingness to keep a secret, this time emphasizing the importance of the secret for her, indirectly asking him once again to keep it. It is important to notice that this example illustrates a different kind of unsuccessful relevance assignment since it is not that relevance was incorrectly assigned but it was not assigned at all.

In conclusion, the negative influence of all the three observed factors leads to the maximization of processing effort, which causes false relevance assignment or null relevance assignment.

However, in such cases of unsuccessful relevance assignment, it is noticeable that the hearer employs certain strategies in their endeavour to maintain the given communication or compensate for unassigned or falsely assigned relevance. In the previously analysed examples, after the failure of relevance assignment, the hearer employs the following strategies:

- asking for an additional explanation related to a certain part of the speaker's utterance,
- directly asking for an explicit expression of the main idea of the speaker's entire message,
- directly expressing the inability to assign relevance to the speaker's message,
- completely disregarding the speaker's utterance, returning the conversation to its beginning and restarting it.

It can be assumed that the range of these strategies is wider and that the given list is not complete, but it provides, at least, a brief insight into the possible ways of communication maintenance in cases of unsuccessful relevance assignment.

4. CONCLUDING REMARKS

The analysis in the focus of the paper has clearly shown that Relevance Theory provides a cognitively realistic account of the process of communication and, especially, the process of interpreting the speaker's message even in the case of quite specific, humorous type of discourse such as the one comprised of dialogues from the popular sitcom *The Big Bang Theory* characterized by the "geek-like" conversational behaviour, the scientific-like and over-explanatory way of communicating messages in everyday situations. As such, this corpus abounds in examples illustrating the complexity of the cognitive process of relevance assignment so that it has been adequate and challenging for the given analysis.

One of the main postulates of Relevance Theory referring to the understanding of relevance assignment as a function of two main factors, contextual effects and processing effort, has underpinned the theoretical framework of the analysis. The results of the analysis have confirmed the scalar nature of processing effort that depends on the strength of contextual effects. Even in a specific discourse like

this, the mechanism employed in relevance assignment proves the co-dependant relationship between the strength of contextual effects and the increase or decrease in the processing effort. Successfulness of relevance assignment directly depends on this relationship since the increase in the strength of contextual effects leads to the reduction of the required processing effort due to which relevance is easily and correctly assigned. However, the decrease in the strength of contextual effects increases the amount of the required processing effort due to which correct relevance assignment becomes more difficult for the hearer who, if the amount of processing effort is too large, might fail to reach the relevance of the speaker's message. The described process of relevance assignment, when used as a mechanism for the creation of a humorous effect in the given corpus, involves the operation of three factors that determine the utilization of contextual information and resources available to the hearer which directly influences the strength of contextual effects. These three factors in the corpus of the given type and nature are: 1) the amount of information provided to the hearer, 2) their ability to recognize the speaker's communicative intention and 3) shared background knowledge. Actually, according to Grundy's categorization, the first two factors belong to the situational context, while the third one is the background knowledge context representing the participants' encyclopaedic knowledge about the world around them (Grundy, 2000). Depending on a particular communicative situation, each of these factors can positively or negatively influence the utilization of contextual information, thus increasing or decreasing the strength of contextual effects and, consequently, indirectly determining the amount of the required processing effort. Namely, as the analysis of the examples has shown, the amount of processing effort made during assigning relevance to the speaker's utterance can be relatively small due to the beneficial influence of two out of three factors which determine the strength of contextual effects. On the other hand, the amount of processing effort can be significantly larger as the result of the positive influence of only one out of three relevant factors determining the strength of contextual effects. Finally, the amount of processing effort can be so great that the outcome of the relevance assignment process is questionable. The negative influence of all the three observed factors leads to the maximization of the processing effort which results in false or null relevance assignment. The influence of each of the mentioned factors on the processing effort and the overall successfulness of relevance assignment in the analysed corpus are summarized in the table below:

RELEVANCE ASSIGNMENT		amount of information	speaker's intention	background knowledge
FACTORS				
SUCCESSFUL RELEVANCE ASSIGNMENT	small amount of processing effort	-	+	+
	large amount of processing effort	-	+	-
		+	-	-
UNSUCCESSFUL RELEVANCE ASSIGNMENT	too large an amount of processing effort	-	-	-

Table 1: Observed influence of the three factors in the analysed corpus

The sign „+” in the table denotes the positive influence of a particular factor on contextual effects, while “-” represents the negative influence. The influence of the factor labelled as the amount of information provided can be regarded as positive or beneficial when it is not excessive so that it does not burden the hearer's processing. The opposite case causes the negative influence of this factor. As for the second factor, “+” stands for the situation in which the participants share their intentions, i.e. the hearer is able to recognize the speaker's communicative intention. The hearer's inability to do so is marked by “-”. Finally, the third factor can have a positive influence only if the participants share background knowledge required in the given communicative situation.

The examples illustrating the cases of the negative influence of all the three factors are the most interesting ones to analyse since they are the core of verbal humour in this type of specific discourse and should be paid special attention to. As the analysis of these examples has shown, communicators use different strategies in maintaining the smooth flow of conversation if the processing effort is so great that it threatens to disrupt communication.

Overall, the analysis has shown that the relevance assignment process is a complex endeavour with the underlying mechanism including several components and factors which are in a co-dependent relationship. The key factors influencing the strength of contextual effects depend on the type of discourse. As it has been underlined, the given process can be used as a mechanism for humour creation. Still, even in this type of specific discourse, certain patterns of communicative behaviour can be established.

Ana Halas, Maja Bjelica Andonov

PRIPISIVANJE ZNAČAJA ISKAZU U KOMUNIKATIVNOJ SITUACIJI KAO
SLOŽEN PODUHVAAT: SLUČAJ TELEVIZIJSKE SERIJE *ŠTREBERI*

Posljednjih godina, veoma su popularne televizijske serije u kojima je akcenat na postizanju humora kroz upotrebu „štreberskog“ načina govora i razmišljanja likova u seriji i njihovog neprikladnog ponašanja u svakodnevnim društvenim kontekstima. Način na koji komuniciraju ovakvi likovi, koji se može okarakterisati kao neobičan, uz preterano objašnjavanje, vrlo često nepotrebno, obiluje naučnom terminologijom i upućivanjem na određene naučne eksperimente i teorije. Stoga, vrlo neinteresantan, naučni žargon postaje izvor humora tako što pokazuje neprilagođenost pomenutih likova u svetu koji ih okružuje. Takav diskurs nalazimo u popularnoj američkoj seriji *Štreberi (The Big Bang Theory)* čiji dijalozi obiluju nepotrebним, nerelevantnim i neočekivanim opširnim objašnjenjima u, za to, neprikladnim društvenim kontekstima, što čini obrađivanje poruka poslatih na takav način dosta komplikovanim i zahteva više mentalnog napora nego što je to očekivano u datom kontekstu. Ovaj prevelik mentalni napor uložen u tumačenje poslate poruke često dovodi do nerazumevanja između sagovornika, naročito ako sagovornici nemaju iste mentalne sposobnosti ili ne raspolažu istim znanjem o svetu koji ih okružuje. Zapravo, nerazumevanje između sagovornika rezultat je nemogućnosti da se pronađe odgovarajući kontekst u kome bi poslata poruka bila vredna naše pažnje, tj. relevantna za datu komunikativnu situaciju. Ovakvi dijalozi predstavljaju interesantan korpus za analizu mentalnog procesa pripisivanja značaja govornikovom iskazu. U centru pažnje je količina mentalnog napora koju je potrebno uložiti da bi se poslata poruka protumačila kao relevantna i na nju odgovorilo adekvatno u datom kontekstu. Preciznije rečeno, rad analizira međusobni uticaj dva faktora koji doprinose pripisivanju značaja iskazu u određenoj komunikativnoj situaciji, kontekstualnih efekata čije izvođenje proizvodi pozitivne kognitivne efekte, s jedne strane i mentalnog napora koji je potrebno uložiti za izvođenje tih pozitivnih efekata, s druge. Ova dva faktora su u odnosu obrnute proporcionalnosti, što znači da što su kontekstualni efekti jači, to je potrebno uložiti manje mentalnog napora da bi se poruka tumačila kao relevantna, i obrnuto, što su ti efekti slabiji, potrebno je uložiti više mentalnog napora, što ne mora uvek da rezultira tumačenjem poruke kao relevantne u datom kontekstu. Analiziran je odnos između ova dva faktora u dijalogima preuzetim iz ovog specifičnog korpusa, kao i faktori koji utiču na iskoristljivost konteksta i informacija koje pruža, a što direktno utiče na opštu snagu kontekstualnih efekata. U ovom radu, razmatrana su tri ovakva faktora: komunikativne namere govornika, tj. da li učesnici u komunikaciji prepoznaju međusobne namere i shodno njima odgovaraju na poslata stimulus, da li učesnici u komunikaciji poseduju ista znanja o svetu koji ih okružuje ili ne, tj. da li je skup činjenica o svetu koji ih okružuje dostupan svim učesnicima u komunikaciji, i količina informacija i znanja prezentovanih u datoj diskusiji. Sprovedena analiza pokazuje kompleksnost potrage za odgovarajućim kontekstualnim efektima pomoću kojih se poruka tumači kao relevantna u datom kontekstu, kao i njihov uticaj na mentalni napor koji je potrebno uložiti da bi ova potraga imala pozitivan ishod. Takođe, posebno su interesantni upravo primeri u kojima potraga ima negativan ishod jer takva komunikacija je prekinuta, narušena, ne može da se nastavi i skreće u nekom drugom pravcu, što proizvodi humorističnu situaciju u seriji.

Ključne reči: teorija relevantnosti, pripisivanje značaja, kontekstualni efekti, mentalni napor, humor.

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