Expression of cause, evidence, justify and motivation rhetorical relations by causal hypotactic clauses in Brazilian Portuguese

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ABSTRACT. This paper aims at investigating the expression of cause, evidence, justify and motivation rhetorical relations by means of causal hypotactic clauses in formal oral discourse (university lectures and interviews with academic researchers) in Brazilian Portuguese. The investigation is based on Rhetorical Structure Theory (RST), a theory of text organization which describes the implicit relations that arise from the combination of parts of texts. The identification of these relations was based on a parameter from Functional Discourse Grammar (FDG): layers of representational and interpersonal levels. From interpersonal level, layers move and discourse act were used. From representational level, layers propositional content and states of affairs were employed. Non-volitional cause relations are established by clauses conveying states of affairs, volitional cause relation is established by clauses conveying propositional contents. Justify relation and evidence relation are established by clauses conveying discourse acts (in evidence relation an instance of what was stated in the nucleus portion is provided in the satellite portion). Finally, motivation relation is established by clauses conveying a motivation subsidiary discourse act.

Keywords: cause adverbial clauses, rhetorical relations, rhetorical structure theory, functional discourse grammar.

Expressão das relações retóricas de causa, evidência, justificativa e motivação por meio de orações hipotáticas adverbiais causais no português brasileiro

RESUMO. O objetivo deste trabalho é investigar a expressão das relações retóricas de causa, evidência, justificativa e motivação por meio de orações hipotáticas adverbiais causais em elocuções formais (aulas) e entrevistas no português brasileiro. A investigação se baseia na Teoria da Estrutura Retórica do Texto (RST), uma teoria da organização textual que descreve as relações implícitas que surgem da combinação de partes do texto. A identificação dessas relações se baseou em parâmetros da Gramática Discursivo-Funcional (GDF): camadas dos níveis representacional e interpessoal. Do nível interpessoal, utilizaram-se as camadas movimento e ato discursivo. Do nível representacional utilizaram-se as camadas estados-de-coisas e conteúdo proposicional. A relação de causa não-volitiva é estabelecida por orações contendo estados-de-coisas, a relação de causa volitiva é estabelecida por orações contendo conteúdos proposicionais, as relações de evidência e de justificativa são estabelecias por orações contendo atos discursivos (na relação de evidência, um exemplo do que foi dito na porção nuclear é apresentado na porção satélite). Finalmente, a relação de motivação é estabelecida por orações contendo um ato discursivo subsidiário.

Palavras-chave: orações adverbiais causais, relações retóricas, teoria da estrutura retórica do texto, gramática discursivo-funcional.

Introduction

Naming or classifying semantic relations pertaining to cause domain has always been a thriving issue in language studies. Different theories have proposed diverse approaches to the matter. Some of these approaches take into account pragmatic aspects besides the formal dimension only and offer reasonable descriptions of the relations. On the other hand, some approaches have problems which arise from the use of purely formal criteria for a semantic matter or from the use of criteria which are not clear at all.

This paper aims at investigating the expression of cause, evidence, justify and motivation rhetorical relations by means of causal hypotactic clauses in formal oral discourse in Brazilian Portuguese. The investigation is based on Rhetorical Structure Theory (henceforth RST), a theory of text organization which describes the implicit relations that arise from the combination of parts of texts (MANN; THOMPSON, 1988). The following examples[1]

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[1]Phonetic details of the transcriptions like hesitations, false starts, prolongation of vowels, pauses, have been omitted to make reading clearer. Examples from (1)

provide instances of use of cause, evidence, justify and motivation relations.

(1) Até muitos deles mandaram e-mail querendo saber se a gente tinha mais dados a respeito da carne, 'porque até então eles não tinham nada, não tinha sido feito nenhuma pesquisa'.
Some of them even sent e-mails willing to know if we had more data about the meat, 'because till then they didn't have anything, no research had been done yet'.

(2) Frangos sendo abatidos muito cedo, 'porque o negócio é exportar'.
Chicken being slaughtered too early, 'because exporting is what matters'.

(3) Eu acho que é por isso que a revista acadêmica em geral ela acaba ficando nas gavetas e-e-e nas prateleiras das bibliotecas né, 'porque ela não consegue atingir um grande público'.
I think this is why academic journals in general they end up in drawers and shelves of libraries right? 'because they are not able to reach a great amount of people'.

(4) Tudo chega no meio científico, e o resultado ainda não chegou na população né, mas que a população tem acesso há pouquíssimo tempo, isso tem, e desconhece até hoje.
'Porque esses dias eu estava em um congresso, na amostra tecnológica que teve aqui na universidade, e uma senhora chegou para mim e falou assim 'a gordura trans é uma gordura TRANSFORMADA não é?"
Everything reaches the scientific field, and the result has not reached ordinary people yet right? But that the population has had access too recently that is for sure, and population doesn't know these results till now.
'Because these days I was at a conference, the Technology Exhibition we held here at the university, and a lady came to me and said 'trans fat is TRANSFORMED fat, isn't it?"

(5) Façam uma conferência, né, pra não colocar o cálculo de forma errada, tá?
'Porque eu só vou fazer alguma correção se me chamar a atenção',
Assim, se tiver muito fora do-do-do que deveria estar.
Check out, right, in order not to display the calculation in a wrong way, ok?
'Because I will do some correction only in case something calls my attention',
Like if it's much out of what it should be.

According to Maat and Sanders (2000, p. 57), "[…] every language has specific linguistic means to express causal relations". In the five examples provided, some kind of causal relation is introduced by 'porque' (because), probably the most common causal connective in Brazilian Portuguese. In (1) the volitional action in the main clause is motivated by the content of the causal clause started by 'porque'. In (2) the causal relation is held between two events in the world, i.e., the early slaughtering of chicken is caused by growth in exportation, but the subject of the main clause does not act voluntarily. In (3) the clause started by 'porque' conveys an explanation to the previous discourse act. The speaker states that he thinks he knows the reason why academic journals end up in drawers and shelves and in the sequence he explains why he thinks like that. In (4) the relation is established between text spans. In the first span the speaker states that results of scientific research reach academic field before ordinary people and that ordinary people have only little access to these results. The second span is introduced by 'porque' and provides an instance of what was said by the speaker. In (5) the clause introduced by 'porque' conveys a motivation for the addressee to perform the action conveyed in the main clause, i.e., the action the professor wants the students to perform is a checking of their calculations. The reason he uses to motivate them to do that is the fact that he will only correct the calculations if there is a really noticeable mistake. Otherwise, the calculations will remain wrong.

According to RST, a volitional cause relation is established in (1), a non-volitional cause relation is established in (2), a justify relation is established in (3), an evidence relation is established in (4) and a motivation relation is established in (5). Looking at these examples makes it clear that relying only on the connective or discourse marker[2] is not a helpful parameter in distinguishing the relations. According to Taboada (2009), there are other mechanisms to identify rhetorical relations rather than discourse markers only, like verb tense, sentence mood, embedding, implicature. So this paper also aims at investigating parameters which can be helpful in identifying cause, justify, evidence and motivation relations. These parameters will be taken mainly from Hengeveld and Mackenzie's (2008) Functional Discourse Grammar (henceforth FDG).

The paper is divided into four further sections: a theoretical background section which presents the main assumptions of RST and of FDG and also presents how causal relations are studied within the scope of Traditional Grammar and of some

[2]The term 'discourse marker' is used here as in Taboada (2009, p. 129): "[…] in a loose sense, to refer to any conjunction, adverb, adverbial phrase or other type of phrase that frequently links two or more units of discourse".

functional linguistic theories; a methodological section in which the *corpus* of analysis is described and the parameters of the investigation are presented; an analysis section with the discussion of the results found; a final section with the conclusions learnt from the research.

Theoretical background

Causal clauses in Traditional Grammar

Traditional Grammar makes a difference between two kinds of causal clauses: subordinate adverbial causal clauses and coordinate explanation clauses. According to Said Ali (1965)[3], one of the most renowned grammarians in Brazil, a coordinate explanation is an independent thought conveyed by a causal proposition. In this case, there must be a strong pause between the causal clause and the initial proposition. On the other hand, a more strict linkage between the two propositions is considered by Said Ali a case of subordination.

Cunha and Cintra (1985), as many other grammarians, classify clauses in a circular way by the conjunction that introduces the clause. So, a coordinate explanation clause is the one introduced by an explanation conjunction, like 'que', 'porque' and 'pois', and a subordinate adverbial causal clause is the one introduced by a subordinate causal conjunction, like 'que', 'porque' and 'como'. Examples (6) to (10) are provided by the authors (CUNHA; CINTRA 1985, p. 582, 589).

> (6) - Eh, camarada, espere um pouco, 'que isto acaba-se já'.
> - Hey, pal, wait a moment 'that this will end up now'.
> (7) Um pouquinho só lhe bastava no momento, 'pois estava com fome'.
> Just a little bit was enough for him at that moment, 'cause he was hungry'.
> (8) Não veste com luxo 'porque o tio não é rico'.
> He/she doesn't dress with luxury 'because the uncle is not rich'.
> (9) 'Como anoitecesse', recolhi-me pouco depois e deitei-me.
> 'As the night was falling', I went to my room and then went to bed.
> (10) Ceamos à lareira, 'que a noite estava fria'.
> We had supper by the fireplace, 'cause the night was cold'.

Highlighted clauses in examples (6) and (7) are considered coordinate explanation clauses by the authors, while highlighted clauses in examples (8), (9) and (10) are classified as subordinate adverbial clauses. As the same conjunctions suite both explanation and causal clauses, it becomes very

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[3]The first edition is from 1921.

difficult to distinguish between the two of them relying only on the conjunction. This 'conjunction criterion' is very popular in school grammars and text books in Brazil, and has created many problems for students and even for teachers who are not able to tell the difference between the two types of constructions.

Kury, another brazilian grammarian, recognizing the difficulties that even teachers have when it comes to coordinate explanation clauses and subordinate adverbial causal clauses, comes up with some 'practical means' for the distinction of these two types of clauses.

The most effective test, acoording to Kury (1997), consists in trying to replace the clause introduced by 'que', 'pois' or 'porque' by an equivalent clause with an infinitive verb form and introduced by preposition 'por' (for). If the replacement is possible, the tested clause is a subordinate adverbial causal. The author states that the possibility of the replacement is ensured by the fact that adverbial clauses function as adverbial phrases. Example (11) is provided by Kury (1997, p. 91) in order to give an instance of this test. The clause introduced by 'que' can be replaced by a clause introduced by *por* with infinitive verb form: 'por não se atrever ninguém ao filho do corregedor'. The tested clause is, then, a subordinate adverbial clause.

> (11) O povoléu intacto fugia espavorido, 'que ninguém se atrevia ao filho do corregedor'.
> The intact low class people ran away terrified, 'cause nobody would dare to face the son of the inspector'.

The second test provided by Kury (1997) consists in eliminating the connective and placing a colon or semi-colon between the clauses. If this is possible, the tested clause is a coordinate explanation one because it is independent and, thus, admits a strong pause. Example (12) is provided by Kury (1997, p. 90-91) in order to give an instance of this test. It is possible to omit the conective and replace it with a colon. The imperative form of the verb of the other clause also helps to identify the tested clause as a coordinate explanation one. According to Kury (1997), coordinate explanation clauses are usually in future tense and the clause related to it in imperative form.

> (12) Fala-lhe tu, 'que eu não quero que ele me conheça'.
> Talk to him, 'cause I don't want him to know me'.

The approach of Traditional Grammar is, thus, mainly a morphosyntactic one. No explicit semantic or pragmatic parameters are used to distinguish between coordinate explanation clauses and subordinate

adverbial causal clauses, but only syntactic tests which also take into account if the meaning of alternative structures in the tests is equivalent. Thus, it can be said that a semantic criterion is implicitly used. The 'conjunction criterion', although being popular in school grammars and textbooks, is circular and does not help at all with the distinction of these two types of clauses.

Functional approaches to causal relations

In her pioneer grammar with a functional orientation about Brazilian Portuguese, Neves (1999, 2000) uses Sweetser's (1990) three domain theory to investigate causal relations in Brazilian Portuguese. In Neves' study, causal clauses are analyzed as belonging to content, epistemic or speech act domains.

In content domain, causal relation between the clauses marks causality of events in the real world, as in example (13) (NEVES, 1999, p. 463), in which the event that children cannot have swimming classes at school is caused by the event that schools do not have swimming pools.

> (13) Então, é difícil, nas escolas, as crianças praticarem natação, 'porque não tem escola com piscina'.
> Well, it is difficult for children to have swimming classes at school 'because there aren't schools with swimming pool'.

In epistemic domain, causal relation between clauses indicates the cause of a belief or of a conclusion, as in example (14) (NEVES, 1999, p. 464), in which the causal clause conveys the reason for the belief conveyed in the main clause.

> (14) Eles acham que é o melhor estágio que eles fazem, é um dos melhores estágios é o de Dermatologia. 'Porque nós temos condições de mostrar pra eles muitos doentes, que é importante'.
> They think it's the best stage they do, Dermatology is one of the best stages. 'Because we have condition to show them many ill people, which is important'.

In speech act domain, causal relation between the clauses conveys a causal conclusion to a performed speech act, as in example (15) (NEVES, 1999, p. 465), in which the speaker explains why he stated that they had chosen a very bad interviewee.

> (15) Vocês escolheram um péssimo entrevistado, 'porque eu sou um sujeito que gosto muito de falar muito pouco'.
> You have chosen a very bad interviewee, 'because I am a guy who likes very much to speak very little'.

Based on the three domain theory, Neves (1999, 2000) can explain the difference between coordinate explanation clauses and subordinate adverbial causal clauses. According to the author, for clauses traditionally considered subordinate adverbial causal, the relation is held at content or epistemic domains. On the other hand, for clauses traditionally considered coordinate explanation ones, the relation is held at speech acts domain. As the relation in speech acts domain is looser, the traditional interpretation of coordination is implied. However, the construction itself must be considered causal, because the speaker conveys a causal relation without concern about the materiality of the effectiveness of the causality.

In his study about adverbial clauses in languages of Europe, Hengeveld (1998) presents an interesting approach with three types of causal relations based on the entity type (LYONS, 1977) designated by the adverbial clause, as in Table 1.

Table 1. Entity type and cause type (HENGEVELD, 1998).

Entity type	Clause type
Second order	Cause
Third order	Reason
Fourth order	Explanation

A second order entity is a state of affairs (or event). According to Hengeveld (1998, p. 345), "It can be located in space and time and can be evaluated in terms of its reality". Example (16) is provided by the author (HENGEVELD, 1998, p. 346) and the event in the subordinate clause causes the event in the main clause, i.e., the overloading of the circuit caused the blowing of the fuse.

> (16) The fuse blew 'because we had overloaded the circuit'.

A third order entity is a propositional content "[…] and it can be evaluated in terms of its truth" (HENGEVELD, 1998, p. 345). Example (17) is provided by the author (HENGEVELD, 1998, p. 346). A reason clause does not cause the event in the main clause. It represents the propositional content that "[…] led the participant in the main clause event to engage in that main clause event" (HENGEVELD, 1998, p. 346). In the case of example (17), Jenny went home because of the consideration that her sister would visit her.

> (17) Jenny went home 'because her sister would visit her'.

A fourth order entity is a speech act "[…] and it can be evaluated, among other things, in terms of its informativeness" (HENGEVELD, 1998, p. 345). Example (18) is provided by the author (HENGEVELD, 1998, p. 346). The explanation clause is considered a separate speech act because it conveys the "[…] considerations that led the speaker

to arrive at the conclusion contained in the main clause" (HENGEVELD, 1998, p. 347).

(18) Jenny isn't here 'for I don't see her'.

A similar approach is presented by Pérez Quintero (2002, p. 67), but using different labels for the clauses. An eventive causal clause contains a second order entity and "[…] expresses the perception of an objective connection inherent in the real world". It corresponds to Hengeveld's cause clause. Example (19) provided by the author was taken from Quirk et al. (1985, p. 1103).

(19) The flowers are growing so well 'because I sprayed them'.

An epistemic cause clause "[…] expresses the speaker's inference about a connection" (PÉREZ QUINTERO, 2002, p. 67). It corresponds to Hengeveld's reason clause. The example provided by the author was taken from Hengeveld (1998) and will be repeated here:

(17) Jenny went home 'because her sister would visit her'.

An illocutionary cause clause "[…] expresses a reason that does not refer to the situation described in the main clause, but to the speech act and, therefore, in itself constitutes a speech act" (PÉREZ QUINTERO, 2002, p. 67). It corresponds to Hengeveld's explanation clause. Example (20) provided by the author was also taken from Quirk et al. (1985, p. 1104):

(20) Percy is in Washington, 'for he phoned me from there'.

Quirk et al. (1985) group the type of clauses studied in this paper under the 'reason' label. Unlike the other studies presented here (HENGEVELD, 1998; NEVES, 1999, 2000; PÉREZ QUINTERO, 2002), the study of Quirk et al. (1985) does not refer to different domains or to different entity types. According to the authors, the relation between the reason clause and the matrix clause can be direct or indirect. Direct reason clauses can be of four types:

- Cause and effect, in which the construction expresses the perception of an inherent objective connection in the real world. It corresponds to Hengeveld's cause clauses and to Pérez Quintero's eventive cause. The example provided by the authors is the same as (19), which will be repeated here:

(19) The flowers are growing so well 'because I sprayed them'.

- Reason and consequence, in which the construction expresses the speaker's inference of a connection. It corresponds to Hengeveld's reason

clauses and to Pérez Quintero's epistemic cause clauses. Example (21) is provided by the authors (PÉREZ QUINTERO, 2002, p. 1104):

(21) She watered the flowers 'because they were dry'.

- Motivation and result, in which the construction expresses the intention of an animate being that has a subsequent result. Example (22) is provided by the authors (PÉREZ QUINTERO, 2002, p. 1104):

(22) I watered the flowers 'because my parents told me to do so'.

- Circumstances and consequence, in which the circumstantial clause combines reason with a condition that is assumed to be fulfilled or about to be fulfilled, the construction expressing a relationship between a premise in the subordinate clause and the conclusion in the matrix clause. Example (23) is provided by the authors:

(23) 'Since the weather has improved', the game will be held as planned.

For indirect reason clauses, on the other hand, the reason is not related to the event or situation in the main clause. Actually, it presents a motivation for the speech act, as in example (20), which will be repeated here. The authors also present a paraphrase of the example, in which the adding of the expression "I can tell you" confirms the speech act status of the main clause.

(20) Percy is in Washington, 'for he phoned me from there'.
Paraphrase: 'Since he phoned from there', I can tell you that Percy is in Washington.

Comparing functional approaches to the approach of Traditional Grammar, it is possible to notice that Traditional Grammar has the perception that there are different causal relations. The idea of the strong pause in coordinate explanation clauses, for instance, is confirmed by the discourse act or speech act level in functional theories.

Once some functional approaches to cause clauses have been presented, next section will focus on RST and how causal relations are treated by the theory.

RST

RST is a descriptive theory which has the organization of texts as its object of study, characterizing the relations established among parts of texts (MANN; THOMPSON, 1988). According to RST, besides explicit propositional content conveyed by the clauses of a text, there are implicit propositions (called relational propositions) which arise from the relations held between text spans

(MANN; THOMPSON, 1983). Matthiessen and Thompson (1988) state that relational propositions permeate the whole text, from relations established between text spans to relations established between two clauses. RST assumes that these relations are essential to the coherence of the text (MANN; THOMPSON, 1988), as they confer unity to the text and enable the producer of the text to reach the aims that the text was intended to.

Relational propositions receive other labels such as 'discourse relations', 'coherence relations' or 'rhetorical relations'[4] (TABOADA, 2009). Regarding organization, relations can be of two types:

- nucleus-satellite (hypotactical), in which satellite is ancillary to the nucleus. This type of organization is represented in Figure 1: an arch goes from satellite to nucleus.

- multinuclear (paratactical), in which a text span is not ancillary to the other. Each span is a distinct nucleus, as in Figure 2.

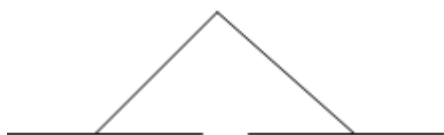**Figure 1.** Nucleus-satellite schema.

Figure 2. Multinuclear schema.

Rhetorical relations are defined by RST based on four criteria: a) constraints on the nucleus; b) constraints on the satellite; c) constraints on the nucleus-satellite combination; d) effect. According to Gómez-González and Taboada (2005), RST has a bias towards the text creator. Thus, the most important characteristic in relation definition is the effect that the text producer wants to achieve in the text receiver.

The definitions of the relations which are investigated in this paper (volitional cause, non-volitional cause, justify, evidence and motivation) are presented in Table 2.

Rhetorical relations can also be classified whether they are subject matter or presentational. The intended effect of subject matter relations is that the addressee recognizes the relation in question, while the intended effect of presentational relations is to increase some inclination in the addressee, such as the desire to act or the degree of positive regard for, belief in, or acceptance of the nucleus. As presented in the effect criteria of the definitions, among the relations studied in this paper, cause is the only subject matter relation, as its effect is the recognition of the relation by the addressee. On the other hand, justify, evidence and motivation relations are presentational, as their intended effects concern some kind of influence over the addressee.

The identification of the relations by the analyst is based on functional and semantic judgments, seeking to identify the function of each text span and to investigate how text produces the desired effect on its possible addressee. These judgments are of plausibility, since the analyst has access to the text, is aware of the context in which the text was produced and of the cultural conventions of the text producer and its possible addressees, but has no direct access to the text producer or to its possible addressees. This way, the analyst cannot say with certainty whether this or that analysis is correct, but may suggest a plausible analysis (MANN; THOMPSON, 1988).

Two mistakes must be avoided by analysts. One of them is relying only on the form of the text. According to Mann and Thompson (1988), RST structures are structures of function, and not structures of form. In example[5] (24), connective *e* (and), a typical additive conjunction, is used to establish a purpose relation. The example is from a psychology class, and the professor is telling the students to teach their subject (a lab mouse) to emit a response with the purpose of being rewarded with a drop of water. Thus, the plausible analysis for this example is of a purpose relation, and not of an additive relation established between the clauses.

> (24) Nós vamos ensinar o nosso sujeito a emitir a resposta de pressão à barra, 'e receber uma gota de água'.
> We're going to teach our subject to emit a pressure response to the bar, 'and receive a drop of water'.

Another problem is conceiving that only discourse markers can signal relations. After investigating conversations and newspaper articles, Taboada (2006) concluded that a high number of rhetorical relations are not signalled. Taboada (2009) presents some other mechanisms which can signal relations, like verb tense, sentence mood, embedding, verb meaning and implicatures.

One of the aims of this paper is to find out parameters from FDG which can be helpful in distinguishing cause, justify, evidence and motivation rhetorical relations.

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[4]The list of RST relations can be found at <http://www.sfu.ca/st/01intro/definitions.html>.

[5]Example (24) was taken from the *corpus* of *Funcpar – Grupo de Pesquisas Funcionalistas do Norte/Noroeste do Paraná* (ANTONIO, 2009).

Table 2. Definitions of the relations investigated in this paper.[6]

Relation name	Constraints on either S or N individually	Constraints on N + S	Intention of speaker
Volitional cause	on N: N is a volitional action or else a situation that could have arisen from a volitional action.	S could have caused the agent of the volitional action in N to perform that action; without the presentation of S, the addressee might not regard the action as motivated or know the particular motivation; N is more central to the speaker's purposes in putting forth the N-S combination than S is.	The addressee recognizes S as a cause for the volitional action in N.
Non-volitional cause	on N: N is not a volitional action.	S, by means other than motivating a volitional action, caused N; without the presentation of S, the addressee might not know the particular cause of the situation; a presentation of N is more central than S to the speaker's purposes in putting forth the N-S combination.	The addressee recognizes S as a cause of N
Justify	None.	Addressee's comprehending S increases addressee's readiness to accept speaker's right to present N.	Addressee's readiness to accept speaker's right to present N is increased.
Evidence	on N: the addressee might not believe N to a degree satisfactory to the speaker on S: the addressee believes S or will find it credible.	Addressee's comprehending S increases addressee's belief of N.	Addressee's belief of N is increased.
Motivation	on N: N is an action in which the addressee is the actor (including accepting an offer), unrealized with respect to the context of N.	Comprehending S increases the addressee's desire to perform action in N.	The addressee's desire to perform action in N is increased.

FDG[6]

Like RST, FDG is a functional theory. It is a typologically based model of language structure, and the authors consider it as a broader theory of verbal interaction (HENGEVELD; MACKENZIE, 2008).

The grammatical component of the model has connections with other non-grammatical modules: conceptual component, contextual component and output component. One of the main characteristics of FDG and a major divergence from the model from which it was originated (Functional Grammar – FG) (DIK, 1989) is its top-down organization. This means that FDG starts at speaker's intentions and ends with the articulation of linguistic expressions. Although this organization reflects the organization of language processing, Hengeveld and Mackenzie (2008) argue that FDG is not intended to be a model of the speaker, but a model of grammar that has psycholinguistic evidence.

Another feature of the model highlighted by the authors is the fact that the discourse act is taken as the basic unit of analysis, and not the clause, as in FG. A speech act may consist of an interjection, a clause, fragments of sentences, words or phrases. When combined, speech acts form a move, defined by Kroon (1997, p. 20) as "[…] the minimum free unit of discourse than is able to enter into an

exchange structure". Discourse acts and moves are part of one of the four levels of the grammatical component of FDG, the interpersonal level.

In the grammatical component, interpersonal and representational levels result from the operation of formulation. These levels are understood by the authors as "[…] the rules that determine what constitutes valid underlying pragmatic and semantic representations in language" (HENGEVELD; MACKENZIE, 2008, p. 2), while morphosyntactic and phonological levels are conceived by the authors as "[…] the rules that convert these pragmatic and semantic representations into morphosyntactic and phonological ones" (HENGEVELD; MACKENZIE, 2008, p. 2).

Regarding relations from cause domain, it is plausible that the types of clauses described by Hengeveld (1998) and presented in section 2.2 of this paper apply to FDG, with the addition of motivation relation. According to Hengeveld and Mackenzie (2008), there may be dependence between discourse acts when the speaker gives them unequal communicative status. The dependent discourse act is called subsidiary discourse act and may have various rhetorical functions. One of these rhetorical functions is motivation, as in example (25), provided by the authors (HENGEVELD; MACKENZIE, 2008, p. 53). There are two distinct discourse acts in (25): an imperative one and a declarative one. The declarative act indicates the

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[6]The definitions of the relations can be found at <http://www.sfu.ca/rst/01intro/definitions.html>.

speaker's motivation for producing the imperative one, and conjunction *because* is used to indicate that the declarative act must be understood as subsidiary to the imperative one.

> (25) Watch out, 'because there will be trick questions in the exam'.

FDG and RST: intersections between the theories

Most functional theories of language study have been influenced by Halliday's metafunctions (HALLIDAY, 1970, 1973), and it has not been different with FDG and RST. Ideational function has to do with grammatical resources for construing our experience, interpersonal function has to do with grammatical resources for enacting social and speech roles in interaction, and textual function is concerned with the creation of text.

RST's classification of presentational and subject matter relations can be associated to Halliday's metafunctions. Subject matter relations, which aim to guide the addressee in the recognition of the existence of the relation, may be associated with the ideational metafunction, responsible for construing the speaker's experience. If the addressee does not recognize the relations established between clauses or between text spans, h/she cannot calculate the coherence of the text. On the other hand, presentational relations, used by the speaker to influence the addressee, trying to make him/her agree with, believe in or act in agreement with the content of the nucleus, may be associated with interpersonal function, responsible for grammatical features used by the speaker to interact with the addressee. If the addressee does not recognize the relations, the goals of the producer of the text will not be achieved, as the addressee will not perform the actions intended by the speaker.

FDG's formulation levels can also be associated with Halliday's metafunctions. Representational level is related to ideational metafunction. According to Hengeveld and Mackenzie (2008, p. 128), "The representational level deals with the semantic aspects of a linguistic unit", and "The term 'semantics' is limited to the ways in which language relates to the extra-linguistic world it describes". On the other hand, FDG's interpersonal level shares the same concerns as Halliday's interpersonal function: "[…] this is the level that deals with all the formal aspects of a linguistic unit that reflects its role in the interaction between the Speaker and the Addressee" (HENGEVELD; MACKENZIE, 2008, p. 46).

Trying to establish a dialogue between the RST and FDG, Gómez-González and Taboada (2005) present the possibility of accommodating RST relations in FDG, classifying the relations in levels. According to the authors, Dik (1997) had already suggested this possibility, assigning functional discourse relations to rhetorical act level (interpersonal) or to subject matter level (representational). Thus, RST relations such as motivation, justify and evidence should be allocated at interpersonal level, and relations such as cause should be at subject matter level.

Yet according to Gómez-González and Taboada (2005), Kroon (1997) also argues for a bipartite classification of coherence relations. The author claims for the existence of interaction relations and rhetorical relations. Relations of the first type would integrate the interactional level of discourse, while relations of the second type would be part of representational or rhetorical level.

For Gómez-González and Taboada (2005), this semantic function/ pragmatic function distinction of relations is based on Van Dijk's (1979, p. 449) proposal to distinguish connectives according to the type of relation established: "[…] pragmatic connectives express relations between speech acts, while semantic connectives express relations between denoted facts".

Thus, according to Gómez-González and Taboada (2005), RST subject matter relations can be accommodated in FDG's representational level, RST presentational relations can be accommodated in FDG's interpersonal level.

Another issue to be considered in a possible FDG-RST dialogue is that FDG only considers coherence relations in case there is an explicit linguistic mark that signals the relation. In this case, Gómez-González and Taboada's (2005) suggestion is to investigate beyond connectives and discourse markers looking for the marks. The authors suggest other means for signalling relations such as verb tense, sentence mood, verb form, syntactic embedding etc. For the goals of this paper, entity types of representational and interpersonal levels are an important parameter for the identification of the relations investigated here.

Methodology

Research corpus

The research *corpus* of this paper consists of 10 oral interviews about 30 minutes long each and five university lectures about 80 minutes long each. Subjects of the interviews and of the lectures are university professors.

For the recording of the interviews, in order to obtain a more spontaneous linguistic behavior, subjects were asked questions about some paper

they had published. Questions were about the process of production of the paper itself and about the contents of the paper. This procedure promoted higher involvement of the subjects with the content they were talking about and decreased the intimidating effect of the voice recorder. Even though, as a result, the register of the interviews presents a high degree of formality.

The same formal register is present on the lectures. Other features that can be noticed on the lectures are speakers' roles and conversational turns previously determined (KOCH; SOUZA E SILVA, 1996). Thus, there are few interaction signals, as the professor keeps the conversational turn most of the time. There are few interruptions from the audience for querying. These lectures also have a well-marked beginning with the presentation of the aims of the class, as well as a closure in which the topics of the next class are anticipated, as in examples[7] (26) and (27).

> (26) 'Então hoje eu vou estar passando para vocês o relatório que vai ter que ser feito', é o trabalho que vocês vão ter que fazer agora com os dados que foram coletados, tá?
>
> 'So today I will be assigning to you the report that will have to be done', It's the paper that you will have go write now with the data that was collected, ok?
>
> (27) E pra isso é primordial nós estudarmos o comportamento biológico da suspensão, a reologia da suspensão.
> O que é isso?
> Nós vamos deixar pro próximo capítulo, 'pra próxima aula, tá'?
> Ah, gente, eu tava esquecendo,
> Ó, presta atenção só um pouquinho:
> As suspensões eu mandei pra vocês por e-mail os slides.
> 'Aqui tem o roteiro da aula, o programa da aula', e tem xerox: são quatro, cinco capítulos de livros modernos sobre suspensões.
> And for this it is very important that we study the biological behaviour of suspensions, the rheology of suspensions.
> What's this?
> We'll leave for the next chapter, 'for the next class, ok'?
> Oh, people, I was forgetting.
> Look, pay attention a little.
> The suspensions I sent to you via e-mail the slides.
> 'Here is the guide of the class, the class programme', and there are photocopies: they are four, five chapters of modern books about suspensions.

Parameter of analysis

As anticipated in the end of section 2.5, layers of representational and interpersonal levels are essential

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for the identification of the relations investigated in this paper.

In interpersonal level, the layers that will be analyzed are move and discourse act.

Move is "[…] the largest unit of interaction relevant to grammatical analysis", and it can be "[…] defined as an autonomous contribution to an ongoing interaction" (HENGEVELD; MACKENZIE; 2008, p. 50). According to the authors, the main characteristic of a move is that it can provoke a reaction from the interlocutor, i.e., "[…] it is, or opens up the possibility of, a reaction".

Hengeveld and Mackenzie conceive discourse acts as in Kroon's definition: "[…] the smallest identifiable units of communicative behaviour" (KROON, 1995, p. 65). The authors remark that there is "[…] no one-to-one correspondence between the discourse act and any linguistic unit. In many cases a fragment of a clause may be enough" (HENGEVELD; MACKENZIE; 2008, p 61).

In representational level, the layers that will be analyzed are propositional content and states of affairs.

Hengeveld and Mackenzie (2008, p. 144) define propositional contents as "[…] mental constructs that do not exist in space or time but rather exist in the minds of those entertaining them", i.e., they are contents which can be believed in, can be doubted of etc.

States of affairs are defined by Hengeveld and Mackenzie (2008, p. 166) as "[…] entities that can be located in relative time and can be evaluated in terms of their reality status". States of affairs can occur or not, can happen or not, can be the case or not, considering some point or interval in time.

Besides these layers, in some cases, verb tense of the subordinate and of the main clause in the investigated constructions will be also analyzed in order to help with the identification of the relations.

Analysis

197 causal clauses were found in the *corpus*. The distribution of these clauses among the relations investigated in this paper is presented in Table 3.

Table 3. Distribution of causal clauses among relations.

	N	%
Volitional cause	22	11,2
Non-volitional cause	63	32
Justify	104	52,8
Evidence	5	2,5
Motivation	3	1,5
Total	197	100

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[7]Examples (26) and (27) were taken from the *corpus* of *Funcpar – Grupo de Pesquisas Funcionalistas do Norte/Noroeste do Paraná* (ANTONIO, 2009).

Volitional cause and non-volitional cause relations

In the *corpus* of this research non-volitional cause relations are established by clauses conveying states of affairs, as in example (2), repeated here. According to Hengeveld and Mackenzie (2008, p. 171), "[…] states of affairs may be further qualified as regards the properties of their occurrence". In (2) the main clause is modified by adverb phrase 'muito cedo' (too early), which refers to relative time of occurrence, one of the major modifications that can be applied to states of affairs. This modification confirms that this relation is established by clauses conveying states of affairs. Thus it is possible to state that non-volitional cause rhetorical relation is established by cause adverbial clauses, using Hengeveld's (1998) classification. The RST diagram of (2) is presented in Figure 3[8].

(2) Frangos sendo abatidos muito cedo, 'porque o negócio é exportar'.
Chicken being slaughtered too early, 'because exporting is what matters'.
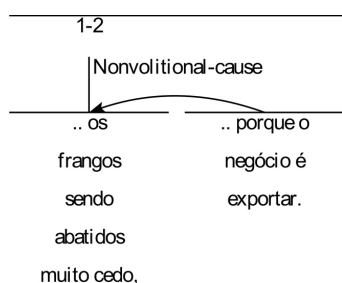

Figure 3. Non-volitional cause relation.

On the other hand, in the *corpus* volitional cause relation is established by clauses conveying propositional contents, as in example (1) repeated here. According to Hengeveld and Mackenzie (2008, p. 151), "[...] modifiers of propositional contents are concerned with the specification of propositional attitudes". A test can be applied in order to confirm if the relation is really established by clauses conveying propositional contents. The propositional modifier 'sem dúvida' (undoubtedly) can be added to the subordinate clause: "[…] porque até então, 'sem dúvida', eles não tinham, nada, 'sem dúvida' não tinha sido feita nenhuma pesquisa" (because till then 'undoubtedly' they didn't have anything, 'undoubtedly' no research had been done yet). Thus it is possible to state that volitional cause rhetorical relation is established by reason adverbial clauses, using Hengeveld's (1998) classification. The RST diagram of (1) is presented in Figure 4.

(1) Até muitos deles mandaram e-mail querendo saber se a gente tinha mais dados a respeito da carne, 'porque até então eles não tinham nada, não tinha sido feito nenhuma pesquisa'.
Some of them even sent e-mails willing to know if we had more data about the meat, 'because till then they didn't have anything, no research had been done yet'.
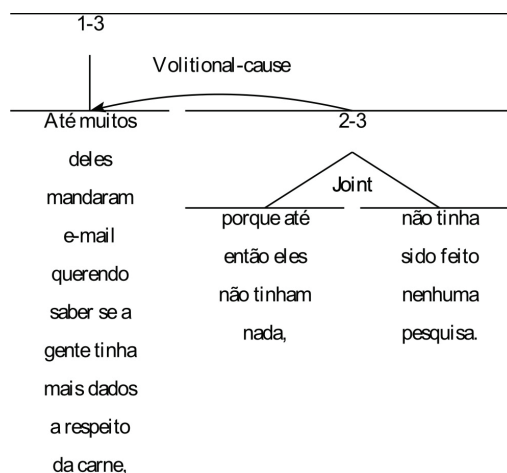

Figure 4. Volitional cause relation.

As states of affairs and propositional contents are layers of representational level in FDG, and non-volitional cause and volitional cause relations are subject matter relations in RST, a correspondence of ideational contents can be noticed between FDG layers and RST relations here.

Two other differences can be noticed between volitional and non-volitional cause relations. One of them is that in volitional cause relations, the subject of the main clause must be a semantic agent who acts volitionally. The other difference refers to verb tense, as shown in Tables 4 and 5.

Table 4. Verb tense in constructions which hold non-volitional cause relations.

Subordinate clause verb tense – Main clause verb tense	N	%
Present – Present	37	58.7
Past (Pretérito Imperfeito[9] – Pretérito Imperfeito)	5	7.9
Past (Pretérito Perfeito) – Present	4	6.3
Future – Future	4	6.3
Past (Pretérito Perfeito) – Past (Pretérito Perfeito)	3	4.8
Present – Future	3	4.8
Present – Past (Pretérito Perfeito)	3	4.8
Past (Pretérito Imperfeito) – Past (Pretérito Perfeito)	1	1.6
Future – Present	1	1.6
Present – "Futuro do Pretérito"[10]	1	1.6
Past (Pretérito Perfeito) – Future	1	1,6
Total	63	100

In constructions which hold non-volitional cause relations, present is the most frequent verb tense.

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[9]In Brazilian Portuguese an aspect distinction is found between Pretérito Perfeito (Imperfective aspect) and Pretérito Perfeito (Perfective aspect).
[10]In Brazilian Portuguese 'Futuro do Pretérito' has a conditional use.

Summing up all the constructions in which there is present tense in the subordinate clause, the result is 69,9%. On the other hand, if all the constructions in which there is some kind of past in the subordinate clause are summed up, the frequency is 22,2%. This probably happens because non-volitional cause relation is used by professors who were subjects of this research to make statements about states of affairs which are universal, or at least recurrent, as in example (2).

Table 5. Verb tense in constructions which hold volitional cause relations.

Subordinate clause verb tense – Main clause verb tense	N	%
Present – Present	6	27,4
Past (Pretérito Perfeito) – Past (Pretérito Perfeito)	4	18,2
Past (Pretérito Imperfeito – Pretérito Imperfeito)	4	18,2
Past (Pretérito Imperfeito) – Past (Pretérito Perfeito)	2	9,1
'Futuro do Pretérito' – Past (Pretérito Imperfeito)	2	9,1
Present – Future	1	4,5
Future – Present	1	4,5
Past (Pretérito Perfeito) – Past (Pretérito Imperfeito)	1	4,5
Present (indicative mood) – Present (subjunctive mood)[11]	1	4,5
Total	22	100

In constructions which hold volitional cause relations, past is the most frequent verb tense. Summing up all the constructions in which there is past tense in the subordinate clause, the result is 50%. On the other hand, if all the constructions in which there is present in the subordinate clause are summed up, the frequency is 36,4%. This probably happens because volitional cause relation is used by professors who were subjects of this research to clarify some abstract topic with a narrative portion, usually in the past, as in example (1).

Regarding the use of connectives to relate subordinate and main clause both for non-volitional cause and volitional cause, *porque* (because) was the most used connective in the *corpus*, as shown in Tables 6 and 7.

Table 6. Connectives relating subordinate and main clause in constructions which hold non-volitional cause relations.

	N	%
Porque	53	84,1
Como	8	12,7
Que	1	1,6
Por isso	1	1,6
Total	63	100

Table 7. Connectives relating subordinate and main clause in constructions which hold volitional cause relations.

	N	%
Porque	15	68,2
Como	6	27,3
Que	1	4,5
Total	22	100

[11]In Brazilian Portuguese sentences which contain verbs with subjunctive mood usually express doubt, desire. They are usually started by a relative pronoun as they are embedded in another clause.

Justify relation

In the *corpus* of this research, justify relation is established by clauses conveying discourse acts, as in example (3) repeated here. According to Hengeveld and Mackenzie (2008, p. 62), "[…] modifiers of discourse acts allow the speaker to comment on that discourse act". Modifier 'brevemente' (briefly) can be used to check the discourse act status of the content of the main clause: "Brevemente, eu acho que é por isso que a revista acadêmica em geral acaba ficando nas gavetas e nas prateleiras das bibliotecas, né" (Briefly, I think this is why academic journals in general they end up in drawers and shelves of libraries right?). The presence of interactive 'né' also grants the main clause in the construction the discourse act status. Thus it is possible to state that justify rhetorical relation is established by explanation clauses, using Hengeveld's (1998) classification. The RST diagram of (3) is presented in Figure 5.

> (3) Eu acho que é por isso que a revista acadêmica em geral ela acaba ficando nas gavetas e-e-e nas prateleiras das bibliotecas né,
> 'porque ela não consegue atingir um grande público'.
> I think this is why academic journals in general they end up in drawers and shelves of libraries right?
> 'because they are not able to reach a great amount of people'.

Justify relation can also be established by text spans which represent moves in FDG, as in example[12] (28). According to Hengeveld and Mackenzie (2008, p. 58) "[…] moves can be modified lexically, i.e. by elements from the lexicon that specify the move's role in the ongoing discourse". An example of modifier provided by the authors is "[…] to cut a long story short".
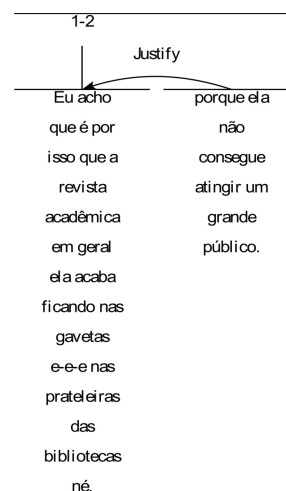

Figure 5. Justify relation.

[12]Example (28) was taken from the *corpus* of *Funcpar – Grupo de Pesquisas Funcionalistas do Norte/Noroeste do Paraná* (ANTONIO, 2009).

For the case of example (28), the modifier 'pra falar a verdade' (to tell you the truth) will be used in order to confirm the move status of the text span introduced by 'porque' (because): "Porque, pra falar a verdade, agora tem essa política do abrigo em ruas […]" (Because, to tell you the truth, now there is this policy of shelter on the streets).

> (28) Então você fica pensando 'pera aí', tem uma ou alguma coisa errada né.
> A criança tá sendo reinserida nos lares, ou mesmo abrigada nas ruas.
> 'Porque agora tem essa política do abrigo em ruas mesmo e tudo mais, assistência à criança que não tem teto etc, mas por outro lado tá se tornando criança infratora. Também não sei qual é a vantagem de tudo isso né'.
> Then you keep thinking 'wait a moment', there is something wrong, ok?
> The child is being taken back home, or even being sheltered on the streets.
> 'Because now there is this policy of shelter on the streets and everything else, assistence to homeless children etc, but on the other hand these children are becoming transgressors.
> I don't know what's the advantage of all this'.

The frequency of justify relation established by constructions conveying discourse acts and by constructions conveying moves is presented in Table 8.

Table 8. Frequency of constructions conveying discourse acts and moves which hold justify relation.

	N	%
Move	8	7,7
Discourse acts	96	92,3
Total	104	100

As moves and discourse acts are layers of interpersonal level in FDG, and justify relation is a presentational relation in RST, a correspondence of interpersonal contents can be noticed between FDG layers and RST relations here.

The frequency of verb tenses used by subjects of the *corpus* in constructions which hold justify relation is presented in Table 9. Subordinate clauses with verbs in the present tense show the highest frequency: 62.4%. This happens because probably the professors who were subjects of this research use justify relation in order to explain some statement they have made with a truth value about the topics of the class, as in examples (3) and (28).

The frequency of connectives used to relate subordinate and main clause or texts spans in constructions which hold justify relation is presented in Table 10. As with cause relation, connective 'porque' (because) is preferred by the subjects of the research.

Table 9. Verb tense in constructions which hold justify relation.

Subordinate clause verb tense – Main clause verb tense	N	%
Present – Present	54	51,9
Present – Future	6	5,8
Present – Past (Pretérito Perfeito)	5	4,7
Future – Present	5	4,7
Past (Pretérito Perfeito) – Present	4	3,8
Past (Pretérito Perfeito) – Past (Pretérito Perfeito)	3	2,9
Past (Pretérito Imperfeito) – Present	3	2,9
Past (Pretérito Imperfeito) – Past (Pretérito Imperfeito)	2	1,9
Affirmative Imperative – Present	2	1,9
Future – Future	2	1,9
Past (Pretérito Perfeito) – Future	2	1,9
"Futuro do Pretérito" – Present	2	1,9
Future – Affirmative Imperative	2	1,9
"Futuro do Pretérito" – Past (Pretérito Perfeito)	2	1,9
Other tenses which were used only once	10	1 (each)
Total	104	100

Table 10. Connectives relating subordinate and main clause in constructions which hold justify relation.

	N	%
Porque	99	95,2
Que	4	3,8
Por + infinitive verb form	1	1
Total	104	100

Evidence relation

As it happens with justify relation, evidence relation can be established by clauses conveying discourse acts or moves. In example (4), repeated here, the relation is established between moves. Modifier 'pra falar a verdade' (to tell you the truth) will be used to confirm the move status of the text span introduced by 'because': "Porque, pra falar a verdade, esses dias eu estava em um congress […]" (Because, to tell you the truth…). Thus it is possible to state that evidence rhetorical relation, like justify relation, is established by explanation clauses, using Hengeveld's (1998) classification. The difference is that in evidence relation an instance of what was stated in the nucleus portion is provided in the satellite portion. The RST diagram of (4) is presented in Figure 6.

> (4) Tudo chega no meio científico, e o resultado ainda não chegou na população né, mas que a população tem acesso há pouquíssimo tempo, isso tem, e desconhece até hoje.
> 'Porque esses dias eu estava em um congresso, na amostra tecnológica que teve aqui na universidade, e uma senhora chegou para mim e falou assim 'a gordura trans é uma gordura TRANSFORMADA não é?"
> Everything reaches the scientific field, and the result has not reached ordinary people yet right? But that the population has had access too recently that is for sure, and population doesn't know these results till now.
> 'Because these days I was at a conference, the Technology Exhibition we held here at the university, and a lady came to me and said 'trans fat is TRANSFORMED fat, isn't it?"
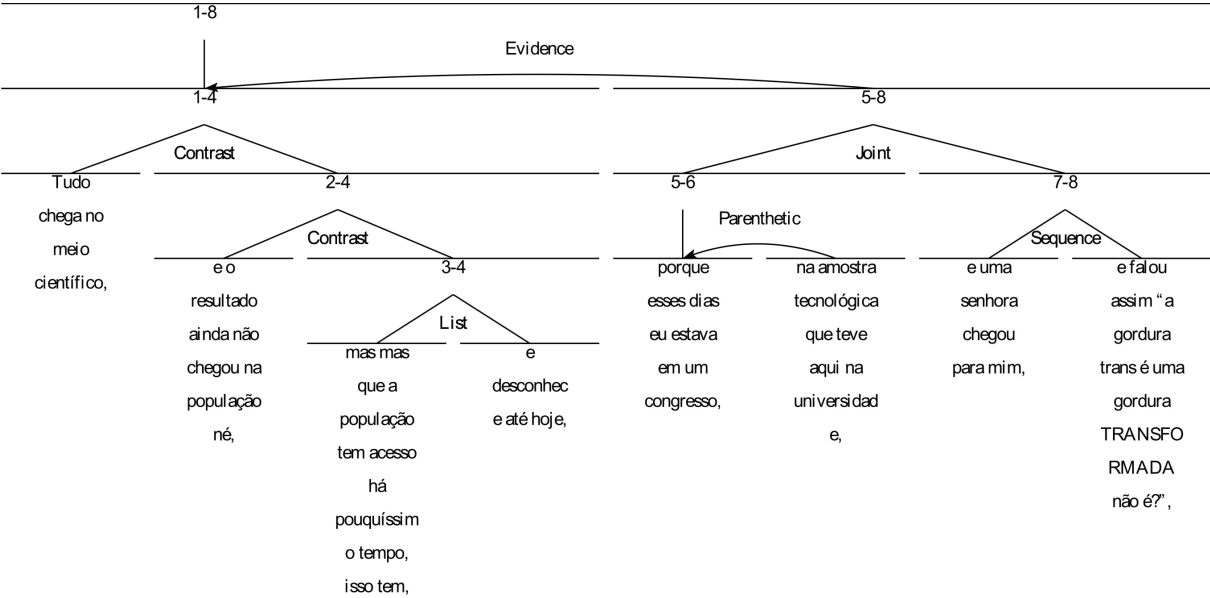
Figure 6. Evidence relation.

As moves and discourse acts are layers of interpersonal level in FDG, and evidence relation is a presentational relation in RST, a correspondence of interpersonal contents can be noticed between FDG layers and RST relations here. In Table 11 the frequency of clauses conveying discourse acts and moves which hold evidence relation is presented.

Table 11. Frequency of constructions conveying discourse acts and moves which hold evidence relation.

	N	%
Move	2	40
Discourse acts	3	60
Total	5	100

In the research *corpus* of this paper, a formal difference between constructions which hold justify and evidence relations is given by verb tense, as it can be noticed comparing data in Tables 9 and 12. In Table 9 it was shown that subordinate clauses with verbs in the present tense show the highest frequency: 62.4%. In Table 12, it can be noticed that subordinate clauses with verbs in past tense show the highest frequency: 60%. In the satellite of evidence relation, professors who were the subjects of the research used short narratives in order to provide an instance of what they had said, and these short narratives, as in example (4), are told with verbs in the past tense.

The frequency of connectives used to relate subordinate and main clause or texts spans in constructions which hold evidence relation is presented in Table 13. Connective 'porque' (because) is the only connective used by the subjects of the research.

Table 12. Verb tense in constructions which hold evidence relation.

Subordinate clause verb tense – Main clause verb tense	N	%
Past (Pretérito Perfeito) – Past (Pretérito Perfeito)	1	20
Past (Pretérito Perfeito) – Present	1	20
Present – Past (Pretérito Perfeito)	1	20
Past (Pretérito Imperfeito) – Present	1	20
Present – Present	1	20
Total	5	100

Table 13. Connectives relating subordinate and main clause in constructions which hold evidence relation.

	N	%
Porque	5	100
Total	5	100

Motivation relation

In the *corpus* of this research, motivation relation is established by clauses conveying FDG's motivation subsidiary discourse acts (HENGEVELD; MACKENZIE, 2008), as in example (5) repeated here. Modifier 'caramba' (dammit) will be used here in order to confirm the discourse act status of the construction: "Caramba! Façam uma conferência, né, pra não colocar o cálculo de forma errada, tá? Porque eu só vou fazer alguma correção se me chamar a atenção" (Dammit! Check out, right, in order not to display the calculation in a wrong way, ok? Because I will do some correction only in case something calls my attention).

Besides the test with the modifier, the presence of interactives 'né' and 'tá' also confirm the discourse act status. RST diagram of example (5) is presented in Figure 7.

(5) Façam uma conferência, né, pra não colocar o cálculo de forma errada, tá?

'Porque eu só vou fazer alguma correção se me chamar a atenção', Assim, se tiver muito fora do-do-do que deveria estar.

Check out, right, in order not to display the calculation in a wrong way, ok?

'Because I will do some correction only in case something calls my attention', Like if it's much out of what it should be.
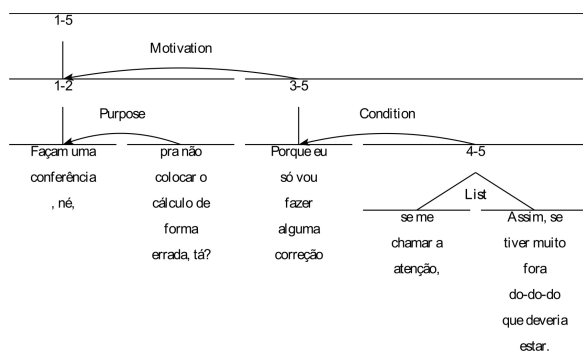

Figure 7. Motivation relation.

As motivation subsidiary discourse acts are a layer of interpersonal level in FDG, and motivation relation is a presentational relation in RST, a correspondence of interpersonal contents can be noticed between FDG layers and RST relations here. In Table 14 the frequency of clauses conveying discourse acts which hold motivation relation is presented.

Table 14. Frequency of constructions conveying discourse acts which hold motivation relation.

	N	%
Discourse acts	3	100
Total	3	100

The frequency of verb tenses used by subjects of the *corpus* in constructions which hold motivation relation is presented in Table 15. In all the cases, speakers used affirmative imperative in main clause and future in subordinate clause.

Table 15. Verb tense in constructions which hold motivation relation.

Subordinate clause verb tense – Main clause verb tense	N	%
Affirmative Imperative - Future	3	100
Total	3	100

The frequency of connectives used to relate subordinate and main clause in constructions which hold motivation relation is presented in Table 16. Connective 'porque' (because) is the only connective used by the subjects of the research.

Table 16. Connectives relating subordinate and main clause in constructions which hold motivation relation.

	N	%
'Porque'	3	100
Total	3	100

Final considerations

This paper aimed at investigating the expression of cause, evidence, justify and motivation rhetorical relations by means of causal hypotactic clauses in formal oral discourse in Brazilian Portuguese.

The identification of these relations was based on a parameter from Functional Discourse Grammar: layers of representational and interpersonal levels. From interpersonal level, layers move and discourse act were used. From representational level, layers propositional content and states of affairs were employed.

In the *corpus* investigated in this paper, non-volitional cause relations are established by clauses conveying states of affairs, called cause adverbial clauses in Hengeveld's (1998) classification. Volitional cause relation is established by clauses conveying propositional contents, called reason adverbial clauses in Hengeveld's (1998) classification. Two differences can be noticed between volitional and non-volitional cause relations. One of them is that in volitional cause relations the subject of the main clause must be a semantic agent who acts volitionally. The other difference refers to verb tense. In constructions which hold non-volitional cause relations, present is the most frequent verb tense. This probably happens because non-volitional cause relation is used by the professors who were subject of the research to make statements about states of affairs which are universal, or at least recurrent. In constructions which hold volitional cause relations, past is the most frequent verb tense. This probably happens because volitional cause relation is used by professors who were subject of the research to clarify some abstract topic with a narrative portion, usually in the past.

Justify relation and evidence relation are established by clauses conveying discourse acts, called explanation clauses in Hengeveld's (1998) classification, or by moves. The difference is that in evidence relation an instance of what was stated in the nucleus portion is provided in the satellite portion. In the *corpus* of this paper, a formal difference between constructions which hold justify and evidence relations is given by verb tense. In justify relation subordinate clauses with verbs in the present tense show the highest frequency, whereas in the evidence relation subordinate clauses with

verbs in past tense show the highest frequency. In the satellite of evidence relation, professors who were the subjects of the research used short narratives in order to provide an instance of what they had said, and these short narratives are told with verbs in the past tense.

In the *corpus*, motivation relation is established by clauses conveying FDG's motivation subsidiary discourse acts. In all the cases, speakers used affirmative imperative in main clause and future in subordinate clause.

In all the relations, preferred connective used by the subjects of the research was 'porque' (because) and, in some relations, 'porque' is the only connective used by the subjects.

It was also possible to notice a correspondence between FDG levels and RST types of relation. Subject matter relations volitional cause and non-volitional cause are expressed by clauses from layers of representational level states of affairs and propositional contents. Presentational relations are expressed by clauses from layers of interpersonal level discourse acts and moves.

Acknowledgements

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