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THE INTRICACIES OF THE RUSSIAN NUMERAL SYSTEM. AN INSIGHT INTO CARDINAL AND COLLECTIVE NUMERALS

Abstract. The present study aims to investigate constructions with collective and cardinal numerals accompanied by nouns denoting people in the Russian language. By closely examining constructions that follow such patterns, I will explore the possibility that numerals function as a type of classifier, whether morphological or semantic (Yanko, 2004). Thus, I will take a closer look at the nouns selected by numerals and the restrictions imposed on them. In this article I will also advance two proposals: one that is concerned with the case assigned by collective numerals and the other linked to the analysis of higher numerals as morphological classifiers.

Keywords: collective numerals, cardinal numerals, quantification, classifiers

1. Introduction

The Russian numerical system has been a controversial topic and consequently, the focus of many discussions in Russian linguistics. Notwithstanding the attention, it rather seems that questions regarding the intricacies of this heterogenous system still linger.

Thus, through the present paper, I aim to contribute to the discussions by endeavoring to shed light on the distributional patterns of cardinal and collective numerals accompanied by human-denoting nouns. For lower numerals and collective numerals, I will mainly draw upon Tatyana Yanko's account 'Russian Numerals with Nouns denoting human beings' (2004)

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and argue in favor of the view she elaborates upon in her study, namely that numerals behave like classifiers of two kinds, morphological and semantic. Additionally, for the discussion on collective numerals I will endeavor to advocate for their analysis as assigners of the Genitive of Quantification by building upon Bailyn's account in 'The Syntax of Russian' (2012). As a next step I will direct my attention towards higher numerals as I will put forth the idea that they, too, act like morphological classifiers. Through this proposal, although inchoate, I intend to counter Elena Titov's claim that it is the Genitive of Quantification, henceforth referred to by GQ, which rules out the co-occurrence of higher numerals with the genitive plural form of the noun ljiudi 'people'. Examples will be drawn from relevant studies and The Russian National Corpus.

2. Overview of the Behavior of Cardinal Numerals

Before delving into the proposal postulated by Tatyano Yanko, it is necessary to provide a brief but clear presentation of cardinal numerals and the motivation behind choosing them as a central point to this study.

G.C. Corbett, in his 1978 work 'Universals in the syntax of cardinal numbers', formulated two universals which serve a descriptive purpose to the syntactic behavior of cardinal numerals:

(1) *They form a continuum ranging from adjective-like to noun-like.*

(2) *Nouniness increases with numerical value.*

As for Russian cardinal numerals, they seem to conform to the characteristics outlined in the aforementioned universal to a certain extent. Odin 'one' behaves entirely like an adjective, agreeing with the noun it precedes in all its phi-features. The examples to follow illustrate in order: agreement in gender; agreement in number[2]; agreement in case.

[2] In order to exemplify agreement in number, Corbett (1978) has made use of the pluralia tantum nouns *sani* 'newspaper' and *ochki* 'glasses'.

(3) *Odin zhurnal; odna gazeta;*
one.MASC. magazine.MASC; one.FEM newspaper.FEM;
odno okno
one.NTR. window.NTR
'one magazine'; one newspaper'; 'one window' (Corbett, 1978, p. 356)

(4) *Odni sani*
one.PL. sledge.PL
'one sledge' (Ibid.)

(5) *Odni ochki*
one.PL. glasses.PL.
'one pair of glasses'

(6) *Odnim zhurnalom; odnu*
one.MASC.INSTR. magazine.MASC.INSTR.; one.FEM.ACC.
gazetu
newspaper.FEM.ACC
'one magazine'; 'one newspaper' (Ibid.)

The numeral *dva/dve* 'two' will select a noun in Genitive singular[3] form with which it will agree in gender. The numerals *tri* 'three' and *chetyre* 'four' follow the same pattern but with no gender distinction.

(7) *Dva mesjaca; dve*
two.MASC. month..GEN.SG.MASC two.FEM.
nedeli
week..GEN.SG.FEM
'two months'; 'two weeks'

[3] If a numeral appears in an oblique case position, it will agree in case with the nominal phrase following it, thus displaying a more 'adjectival' behavior. However, this aspect is not relevant to the present discussion and shall not be approached as of now.

(8) *tri goda; tri dnja; tri stiha*
three year.GEN.SG.; three day.GEN.SG; three verses.GEN.SG
'three years'; 'three days'; 'three verses'

(9) *chetyre stoletiya; chetyre jetapa;*
four century.GEN.SG.; four stages.GEN.PL;
chetyre pary
four pairs.GEN.PL
'four centuries'; 'four stages'; 'four pairs'

Higher numerals, more precisely 5 and above, will assign Genitive plural to the nominal phrase.

(10) *pyat iazikov; sem gosudarstv;*
five. language.GEN.PL; seven state.GEN.PL;
dvadcat' dnej
twenty days.GEN.PL
'five languages'; 'seven states'; 'twenty days'

However, the tableau is not as uniform as it seems at first glance, as there are certain incongruities which need to be addressed. One such incongruity occurs when the numerals *dva*, *tri* and *chetyre* precede a noun phrase which contains an adjective. In such cases, the peculiarity does not lie with the noun, which will be inflected for Genitive singular, but with the adjective, which will bear a different case depending on the gender. If feminine, the adjective will be assigned Nominative plural (15)-(16), whereas, if the construction is masculine or neuter, the adjective will then prefer Genitive plural (11)- (13). In either situation, the addition of an adjective leads to a mismatch between the constituents of the noun phrase in terms of number feature.

(11) *dva krasivyx muzhika*
Two.NOM.MASC beautiful.GEN.PL.MASC man.GEN.SG.MASC
'Two beautiful men.'

(12) *tri krasivyx yabloka*
three.NOM beautiful.GEN.PL.MASC apple.GEN.SG.MASC
'three beautiful apples'

(13) *chetyre bazovyh voprosa*
four core.GEN.PL.MASC. question.GEN.SG.MASC
'four core questions'

(14) *chetyre umnye devushki*
four.NOM. smart.NOM.PL.FEM girl.GEN.SG.FEM
'Four smart girls'

(15) *dve krasivye zhenshhiny*
Two.FEM. beautiful.NOM.PL.FEM woman.GEN.SG.FEM
'Two beautiful women.' (Yanko, 2004, p. 6)

(16) *dve raznye veshhi*
two different.NOM.PL.FEM thing.GEN.SG.FEM
'Two different things'

Considering the behavior of masculine nouns ending in 'a' in such constructions adds an additional layer of complexity to the problem. Such nouns are inflected according to the feminine declension pattern. The identity between their paradigms is illustrated in Table 1 below, with the aid of the nouns *muzhchina* 'man' and *zhenshina* 'woman'.

Table 1

The declension of feminine nouns and masculine nouns ending in –a

Case	Singular	Plural
Nominative	muzhchina zhenshina	muzhchiny zhenshiny
Genitive	muzhchiny zhenshiny	muzhchin zhenshin
Dative	muzhchine zhenshine	muzhchinam zhenshinam
Accusative	muzhchinu zhenshinu	muzhchin zhenshin
Instrumental	muzhchinoy zhenshinoy	Muzhchinamy zhenshinamy
Prepositional	muzhchine zhenshine	Muzhchinah zhenshinah

Thus, whenever they are accompanied by the cardinal numerals *tri* and *chetyre*, they should stick to the feminine declension pattern, as in (17)-(18), but such constructions are at most peripheral and native speakers seem to avoid them as they prefer to use collective numerals with nouns that are part of this category (19)-(20).

(17) *?tri muzhchiny*
three man.GEN.SG
'three men'

(18) *?chetyre muzhchiny*
four man.GEN.SG
'four men'

(19) *troe muzhchin*
three men.GEN.PL
'three men'

(20) *chetvero muzhchin*
four men.GEN.PL
'four men'

A search in the Russian National Corpus yielded 203 occurrences of the construction *troe muzschin*, whereas instances of *tri muzhschiny* were only 4, so significantly less frequent. A similar discrepancy can be noticed with *chetvero muzhschin*, which appears 81 times, and *chetyre muzhschiny*, which occurs again, only sporadically (4 times). Thus, one can safely state that the preference for collective numeral + masculine noun ending in -a is prevalent.

Considering higher numerals further complicates the problem. In the literature on Russian Numerals the proposal that higher numerals assign the GQ has been widely accepted (Boškovič, 2006; Baylin, 2011 among others).

(21) *vosem' zhenshhin; pjat' detej;*
eight women.GEN.PL; five children.GEN.PL;
shest' uchitelej
six teachers.GEN.PL
'eight women'; 'five children'; 'six teachers'

Nonetheless, the combination between higher numerals and the noun *chelovek* 'man' seems to pose some problems as it deviates from the norm. If the rules were to be respected, (22) should be grammatically correct. However, this is not the case as (22) is deemed ungrammatical, whereas (23) is considered to be the correct despite the noun chelovek appearing in what seems to be the Nominative singular form.

(22) **vosem' ljudey*
eight people.GEN.PL
'eight people'

(23) *vosem' chelovek*
eight person.NOM.S
'eight people'

All the incongruities presented so far will be addressed in the subsequent sections.

3. Overview of the Behavior of Collective Numerals

This section is entirely dedicated to providing a comprehensive insight into the behavior of collective numerals. Collective numerals constitute a rather limited class and they are formed from their cardinal counterparts by means of suffixation, as illustrated in Table 2 below.

In terms of meaning, there is a difference in emphasis as 'the use of the collective numeral emphasizes the cohesiveness of the group, by contrast with the individualizing nature of the cardinals' (Wade, 2011, p. 222). The last four, namely *semero* 'seven', *vosmero* 'eight', *devjatero* 'nine' and '*desjatero* 'ten', although possible, are rarely used by native speakers, which explains the scarcity of occurrences in the National Corpus.

Table 2

Cardinal and collective numerals

Cardinal numerals	Collective numerals
Dva	dvoe
Tri	troe
Chetyre	chetvero
Pjat	pjatero
shest	shestero
Sem	semero
vosem	vosmero
devjat	devjatero
desjat	desjatero

In terms of their distributional patters, it is a widely acknowledge fact that they do not combine with nouns which denote females (Suprun, 1957, p. 80; 1964, p. 74; Vinogradov, 1972, p. 249; *Russkaja grammatika*, 1982, p. 79; Iurac, 2008, p. 141; Wade, 2011, p. 222) but they freely combine with nouns with male reference.

(24) *?troe zhenshin*
three woman.GEN.PL
'three women'

(25) *?dvoe debushek*
Two girl.GEN.PL
'two girls'

(26) *?chetvero studentok*
four student.FEM.GEN.PL
'four students'

(27) *troe muzhchin*
three man.GEN.PL
'three men'

(28) *dvoe studentov*
two student.MASC.GEN.PL
'two students'

(29) *pjatero uchenikov*
five pupil.MASC.GEN.PL
'five pupils'

However, the picture is far from being complete as numerous so-called exceptions have been observed in the language. The next section will address peculiar situations in which the behavior of collective numerals seems to deviate from the standard.

As previously mentioned, the rules by which collective numerals function do not seem to apply across-the-board as numerous exceptions can be observed in their behavior. One such exception is the incompatibility with men's first names:

(30) **troe Nikit*
three Nikitas.GEN.PL
'three Nikitas'

(31) **dvoe Johnov*
two Johns.GEN.PL
'two Johns' (Yanko, 2004, p. 10)

Even more peculiar is the fact that there is no such restriction on family names.

(32) *dvoe Johnsonov*
two Johnson.GEN.PL
'two Johnsons' (Ibid., p. 11)

(33) *My shestero Geretti sideli dozhidajas' svojej ocheredi*
We six Geretti sat waiting one's turn
'We, six people called Geretti, were sitting waiting for our turn.' (Suprun, 1957, p. 80)

Another apparent peculiarity is the restricted combinability with others subcategories of nouns that denote males:

(34) *Vas'a vsegda schital, shto u nego dvoe otcov*:
Vas'a always believed that at him two fathers;
odin, kotoryj rodil,
the one which gave birth (to him)
i drugoj, kotoryj vyrastil;
and the other who raised (him)
(Yanko, 2004, p. 10)

(35) **Dl'a uc˚astija v dramax Pushkina*
for participation in dramas of Pushkin
podgotovleno dvoe mel'nikov troe jurodivyx;
are rehearsed two millers three God's fools (*Ibid.*)

(36) ?*Do moego vystuplenija es˚c˚o troe dokladc˚ikov*
Before my presentation still more three paper-givers (*Ibid.*)

All the unique cases presented so far will be elaborated upon in section 3; as for the case they assign, they will select a complement headed by a noun in Genitive, plural, as it can be observed in the examples above. However, I believe that the issue of case-assignment needs to be addressed in a separate subsection considering I will analyze collective numerals as assigners of the Genitive of Quantification.

4. Collective Numerals as Assigners of GQ

In order to advocate for the analysis of collective numerals as GQ assigners, I will closely follow Bailyn's (2011) line of reasoning for the phenomenon. In his account, Bailyn advanced the proposal that structural Genitive case is the result of case-assigning/checking by Q, the head of QP.

(37) The source of structural Genitive case: Genitive case is assigned/ checked by [Q]. (Bailyn, 2011, p. 200)

Furthermore, the author subsumes the following 'core instances' under structural Genitive: Genitive of Negation, Quantificational Genitive, Adnominal

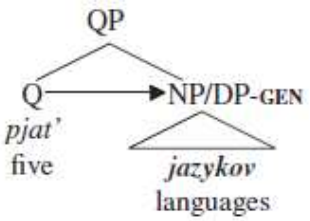
Genitive, Partitive Genitive, Intensional Genitive and Comparative Genitive. For reasons of pertinence, I have chosen to reiterate only the examples provided for GQ.

(38) *mnogo problem*
Many problems.GEN.PL
'many problems'

(39) *pjat' jazykov*
five languages.GEN.PL
'five languages' (*Ibid.*)

In (38) and (39) the quantificational elements are the adverb mnogo and the higher numeral *pjat'*. At first glance, the syntactic derivation in (40) is a seemingly appropriate representation for (39).

(40)



(*Ibid.*, p. 209)

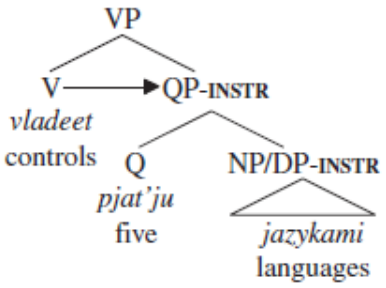
However, the derivation in (40) proves to be lacking as it cannot account for the dichotomy in the syntactic behavior of higher numerals. In (41) the phrase *pjat' jazykov* occupies an Accusative position and the noun is assigned Genitive plural by the numeral *pjat'*, whereas in (42), the verb *vladeet* discharges Instrumental case onto its complement. In this case, the noun will no longer be inflected for Genitive, but for Instrumental as the lexical verb is the element that is responsible for assigning case. Thus, (41) is an instance of structural case, more precisely GQ, whilst (42) is an instance of lexical case. The examples below do not illustrate a rare occurrence, but a well-known fact regarding the behavior of higher numerals: whenever they appear in non-oblique cases, they will no longer assign Genitive case. Consequently, (40) cannot be an accurate representation of the phenomenon.

(41) *Dijana znaet pjat' jazykov.*
Diana knows five languages.GEN.PL
'Diana knows five languages.'

(42) *Dijana vladeet pjat'ju jazykami.*
Diana controls five.INSTR. languages.INSTR.PL
'Diana knows five languages.' (*Ibid.*)

Bailyn (2011) provides an interesting explanation to the heterogenous behavior depicted in the examples above. He claims that when the numeral occupies the head position, 'the case feature is absorbed, and case cannot be directly assigned and instead has to come from outside the local domain' (*Ibid.*, p. 210). So, in example (41) *pjat'* is indeed the head of the QP, as illustrated below.

(43)

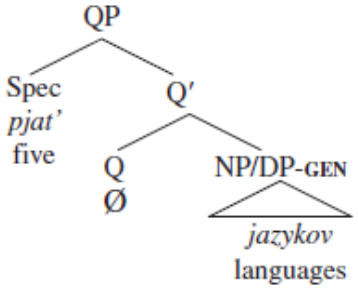


(*Ibid.*)

In the case of (42) *pjat'* will no longer head the QP, as this would engender the absorption of the case. Instead, it will occupy the specifier position, while the head will remain null in order to enable the assignment of GQ.

Thus, the derivation for (41) will be the following:

(44)



(*Ibid.*)

After a detour into the intricacies of GQ assignment, we shall redirect our attention towards collective numerals. As presented in the previous subsection, collective numerals, similarly to higher numerals and adverbs such as *mnogo*, assign Genitive plural to nouns. The relevant examples have been reiterated below.

(45) *troe muzhchin*
three man.GEN.PL
'three men'

(46) *dvoe studentov*
two student.MASC.GEN.PL
'two students'

(47) *pjatero uchenikov*
five pupil.MASC.GEN.PL
'five pupils'

Furthermore, collective numerals display the same heterogenous behavior when they occupy non-oblique case positions. In all the examples provided in (48)-(50), the case assigners are the prepositions, namely *s* 'with', which assigns Instrumental case to its complement, and *k* 'to', which assigns Dative case.

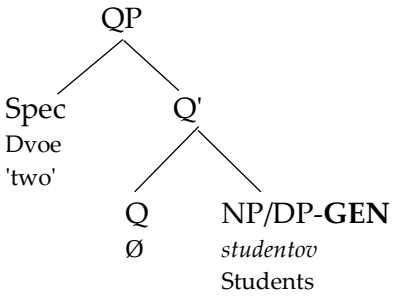
(48) *s dvoimi bratishkami*
with two.INSTR. brothers.INSTR.PL
'...with two brothers'

(49) *k dvoim raznym chelovekam*
to two.DAT. different.DAT.PL person.DAT.PL
'...to two people'

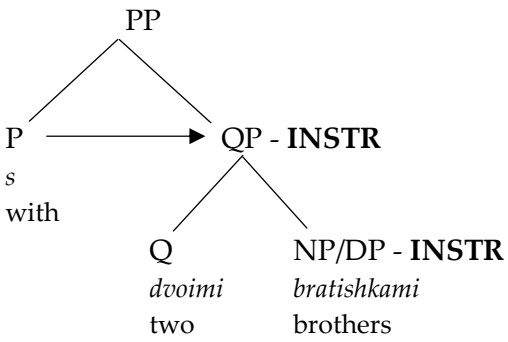
(50) *k troim tehnarjam*
to three.DAT. technichians.DAT.PL
'… to three technicians'

Thus, the syntactic derivations that Baylin formulates in order to account for the behavior pattern of cardinal numerals, seem to constitute an adequate representation for the behavior of collective numerals, as well. The corresponding structures for (46) and (48) can be found in (51), respectively (52):

(51)



(52)



Taking into consideration the fact that the analysis for collective numerals perfectly aligns with the analysis for higher cardinal numerals, I propose to analyze them as GQ assigners, too.

5. Morphological Classifiers: Yanko (2004)

Yanko (2004) delves into the incongruencies of the distributional pattern of cardinal and collective numerals, aiming to provide an appropriate explanation to the heterogenous behavior. Thus, she advances the proposal that some cardinal numerals, namely *tri* and *chetyre*, are morphological classifiers, whereas collective numerals are semantic. This section is dedicated to briefly presenting her account and builds upon the information offered in the previous sections.

5.1. Tri and chetyre

As it has been already pointed out in section 2 of the present paper, native speakers generally avoid using *tri* and *chetyre* with masculine nouns ending in *-a* and prefer to employ collective numerals in such cases. Based on this empirical observation, Yanko (2004) formulates the hypothesis that 'the feminine syntactic pattern produces a "femininizing" effect on nouns with male reference' (Yanko, 2004, p. 7) and further explains that this "feminizing effect" does not occur with the numeral *dva*/*dve* due to the fact that it is morphologically marked for gender. Moreover, she claims that collective numerals bear a 'masculinizing' effect, which explains their incompatibility with nouns that denote females.

Another argument which further reinforces her hypothesis stems from common gender nouns, such as *sirota* 'orphan' and *starosta* 'monitor', which can occur as either feminine or masculine. Whenever such nouns are accompanied by cardinal numerals, they will be understood as referring to a feminine entity. Thus, interpreting example (53) as three sons would be deemed a misconstrual.

(53) *vdova i tri sirota*
widow and three orphans.GEN.SG
'a widow and three daughters' (Yanko, 2004, p. 7)

Due to the clash between the feminine declension pattern and the lexical meaning of masculine nouns ending in *-a* engendered by numerical constructions with *tri* and *chetyre*, the Russian language has developed an alternate way which makes use of collective numerals. Thus, the numerals *tri* and *chetyre* seem to act as morphological classifiers of nouns with male reference, i.e. they mark out masculine nouns that denote humans and end in *-a*, which they generally do not precede.

5.2. Collective numerals

In order to explain the incongruities in the co-occurrences with certain nouns, Yanko (2004) postulates a classification of nouns with human reference

based on a semantic criterion and depending to the subcategory a noun pertain to, it will either co-occur with collective numerals or not. Each subcategory will be elaborated upon in a separate subsection.

(54) (I) 'A human being as an individual specified by a certain ontological parameter'
(II) 'The name or function of a human being'
(III) 'A human being as a body'
(IV) 'A human being as a measure' (Yanko, 2004, p. 11)

5.2.1. Human being as an individual

Yanko describes this subcategory as the prototypical meaning of a noun with human reference. In this case, the noun refers to a human 'endowed with mind, heart and flesh' (Yanko, 2004, p. 11), characterized by a certain ontological pattern that distinguishes them. Nouns pertaining freely combine with collective numerals.

(55) *…pogibli troe soldat*
…died three soldiers.GEN.PL
'… three soldiers died'

(56) *troe professional'nyh pisatelej*
three professionals.GEN.PL writer.GEN.PL
'three professional writers'

(57) *troe pobeditelej*
three winners.GEN.PL
'three winners'

5.2.2. Names and functions of people

The second category ranges over nouns that refer to first names and nouns that depict social roles, positions and ranks. The former do not attribute

a distinctive characteristic to the person, i.e. they lack the ontological characteristic to specify a person (Yanko, 2004, p. 12) and, as a consequence, they do not co-occur with collective numerals. The examples in (30) and (31) are reiterated in (58) and (59).

(58) **troe Nikit*
three Nikitas.GEN.PL
'three Nikitas'

(59) **dvoe Johnov*
two Johns.GEN.PL
'two Johns' (Yanko, 2004, p. 10)

On the other hand, the latter subcategory proves to be more complex as it can either refer to the person that has the role or the role itself. Based on this distinction, it will further branch into: nouns that have both meanings (professor), nouns that mainly denote people, not the role (*soldat* 'soldier'), nouns that can only denote the role (*adresat* 'addressee'). When they refer to the role itself, the missing component is that of a person endowed with mind, heart and flesh, as illustrated below.

(60) *Objavljaetsja vakansija rukovoditelja.*
is announced vacancy manager.GEN.SG
'A vacancy for a manager is announced.' (*Ibid.*)

(61) *On poluchil zvanie admirala.*
He got rank a dmiral.GEN.SG
'He got the rank of admiral' (*Ibid.*)

However, when they do have a human referent, that will co-occur with collective numerals.

(62) *… troe deputatov objavili*
… three deputy.GEN.PL. announced
'…. three deputies announced' (*Ibid.*)

(63) *Troe professorov umerlo…*
three professor.GEN.PL died
'Three professors died…' (*Ibid.*)

5.2.3. Human being as a body

Nouns which are members of this class refer to physical bodies, but such occurrences are rather rare. As they do not have a human referent, they will not combine with collective numerals.

(64) *Chelovek sostoit na 90% iz vody.*
Human being consists of 90% from water
'A human body consists of 90% water.' (*Ibid.*, p. 15)

5.2.4. Human being as a measure

Such nouns refer to humans as a measure of space (65), time (66) and weight (67).

(65) *On sidel v kresle za dva zritelja ot menja.*
He sat in armchair in two spectators from me
'He sat two seats away from me.' (*Ibid.*)

(66) *Do moevo doklada eshhjo odin dokladchik.*
Until my presentation more one speaker.
'There is one speaker before my presentation.' (*Ibid.*)

(67) *Odin shtangist vesom kak dva zhokeja.*
One weight-lifter weight same two jockeys.
'One weight-lifter weighs the same as two jockeys.' (*Ibid.*, p. 16)

Similarly to the previous subcategory, co-occurrences with collective numerals are rather scarce and unnatural.

(68) *?On sidel v kresle za dvoe zritelja ot menja.*
He sat in armchair in two spectators.GEN.PL from me
'He sat two seats away from me.' (*Ibid.*)

(69) *?Do moevo doklada eshhjo troe dokladchikov.*
Until my presentation more three speakers.GEN.PL
'There are three speakers until my presentation.' (*Ibid.*)

Hence, Yanko draws the conclusion that collective numerals are sensitive to semantic subtleties encoded in the meaning of nouns with human reference and puts forth the hypothesis that collective numerals are semantic classifiers which only select nouns that denote active people as they 'form a concept of a group of people joined together by a certain ontological parameter' (Yanko, 2004, p. 23).

6. Higher numerals

In this section I will draw upon Elena Titov's paper 'Number agreement mismatches in Russian numerical phrases' (2017) and Yanko's paper (2004) in order to outline a proposal for the analysis of higher numerals (*pjat'* 'five and above). More precisely, I propose that higher numerals can be analyzed as morphological classifiers, hypothesis which aligns with Yanko's proposal for lower and collective numerals, thus providing a uniform account for both classes. The present section builds upon the information underscored in section 2, consequently only a brief rerun of the issue shall suffice.

As already pointed out, higher numerals select a complement headed by a noun, to which they assign GQ. Hence, the noun will resurface in Genitive plural form. However, they do not co-occur with the plural form *lijudi* 'people', as the correspondent of the phrase 'five people' in Russian is none other than *pjat' chelovek* 'five man.NOM.SG', in spite of the fact that the noun *chelovek* surfaces in Nominative singular form[4].

[4] Whether the form 'chelovek' in numerical constructions with higher numerals, such as 'pjat' chelovek' is indeed Nominative singular or merely homophonous with Nominative singular is of no concern to the present proposal as of now. Thus, it will not be addressed.

The Russian National Corpus abounds in examples which illustrate this peculiar feature of the class:

(70) *V lift vlezli s trudom pjat' chelovek.*
In lift climbed with difficulty five person.NOM.SG
'Five people climbed with difficulty in the lift.'

(71) *V hore on derzhal tridcat' shest' chelovek.*
In choir he kept thirty six person.NOM.SG
'He kept thirty-six people in the choir.'

(72) *V orkestre bylo dvadcat' vosem' chelovek.*
In orchestra were twenty eight person.NOM.SG
'The orchestra had twenty-eight members.'

Titov (2017) argues that this phenomenon is a consequence of GQ assignment. She begins by noting that the words *chelovek* 'person' and *lijudi* 'people' are one of the sole exceptions in the nominal system of the Russian language as *chelovek* lacks a plural lexical form, whereas *lijudi* lacks a singular form[5]. She further observes that the same does not hold for constructions which consist of noun + noun in Genitive plural, such as (73).

(73) *gruppa ljudej*
Group people.GEN.PL
'a/the group of people' (Titov, 2017, p. 404)

(74) **gruppa chelovek/cheloveka*
group person.NOM.SG (*Ibid.*)

Furthermore, she considers the difference between the two types of construction to be a difference of case, as in (73) the noun *gruppa* assigns lexical Genitive, whereas higher numerals assign GQ. She hypothesizes

[5] Although *lijudi* is oftentimes mentioned as the plural of the noun *chelovek* in Russian prescriptive grammars, the etymology of the words does not support this claim as they are not related. Thus, they are distinct lexical items.

that it is GQ which places a constraint on the noun it selects, namely to have 'a lexically realised unit for counting' (Ibid.), i.e. a singular lexical form. Thus, the following condition is formulated:

(75) NPs headed by a noun that lacks a unit for counting are unable to carry GQ. (*Ibid.*, p. 405)

So, due to the fact that *ljudi* does not have such a unit for counting, it is therefore unable to receive structural GQ. However, the noun *chelovek* checks the condition in (75), so it could technically bear GQ but because it lacks a plural form, it will revert to the default form, which is Nominative singular.

Although Titov's account of the phenomenon seems to adequately explain this strange pattern in the behavior of higher numerals, it fails to hold true for the following situations:

(76) *mnogo ljudei*
many people.GEN.PL
'many people'

(77) *troe ljudei*
three people.GEN.PL
'three people'

In both phrases GQ is assigned, either by the adverb 'mnogo' or by the collective numeral 'troe'. If Titov's hypothesis were true, then such constructions should be deemed ungrammatical as the noun *ljudi* should fail to receive GQ due to the aforementioned constraint. But, as we can see, this is not the case.

Thus, I believe that a significantly more straightforward explanation accounts for this phenomenon. Whenever higher numerals co-occur with nouns with human reference, they will always select a noun which is not devoid of the singular lexical form. Thus, they behave like morphological classifiers which will always select nouns that have a lexically-realized unit for counting and will rule out those nouns that lack such a unit, as it is the case of *ljudi*.

However, one might wonder why, then, higher numerals combine with the plural form 'deti' (78) – (80), as *deti* 'children' forms a suppletive pair with the singular form *rebenok* 'child'. The explanation behind this situation has been already provided by Titov (2017): despite having a suppletive singular counterpart, the non-suppletive form *ditja* 'child' still exists in the language. (81)-(83). Thus, *deti* does not pertain to the same category as *ljudi*, as it does have a singular lexical form.

(78) *U menja pjat' detej*
At me five children.GEN.PL
'I have five children.'

(79) *… rodila sem' detej*
… gave birth seven children.GEN,PL
'…gave birth to seven children.'

(80) *… v sem'e bylo shest' detej*
… in family were six children.GEN.PL
'There were six children in the family.'

(81) *ditja bez glazu*
child without eye
'a child without an eye'

(82) *Ditja prishlo…*
child arrived…
'The child arrived…'

(83) *…otec, suprug i ditja*
…the father, spouse and child
'…the father, spouse and child.' (Russian National Corpus)

The proposal I have put forth in this unit is only in its early stages, definitely needing more refining and a larger number of arguments in order to support it. However, I believe it provides a good starting point for further research.

7. Conclusions

In this paper I have purported to offer a detailed tableau of the behavior of cardinal and collective numerals, however, given the complexity of the numerical system in Russian, further research is required for a more comprehensive insight. Through a brief look at Yanko's study (2004) I have aimed at supporting the hypothesis she puts forward, through which she claims that lower numerals and collective numerals act as classifiers. Moreover, I have posited the idea that higher numerals act as classifiers, much like their lower and collective counterparts, thus providing a uniform account of the phenomena. Finally, I have also outlined the idea that collective numerals are GQ assigns, on par with higher numerals and adverb such as *mnogo* and *malo*.

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ON NEGATION AND DISJUNCTION IN L2 ENGLISH IN AN L1 ROMANIAN CONTEXT

Abstract. This experimental study investigates how Romanian-speaking learners of L2 English interpret disjunction in negative sentences, focusing on whether they exhibit L1 transfer effects from Romanian or successfully acquire the English pattern. While English and Romanian are traditionally considered to fall in the same category according to the Disjunction Parameter (Szabolcsi, 2002), favouring the conjunctive interpretation (-PPI value), recent research (Lungu *et al.*, 2021) suggests that Romanian speakers prefer the disjunctive reading (+PPI value). Through three experimental studies, I investigated: (i) how English speakers interpret disjunction in negative sentences, (ii) how Romanian speakers interpret disjunction, and (iii) because I found differences, how Romanian-speaking learners of L2 English interpret disjunction. The results of the first two studies showed that there are differences between the preferred interpretation of disjunction in negative sentences in English and Romanian. Based on these results, I conducted a third study to investigate how Romanian learners of L2 English interpret disjunction in English negative sentences. This study showed evidence of L1 transfer among L2 learners, supporting the Full Transfer Full Access Hypothesis (Schwartz & Sprouse, 1996), indicating that while L1 transfer initially influences L2 acquisition, learners can ultimately reset parameter values based on L2 input.

Keywords: negation, disjunction, polarity items, Disjunction Parameter, second-language learning, transfer

1. Introduction

The aim of this study is to investigate how Romanian-speaking learners of L2 English interpret disjunction in negative sentences. One of the

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main concerns is whether natural languages behave as predicted by formal rules of semantics or if they display a different behaviour. In case differences are found between the interpretation of disjunction in English and Romanian, the other main concern is how the mother tongue influences the interpretation of disjunction in a second language with a different behaviour.

The first step is understanding the interaction between negation and disjunction. This can be achieved by exploring how negation interacts with polarity items since disjunction assumes the properties of different polarity items depending on the language.

The second step is establishing a baseline in both English and Romanian regarding the preference for the interpretation of disjunction in negative sentences. This helps draw conclusive results for how the grammar of the mother tongue influences the learning of the target language's grammar.

This research contributes to the broader discussion on polarity sensitivity, parameter setting in second-language learning and transfer patterns in the acquisition of the grammar of the second language.

2. The Disjunction Parameter

This section investigates polarity items and their interaction with negation, setting the foundation for understanding the Disjunction Parameter, since disjunction mirrors the behaviour of either Negative or Positive polarity items in its interaction with clause-mate negation. By examining how negation interacts with both Negative and Positive polarity items, this section provides insight into why languages exhibit different interpretation patterns in the case of disjunction in negative contexts.

2.1 Polarity Items

Polarity items are lexical items sensitive to the polarity of the context they appear in. The two types of polarity items are Negative polarity items (NPIs) and Positive polarity items (PPIs).

The distribution of NPIs is in "negative, downward entailing, and nonveridical contexts (which may be upward entailing)" (Giannakidou, 2011, p. 1665), contexts which can be referred to by using the umbrella term "non-assertive". Examples of non-assertive contexts are, among others, negation (1a), questions (1b), the context introduced by the preposition *without* (1c):

(1) a. *Bill didn't buy any book*s. (Giannakidou, 2011, p. 1662)
b. *Did you see anybody?* (Giannakidou, 2011, p. 1672)
c. *… without wanting to see even his own child* (Giannakidou, 2011, p. 1689)

With respect to the discussion on negation, the difference between NPIs and PPIs is:

> Negative polarity items are lexical elements with a restricted distribution: they occur in negative contexts (…). Positive polarity items, on the other hand, are in general excluded from negative contexts. (van der Wouden. 1994, p. 1)

As a functional element, negation licenses and c-commands Negative polarity items (NPIs). Positive polarity items (PPIs) are, under normal conditions, not felicitously used in negative sentences because they escape the c-commanding properties of functional negation given their clash in polarity. Thus, when PPIs appear in the same sentence as negation, they are not c-commanded by negation, giving rise to an inverse scope reading with a shift in interpretation:

(2) a. *He didn't eat any of the cookies.*
b. *He didn't eat some of the cookies.*

In example (2b), although negation and a PPI appear in the same sentences, the PPI is not within the scope of negation. There is also a difference in interpretation when the PPI is used in such a case. The difference is in probability; when a PPI is used, there is a greater likelihood that some cookies were eaten while others were not, than in the case when the NPI is used, when the likelihood of cookies being eaten is null.

To sum up, negation can only license and c-command NPIs (Neg>NPI). When PPIs appear in a negative sentence, they are neither licensed nor c-commanded by negation. This gives rise to a reading that does not reflect the linear order (PPI>Neg).

2.2 The Disjunction Parameter

As a logical operator, negation can occur in the same context as other logical operators, such as disjunction. The way in which they interact mirrors the interaction between negation and polarity items.

According to de Morgan's law, the interaction between negation and disjunction has the following interpretation: $\neg (p \vee q) = \neg p \wedge \neg q$ (Szabolcsi, 2002, p. 217). In this case, disjunction has the same property as NPIs, meaning that they can both scope below c-commanding negation. However, the behaviour of negated disjunction in natural languages can also be: $\neg (p \vee q) = \neg p \vee \neg q$, seemingly disobeying de Morgan's law. In this case, disjunction has the same property as PPIs, meaning that they cannot scope below c-commanding negation to begin with.

The interpretation of negated disjunction can vary in natural languages, and what is responsible for such interpretation differences is the relative scope negation can take with respect to disjunction.

On the one hand, negation can have wide scope with respect to disjunction and this scopal interaction results in an interpretation that obeys de Morgan's law. This is the conjunctive reading of disjunction in negative sentences, also known as the "'neither' reading" (Szabolcsi, 2002, p. 217) – both members of the disjunction are negated at the same time. In this case, linear order goes hand in hand with the scopal relation between the two operators (Neg>Disj). This phenomenon has been observed in languages in which the disjunctive operator can scope below the negative operator, i.e., it behaves like an NPI.

An example of the conjunctive reading is (3) below:

(3) *Mary didn't order pizza or salad.*
Mary didn't order pizza and Mary didn't order salad. (Pagliarini *et al.*, 2022, p. 98)

On the other hand, negation can have narrow scope with respect to disjunction, resulting in an interpretation that seems to invalidate de Morgan's law. This is the disjunctive reading, also known as the "'I don't know which' reading" (Szabolcsi, 2002, p. 217) – either one member of the disjunction is negated, or the other member is, but not both of them at the same time. In this case, linear order and relative scope do not go hand in hand, and the resulting interpretation involves inverse scope of disjunction with respect to negation (Disj>Neg). This phenomenon has been attested in languages in which the disjunctive operator cannot scope below the negative operator, i.e., it behaves like a PPI.

An example of the disjunctive reading is (4) below:

(4) *Mary didn't order pizza or salad.*
Mary didn't order pizza or Mary didn't order salad. (Pagliarini *et al.*, 2022, p. 98)

This cross-linguistic variation concerning the behaviour of disjunction in negative sentences is known as the Disjunction Parameter, introduced by Szabolcsi (2002) and Szabolcsi and Haddican (2004):

> English disjunction (...) happily scopes below a c-commanding negation and dutifully obeys the de Morgan laws, whereas the Hungarian counterparts either must scope above the c-commanding negation or fail to obey the de Morgan laws. Such contrasts are not restricted to English versus Hungarian. Similar to English is German; similar to Hungarian are Russian, Serbian, Italian and Japanese, among other languages. (Szabolcsi & Haddican, 2004, p. 220)

Nonetheless, a study by Lungu et al. (2021) reveals that the difference between the two possible interpretations of disjunction in negative sentences is subject to preference and the degree of PPI behaviour that disjunction displays. Thus, the Disjunction Parameter (Szabolcsi, 2002) can be rephrased as: in English-like languages, the preference is for the conjunctive interpretation since disjunction exhibits a low PPI behaviour, in Hungarian-like languages the preference is for the disjunctive interpretation since disjunction exhibits a high PPI behaviour. According to this parameter, Romanian is considered

to behave similarly to English (Szabolcsi, 2002, p. 220). This means that the preference in Romanian is considered to be for the -PPI value of disjunction, thus giving rise to the conjunctive reading.

Various studies conducted on both children (Gualmini & Crain, 2005) and adults (Grüter *et al.*, 2010; Lungu *et al.*, 2021; Jasbi *et al.*, 2023) confirm that, in English, the preferred interpretation of disjunction in negative sentences is the conjunctive interpretation.

A study conducted in 2024 by Bleotu et al. on children confirms that the preferred interpretation of negated disjunction in Romanian is the conjunctive one. A study conducted in 2021 by Lungu et al. shows that in Romanian, adult native speakers interpret disjunction differently from child native speakers.

Moreover, several studies indicate that, even in languages in which the preferred interpretation of disjunction in negative sentences is the conjunctive reading, children go through a conjunctive-like stage in acquiring this interaction in their mother tongue (Verbuk, 2006, for Russian; Grüter *et al.*, 2010, for Japanese; Pagliarini *et al.*, 2022 for French, Italian and Hungarian; Bleotu *et al.*, 2024, for Romanian). This relation between the disjunctive and the conjunctive reading is similar to a subset-superset relation. The disjunctive reading is the subset or the default interpretation, first acquired by children and then subject to change based on positive input from adult language. Since in some languages the conjunctive reading is preferred by adults, children do not need to reset their initial parameter setting for disjunction. At the same time, in neither +PPI nor -PPI languages, is the opposite parametric value for disjunction prohibited (as shown by Lungu *et al.*, 2021); it is a matter of preference for one of those readings.

2.3 Challenging the Disjunction Parameter

The study conducted by Lungu *et al.* (2021) on how adult speakers of English, Romanian, Italian and French challenges the Disjunction Parameter with respect to: the preferred interpretation of disjunction in Romanian and with the clear-cut distinction made by the parameter in question.

This study investigated the interpretation assigned to disjunction in negative sentences in four languages: English and Romanian, considered part of the –PPI class of languages, and French and Italian, considered part of the +PPI class of languages according to the Disjunction Parameter. The task was an acceptability judgment task and participants were asked to judge, on a Likert scale from 1 to 7, how natural they believed the continuations in (5a) and (5b) were for the sentence containing clause-mate negation and disjunction.

(5) *If I remember correctly, Mary didn't invite John or Suzi to her birthday party.*
   a. narrow scope continuation: *She's upset with both of them and doesn't want to see them*
   b. wide scope continuation: *I don't know which of them.* (Lungu *et al.*, 2021, p. 223)

The narrow scope continuation indicates that the participants prefer conjunctive reading, according to which disjunction is interpreted as an NPI. The wide scope continuation indicates that the participants prefer the disjunctive scope reading, according to which disjunction is interpreted as a PPI.

The results from the English group indicated that both the conjunctive and the disjunctive reading are available, with a more pronounced acceptability rate for the conjunctive interpretation.

The results from the Romanian group also indicated that both interpretations are possible, but with no clear preference for either the disjunctive or the conjunctive reading since the acceptability rates were very similar. On the one hand, these results indicated that disjunction in Romanian is not interpreted as it is in English, thus challenging the Disjunction Parameter. On the other hand, such results indicated that the behaviour of disjunction in negative sentences in Romanian is similar to the behaviour in French and Italian (the +PPI interpretation) given the similar acceptability rates for the wide scope continuation.

To sum up, the authors concluded that what differentiates languages is not the clear-cut distinction made by the Disjunction Parameter, but the "degree to which disjunction exhibits PPI behaviour" (Lungu *et al.*, 2021, p. 227). In all languages investigated, disjunction exhibited both

−PPI and +PPI behaviour, but to different degrees: in English, the degree of +PPI behaviour was low, while in Romanian, it was high.

3. Aims and Research Questions

This study aims to investigate how the interaction between negation and disjunction is interpreted by Romanian-speaking learners of L2 English since, to the best of my knowledge, the combination between L1 Romanian and L2 English has not been explored in the literature. In order to do so, it is important to determine the starting point in Romanian and the desired end point in English as regards negated disjunction.

The results in Lungu *et al.* (2021) challenge the predictions made by the Disjunction Parameter, mainly concerning the preference in Romanian. Thus, I investigated the preferred interpretation of disjunction in negative sentences in both English and Romanian.

The first research question is:

(i) Do English and Romanian differ with respect to the preferred interpretation of disjunction in negative sentences, as shown in Lungu *et al.* (2021) or do they behave alike, as assumed in Szabolcsi (2002)?

If it is revealed that English and Romanian display different preference patterns, two more research questions appear:

(ii) Can Romanian speakers successfully acquire the interaction between disjunction and negation in L2 English?

(iii) Is there evidence of transfer in the learning of the interaction between negation and disjunction from L1 Romanian to L2 English?

Therefore, three experimental studies were conducted: the first to investigate the preferred interpretation of negated disjunction in English, the second to investigate the preference in Romanian, and the third to investigate the preferred interpretation of Romanian-speaking learners of L2 English.

4. Negation and Disjunction in English

As seen before, the interaction between negation and disjunction has been extensively studied and results indicate that the preference in English is for the conjunctive interpretation according to which negation has wide scope over disjunction. Nevertheless, the study on how adult native speakers of English interpret this interaction presently conducted serves as a baseline for comparison with Romanian speakers and Romanian-speaking learners of L2 English performed in subsequent sections, since the same task was used.

4.1 Task and Procedure

All three studies used a question-after-story design, identical for the two languages. All participants received a Google Forms link.

A narrator, Bibi, told the participants a story about various animals. The narrator was introduced so that the "I don't know which" interpretation could appear naturally (i.e., the narrator was under-informative).

All the questions followed a similar scenario: Bibi tells the participant a story about her friend. In the story, the friend met a personified animal and asked him/her to interact with two items, for example, the friend asked the animal to photograph a statue and a painting. Then, the friend left the scene and the animal decided that he/she did not want to interact with the items in the way that he/she had been asked to. The friend then returns and does not know what the animal did. The friend then guesses and makes a statement about how the animal interacted with the objects. The participant is asked if the friend made the right guess and has two answering options: *yes* and *no*.

The task included 2 warm-up scenarios, 8 fillers and 16 test questions. The 16 test questions were divided into four groups depending on scenario type and the negative statement at the end of the story:

(i) scenario type:
The animal decided to either interact with none of the items provided or interact with only one of the items.

(ii) negative statement at the end of the story:
The statement either contained the discontinuous disjunction *neither…nor* or it contained negation and the disjunction morpheme *or*.

The combination between scenario type and negative statement resulted in four conditions: a *NONE – neither...nor* condition, a *1DT – neither...nor* condition, a *NONE – NEG…or* condition and a *1DT – NEG…or* condition. In the first condition, the animal interacted with none of the items and the negative statement contained *neither…nor.* In the second condition, the animal interacted with only one item and the negative statement contained *neither…nor.* In the third condition, the animal interacted with no item and the negative statement contained negation and disjunction. In the fourth condition, the animal interacted with only one item and the negative statement contained negation and disjunction.

Therefore, the critical test questions, i.e., the test questions directly indicating the preferred reading of disjunction in negative sentences, are the *NONE – NEG…or* condition and a *1DT – NEG…or* condition since they are the ones containing clause-mate negation and disjunction.

An example of the *NONE – NEG…or* condition in English is:

(6) *Bibi tells us a story:*
One day, I was in the forest with Vivi. A bear who is friends with Vivi saw us and came to us. Vivi picked a mushroom, a flower. Vivi asked the bear to put them in a basket while she went to the river. Then, Vivi left.
While Vivi was at the river, the bear decided that he didn't want to put the items in the basket.
Vivi returns, but she doesn't know what happened.
Vivi says: "The bear didn't put the mushroom or the flower in the basket."
Is she right?
A. Yes
B. No

For this condition, the *yes* answer indicates that the participants accept the use of *NEG...OR* in scenarios in which both members of the disjunction are negated. This is indicative of the conjunctive reading.

An example of the *1DT – NEG…or* condition in English is:

(7) *Bibi tells us a story:*
One day, I was at the market with Jenny. A mouse who is friends with Jenny saw us and came to us. Jenny bought a carrot, an onion. Jenny asked the mouse to put them in the bag while she went to the bakery. Then, Jenny left.
While Jenny was at the bakery, the mouse decided that he wanted to put only one vegetable in the bag.
Jenny returns, but she doesn't know what happened.
Jenny says: "The mouse didn't put the carrot or the onion in the bag."
Is she right?
A. Yes
B. No

For this condition, the *yes* answer indicates that the participants accept the use of *NEG...OR* in scenarios in which only one member of the disjunction is negated, while the other remains true. This is indicative of the disjunctive interpretation.

4.2 Participants and Results

In total, 31 participants (age range 18–77, mean age = 39.03) were included. They were recruited online via the Prolific platform and were native speakers of British English. It took the participants, on average, approximately 10 to 15 minutes to complete the task.

In total 806 answers were received, out of which 496 were answers to the test questions, 124 per condition.

For the *NONE – NEG…or* condition, 119 answers were *yes* (96%) and 5 were *no* (4%). For the *1DT – NEG…or* condition, 8 answers were *yes* (6.5%) and 116 were *no* (93.5%). For both these conditions, the answers were consistent and indicated a clear preference for the conjunctive interpretation.

The results are summarised in Table 1.

Table 1

Negation and Disjunction in English

Condition	**NONE – neither nor**		**1DT – neither nor**		**NONE – NEG…or**		**1DT – NEG…or**	
Answer	yes	no	yes	no	yes	no	yes	no
No. answers	93.5% (n = 116)	6.5% (n = 8)	4% (n = 5)	96% (n = 119)	96% (n = 119)	4% (n = 5)	6.5% (n = 8)	93.5% (n = 116)

These results indicate that the native speakers of English interpreted disjunction in negative sentences both as +PPI and as –PPI, but to different degrees. This is in line with the results reported in Lungu et al. (2021), which assume that both interpretations are available in all languages. However, one interpretation was clearly preferred: the conjunctive interpretation of disjunction in negative sentences, the interpretation according to which both disjuncts are negated because the disjunction operator has a –PPI value and scopes below c-commanding negation.

These results confirm the status of English as a –PPI language, as predicted by the Disjunction Parameter (Szabolcsi, 2002; Szabolcsi & Haddican, 2004).

5. Negation and Disjunction in Romanian

According to the Disjunction Parameter (Szabolcsi, 2002) and the study conducted on children by Bleotu *et al.* (2024), the preferred interpretation of disjunction in negative sentences in Romanian is the –PPI value. However, according to Lungu et al. (2021), the preference is towards the +PPI interpretation.

Given these contradictory results, in order to investigate how Romanian-speaking learners of L1 English interpret disjunction, it is important to establish the starting point in their mother tongue. Therefore, an experimental study on adult Romanian speakers was conducted.

5.1 Task and Procedure

The experimental study on Romanian speakers uses the same question-after-story task, translated into Romanian. Participants received a Google Forms link and it took them, on average, approximately 10 to 15 minutes to complete the task.

Below is an example of the *NONE – NEG…or* condition in Romanian, the translated equivalent of example (6) in English:

(8) *Bibi ne spune o poveste:*
Într-o zi, eram în pădure cu Vivi. Un ursuleț care e prieten cu Vivi ne-a văzut și a venit la noi. Vivi a cules o ciupercă, o floare. Vivi l-a rugat pe ursuleț să le pună într-un coș cât se duce ea la râu. Apoi, Vivi a plecat.
În timp ce Vivi era la râu, ursulețul a hotărât că nu vrea să pună obiectele în coș.
Vivi se întoarce, dar nu știe ce s-a întâmplat.
Vivi spune: "Ursulețul nu a pus ciuperca sau floarea în coș."
Are dreptate?
A. Da
B. Nu

Similarly, for this condition, the *yes* answer indicates the preference for the use of *NEG...OR* in scenarios in which both members of the disjunction are negated – the conjunctive reading.

Below is an example of the *1DT – NEG…or* condition in Romanian, the translated equivalent of example (7) in English:

(9) *Bibi ne spune o poveste:*
Într-o zi, eram la piața cu Jeni. Un șoricel care e prieten cu Jeni ne-a văzut și a venit la noi. Jeni a cumpărat un morcov, o ceapă. Jeni l-a rugat pe șoricel să le pună în sacoșă cât e ea plecată la cofetărie. Apoi, Jeni a plecat.
În timp ce Jeni era la cofetărie, șoricelul a hotărât că vrea să pună doar o legumă în sacoșa.
Jeni se întoarce, dar nu știe ce s-a întâmplat.
Jeni spune: "Șoricelul nu a pus morcovul sau barca în sacoșă."
Are dreptate?
A. Da
B. Nu

The same, the *yes* answer indicates the preference for the use of *NEG...OR* in scenarios in which only one member of the disjunction is negated, while the other remains true – the disjunctive interpretation.

5.2 Participants and Results

In total, 59 participants (age range 18–57, mean age = 35.25) were included. All participants were native speakers of Romanian; no distinction was made between linguistically-naïve participants and participants with knowledge of linguistics.

In total 1534 answers were received, out of which 944 were answers to the test questions, 236 answers per condition.

For the *NONE – NEG…or* condition, 236 answers were received, out of which 86 were *yes* (36.4 %) and 150 were *no* (63.6%). For the *1DT – NEG…or* condition, 180 answers were *yes* (73.3%) and 56 were *no* (27.7%).

The results are summarised in Table 2.

In the case of Romanian, there is no clear preference for one interpretation of disjunction in negative sentences. In line with Lungu *et al.* (2021), these results indicate that both interpretations are available in Romanian to different degrees.

The presence of 36.4% of *yes* answers in the *NONE – NEG…or* condition combined with the 23.7% of *no* answers in the *1DT – NEG…or* condition indicates that the conjunctive interpretation is possible in Romanian. These results are in line with the Disjunction Parameter (Szabolcsi, 2002; Szabolcsi & Haddican 2004).

However, the higher rate of *no* answers in the *NONE – NEG…or condition* combined with the higher rate of *yes* responses in the *1DT – NEG…or* condition indicates a preference for the disjunctive interpretation of disjunction in negative sentences.

These results challenge the analysis of Romanian as a –PPI language as predicted by the Disjunction Parameter (Szabolcsi, 2002; Szabolcsi & Haddican, 2004). However, they confirm the results obtained in the study by Lungu *et al.* (2021): what makes languages different is not the clear-cut distinction predicted by the Disjunction Parameter, but the degree to which they exhibit +PPI behaviour for disjunction in negative sentences.

Moreover, the results obtained from both the English and the Romanian experiments reveal there is a difference between the interpretation assigned by native speakers of English, who preferred the conjunctive interpretation (-PPI value of disjunction), and by native speakers of Romanian, who preferred the disjunctive interpretation (+PPI value of disjunction).

Table 2

Negation and Disjunction in Romanian

Condition	**NONE – neither nor**		**1DT – neither nor**		**NONE – NEG…or**		**1DT – NEG…or**	
Answer	yes	no	yes	no	yes	no	yes	no
No. answers	96.6% (n = 228)	3.4% (n = 8)	7.2% (n = 17)	92.8% (n = 219)	36.4% (n = 86)	63.6% (n = 150)	76.3% (n = 180)	27.7% (n = 56)

6. Negation and Disjunction in L2 English

The aim of this section is to investigate how L2 learners of English whose L1 is Romanian interpret disjunction in negative sentences. If the results reported in the previous sections are on the right track, Romanian and English have different preferences with respect to the interpretation of disjunction in negative sentences. Native speakers of English (almost categorically) prefer the conjunctive reading, whereas native speakers of Romanian mostly prefer the disjunctive reading.

An impressive number of L2 learning studies assume that the learning process can be affected by transfer from L1 (Schwartz & Sprouse, 1994; Schwartz & Sprouse, 1996). It is plausible to assume that, given the difference between English and Romanian, the learning of disjunction in negative sentences in L2 English will be affected by the L1 of the learners, namely Romanian.

6.1 Research Questions and Predictions

Given the differences found between the preference in Romanian and English, the present study investigates the learning of disjunction in negative sentences in L2 English in an L1 Romanian context with a view to answering the following questions:

(i) Can Romanian speakers set the value of the Disjunction Parameter in L2 English despite the difference between English and their L1?

(ii) Is there evidence of transfer in the learning of the interaction between negation and disjunction from L1 Romanian to L2 English?

I assume the Full Transfer Full Access Hypothesis (Schwartz & Sprouse, 1994; Schwartz & Sprouse, 1996), according to which both the grammar of L1 and Universal Grammar guide the learner in the initial stages of L2 learning.

The term 'Full Transfer' refers to the fact that, in the initial stages of L2 learning, the learner relies on his/her L1 grammar and transfers parameter settings to their L2. In the following stages of learning, the

grammar of L1 becomes insufficient and cannot account for the differences between L1 and L2. This is where the term 'Full Access' comes into play; it refers to the interlanguage phase in which there is variation between the two possible values of the parameters in question. Universal Grammar guides the L2 learners towards setting the appropriate parametric value.

It is expected that, at least initially, Romanian-speaking learners of L2 English would prefer the +PPI interpretation, thus incorrectly interpreting disjunction in negative sentences in English, where the parametric value is -PPI with a preference for the conjunctive interpretation. This transfer can give rise to a learnability problem, but the acquisition of the English-like interpretation is not impossible. In fact, based on experience and positive input, it is possible for learners to distance themselves from the parametric value specific to their L1 and assume the parametric value specific to the language they are learning because UG allows them to access this value.

A study focusing on possible transfer effects regarding the different parametric values was conducted by Grüter *et al.* (2010). The two languages investigated were considered different according to the Disjunction Parameter: English, in which negation has wide scope over disjunction since disjunction is interpreted as having the -PPI value, and Japanese, in which negation has narrow scope with respect to disjunction since disjunction is interpreted as having the +PPI value.

Four experiments were conducted: two on the control groups of native speakers of English and native speakers of Japanese, and two conducted on Japanese-speaking L2 English learners and English-speaking L2 Japanese learners.

All experiments were based on a truth-value judgement task involving animals in an eating contest, which received prizes depending on what food items they ate. Participants were asked to judge a sentence containing negation and disjunction and interpret it as true or false depending on the prize the animal had received. An example is (10) below:

(10) *The [animal] ate the cake, but he didn't eat the carrot or the pepper.* (Grüter *et al.*, 2010, p. 140)

The native speakers of English consistently indicated that their preferred interpretation is the one in which negation has wide scope over disjunction, which is interpreted as having the value -PPI.

The answers given by the native speakers of Japanese consistently indicated that the parametric value of disjunction in negative sentences is +PPI, meaning that negation has narrow scope in its interaction with disjunction.

The results received from the Japanese-speaking L2 English learners were similar to the answers given by the L1 Japanese speakers, not to the ones given by L1 English speakers. This shows that L1 influences the learning of L2.

The results received from the English-speaking L2 Japanese learners were mostly similar to the answers given by the L1 Japanese speakers, meaning that those participants successfully acquired the interpretation preferred in Japanese despite the difference from their L1. However, some participants consistently gave answers in accordance with the preferred interpretation in their L1, meaning that transfer patterns were still observed.

To sum up, the results in Grüter et al. (2010) indicate that the L2 learning of disjunction in negative sentences is subject to transfer from L1 irrespective of whether in L1 the preferred parameter setting of disjunction is +PPI or -PPI.

Based on this study and the experiments previously reported on L1 English and L1 Romanian, the prediction is that, when setting the parameter value preferred in English, -PPI, there will be transfer from the parameter value preferred in Romanian, +PPI, at least in the initial stages of learning.

6.2 Task and Procedure

The methodology employed a question-after-story task similar to the one used for the experiments on native speakers of English and native speakers of Romanian.

The only difference between the experiments with native speakers and the experiment with L2 learners of English was that, for the latter

group, the task was printed on paper and administered during English classes at school. On average, it took participants approximately 20 to 30 minutes to complete the task.

6.3 Participants

The participants were students in the 7th and 8th grades in a public school in Bucharest. In total, 46 participants (age range 13–15, mean age = 14.10) were included. The participants were required to self-assess their proficiency in English. Responses varied from A1 to B2, irrespective of the grade the students were in.

The L2 English participants were divided into two groups based on their self-assessed proficiency level. Two groups were formed: the A-level group, consisting of 16 participants whose proficiency level ranged between A1 and A2, and the B-level group, consisting of 30 participants whose proficiency level ranged between B1 and B2.

6.4. Results and Discussion

For the A-level group, 416 answers were received in total, out of which 256 were answers to test questions, 64 per condition. For the *NONE – NEG…or* condition, 39 answers were *yes* (60.9%) and 25 were *no* (39.1%). For the *1DT – NEG…or* condition, 23 answers were *yes* (35.9%) and 41 were *no* (64.1%). For both these conditions, the answers were not conclusive enough to indicate a clear preference towards the conjunctive or the disjunctive reading.

The results are summarised in Table 3.

For the B-level group, 780 answers were received in total, out of which 480 were answers to the test questions, 120 per condition. For the *NONE – NEG…or* condition, 73 answers were *yes* (60.8%) and 47 were *no* (39.2%). For the *1DT – NEG…or* condition, 55 answers were *yes* (45.8%) and 65 were *no* (54.2%). In this case, the difference was even lower than that for the A-group, thus no indication of interpretational preference could be established.

The results are summarised in Table 4.

Table 3

Acceptance rates for the A-level group

Condition	**NONE – neither nor**		**1DT – neither nor**		**NONE – NEG…or**		**1DT – NEG…or**	
Answer	yes	No	yes	no	yes	No	yes	No
No. answers	65.6% (n = 42)	34.4% (n = 22)	21.9% (n = 14)	78.1% (n = 50)	60.9% (n = 39)	39.1% (n = 25)	35.9% (n = 23)	64.1% (n = 41)

Table 4

Acceptance rates for the B-level group

Condition	**NONE – neither nor**		**1DT – neither nor**		**NONE – NEG…or**		**1DT – NEG…or**	
Answer	yes	No	yes	no	yes	No	yes	No
No. answers	89.2% (n = 107)	10.8% (n = 13)	5.8% (n = 7)	94.2% (n = 113)	60.8% (n = 73)	39.2% (n = 47)	45.8% (n = 55)	54.2% (n = 65)

Moreover, a one-way ANOVA without replication revealed no significant difference between the *yes*/*no* responses in the two scenarios (*NONE – NEG…or and 1DT – NEG…or*) with the A-level group: $F(3,45) = 2.26$, $p > .05$. There was no significant difference between the responses in the two scenarios in the B-level group either, as indicated by the results of a one-way ANOVA without replication: $F(3,87) = 1.09$, $p > .05$.

The results of the two groups were then compared in order to examine the possible effect of proficiency level. A chi-square test was conducted to examine the relation between group and *yes*/*no* responses in the *NONE* scenario. The relation between the two was not significant: $\chi 2$ (1, $N = 46$) = 0, $p = 1$. An additional chi-square test was performed to examine the relation between group and *yes*/*no* responses in the *1DT* scenario. The relation between the two was not significant either: $\chi 2$ (1, $N = 46$) = 1.2, $p > .05$. These results indicate that there was no significant difference between the two groups regarding the interpretation assigned to disjunction in negative sentences.

Therefore, the results were analysed as coming from one single group and, in order to get a better picture of the data, an analysis of the individual results of the 46 participants was performed. The focus was on identifying possible transfer effects, as well as on identifying the proficiency level at which L2 learners reach native-like interpretation of disjunction in negative sentences.

Firstly, the results received from all 46 participants, 184 per condition, are summarised in Table 5.

The results do not indicate a clear preference towards one of the interpretations, the disjunctive (Romanian-like) one or the conjunctive (English-like) one, given the small difference (<20%) between the rate of *yes* answers received in the *NONE – NEG…or* condition (60.6%) and the *yes* answers received in the *1DT – NEG…or* condition (42.2%).

Secondly, the individual analysis revealed three responder types: 1) conjunctive responders, 2) disjunctive responders, and 3) mixed responders.

Participants who gave 3 or more *yes* responses in the *NONE – NEG…or* condition and 3 or more *no* responses in the *1DT – NEG…or* condition were categorised as conjunctive responders (n = 20).

Participants who gave 3 or more *no* responses in the *NONE – NEG…or* condition and 3 or more *yes* responses in the *1DT – NEG…or* condition were categorised as disjunctive responders (n = 13).

Participants who either gave 3 *yes* responses in both the *NONE – NEG…or* and the *1DT – NEG…or* condition, or who gave 2 *yes* and 2 *no* responses in at least one of these conditions were categorised as mixed responders (n = 13).

Across all three groups, the participants ranged from the 7th to the 8th grade and from the A level to the B level irrespective of the response patterns they exhibited. The results according to the response pattern are summarised in Table 6.

The results of the conjunctive responders reveal a preference for the interpretation according to which disjunction is -PPI and can scope below c-commanding negation, thus giving rise to the conjunctive interpretation. These participants have successfully acquired the English-like interpretation and this indicates that L2 English learners can set the value of the Disjunction Parameter specific to English (-PPI), despite the different parametric value preferred in Romanian (+PPI).

The results given by the disjunctive responders reveal a preference for the interpretation according to which disjunction has the +PPI value and cannot scope below c-commanding negation, thus giving rise to the disjunctive interpretation. As predicted by the Full Transfer Full Access hypothesis (Schwartz & Sprouse, 1994; Schwartz & Sprouse, 1996), these participants are still at a stage in which they transfer the parametric value from Romanian to English, which has a different parametric value. These results are also in line with the findings in the study by Grüter *et al.* (2010) concerning the setting of a different parametric value of disjunction in a second language: there is positive evidence of transfer from L1 when the mother tongue and the second language display different parametric values of disjunction in negative sentences.

The results given by the mixed responders indicate that they do not have a clear preference regarding the interpretation of disjunction in negative sentences. This indicates that most of the mixed responders have gone beyond the full transfer stage of L2 learning and are in an intermediate stage, where the parameter specific to English (-PPI) is not fully set. However, the mixed responders can successfully set the parametric value preferred in English, as is proved by the responses given by the conjunctive responders.

Table 5

Acceptance rates for L1 Romanian – L2 English participants

Condition	**NONE – neither nor**		**1DT – neither nor**		**NONE – NEG…or**		**1DT – NEG…or**	
Answer	yes	no	yes	no	yes	no	yes	no
No. answers	81% (n = 149)	19% (n = 35)	11.4% (n = 21)	88.6% (n = 163)	60.9% (n = 112)	39.1% (n = 72)	42.4% (n = 78)	57.6% (n = 106)

Table 6

L1 Romanian – L2 English. Response patterns

	Conjunctive responders	**Disjunctive responders**	**Mixed responders**
	28.3% (n = 20)	43.5% (n = 13)	28.3% (n = 13)
Proficiency level	A2 – B2	A2 – B2	A1 – B2

Nevertheless, the analysis of the three responder patterns does not indicate a clear proficiency effect regarding the learning of disjunction in negative sentences as in all responder groups, proficiency levels ranged from A2 or A1 to B2.

To sum up, the results of the experiment conducted on Romanian-speaking learners of L2 English show, firstly, that there is evidence of transfer of the parametric value in L1 in the initial stages of L2 learning (recall the disjunctive responders). Secondly, these results reveal that it is possible to set the preferred parametric value in English despite its difference from the preferred parametric value in Romanian (recall the conjunctive responders).

7. Conclusions

The current study aimed to investigate the learning of the interaction between negation and disjunction in an L1 Romanian L2 English setting. To do so, it was necessary to first establish how native speakers of English and Romanian interpret disjunction in negative sentences in their own native language.

The preferred interpretation in English is the conjunctive one (Szabolcsi, 2002; Lungu *et al.*, 2021; Jasbi *et al.*, 2023). Given the contradictory information provided by the Disjunction Parameter (Szabolcsi, 2002) and Lungu *et al.* (2021) with respect to the preferred interpretation in Romanian, an experimental study was conducted to investigate how adult speakers of Romanian interpret disjunction in negated sentences.

The experimental studies conducted on native speakers of English and native speakers of Romanian indicate that the preferred value of disjunction is –PPI and +PPI, respectively.

The experiment conducted on Romanian-speaking learners of L2 English indicated a degree of variation between the -PPI and the +PPI interpretation. The results showed that there is no influence of the proficiency level on how participants interpret disjunction in negative sentences.

Nonetheless, positive evidence of transfer was discovered in the case of Romanian-speaking learners of L2 English and it was also discovered that, in spite of transfer from the +PPI value in Romanian, learners of L2 English can achieve the preferred interpretation in the target language (the –PPI value).

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ON THE ACQUISITION OF MOTION IN ENGLISH

Abstract. This paper discusses the acquisition of motion of native English speakers within Talmy's (1985, 2000) typological classification of languages, the lexical elements involved in the expression of motion and the syntactic patterns emerging from their combination. Talmy introduces a two-class typology based on how a language encodes Path of motion; he distinguishes between Satellite-framed languages (Path conveyed by a satellite: a preposition, a particle, a prefix, a directional adverb), and Verb-framed languages (the verb itself encodes Path). In this typology, English is a Sattellite-framed language. A CHILDES corpus (Berman & Slobin (1994)) of narratives was analyzed. Participants had to describe images from a frog-story picture book. Five syntactic patterns used to express motion in English were systematically investigated in terms of frequency of occurence: bare directed motion, directed motion with a manner component, Path-Manner verbs (Drăgan (2012, 2022)), Goal of Motion constructions and located motion. Talmy claims that English speakers prefer Goal of Motion construction (manner-of-motion verb with a PP), however the preferred option seems to be the bare directed motion pattern. This paper provides a comprehensive view of language acquisition and development regarding the expression of motion, exploring the intricate relations between lexical items, syntactic structures and age-related changes.

Keywords: motion, Path, Manner, verbs, Talmy, Goal of Motion

1. Introduction

This study explores the acquisition of syntactic and semantic structures for expressing motion events in English, based on Talmy's (1985, 2000) typology of lexicalization patterns. Talmy distinguishes between Satellite-framed (S-framed) languages, where Path is encoded by a satellite

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(e.g., preposition, particle), and Verb-framed (V-framed) languages, where Path is expressed by the verb itself. In S-framed languages like English, Manner is typically conveyed by the verb, while in V-framed languages, it appears as an adjunct. The study analyzes motion-denoting patterns in English, focusing on how motion is expressed through various linguistic constructions.

Using a corpus of narratives from the CHILDES database (Berman & Slobin, 1994), the research investigates the acquisition of motion-related lexical items and syntactic patterns across different age groups. The findings reveal a developmental trajectory in motion event expression among English speakers, supporting Talmy's claims to a certain extent.

2. Building up Motion in English

This section explores the elements involved in the expression of motion in English focusing on verbs and prepositions and examining the types of motion verbs, their syntactic and semantic properties, the semantic and syntactic properties of prepositions, and how these elements combine to convey motion events.

2.1. Motion verbs

Motion events in English are expressed using two classes of verbs – inherently directed motion (Path) verbs (*come, go, descend, ascend*) and manner-of-motion verbs (*run, walk, dance*) – combined with spatial PPs. These verbs are normally intransitive, both unnacusatives and unergatives, but they can be used transitively as well (*enter/exit the house, ascend/ descend the stairs, roll the ball, walk the dog*, etc.).

English features a rich variety of manner-of-motion verbs, including those for slow (*amble, crawl*), fast (*race, dash*), aimless (*wander, roam*), and sudden motion (*dart, bolt*). In contrast, Path verbs are fewer and primarily distinguish horizontal or vertical movement (*ascend, retreat*). This imbalance likely explains English speakers' preference for the Goal of Motion strategy in describing motion events.

2.1.1. Verbs of inherently directed motion

The class of inherently directed motion verbs includes *advance, arrive, ascend, come, cross, depart, descend, emerge, enter, escape, exit, fall, flee, go, leave, plummet, retreat, return, sink, tumble,* etc. (Levin, 1993). They are classified as unnacusatives due to their sole argument, a Theme. Their unnacusative status is further supported by the inability to appear in resultative constructions because their meaning entails an endpoint, thus preventing the addition of a second delimiter, under Tenny's (1987) Single Delimiter Constraint. Inherently directed motion verbs also occur in *there-sentences*, as they denote changes of location, exemplified in (1) below. These constructions typically involve verbs indicating the arrival or movement of entities to specific locations.

(1) *a. There rose a balloon in the sky.*
b. There came the faintest noise, the tiny grinding of a boot sole against the rock... (Drăgan, 2012, p. 37)

As Drăgan (2012) suggests, inherently directed motion verbs can be divided into two classes: Source verbs and Goal verbs. Source verbs semantically express the "beginning of motion", as seen in examples like *depart, emanate, emerge, erupt, escape, exit, flee,* and *leave*. Typically, these verbs do not require additional elements to express Source (see (2)), though some can optionally select a Source PP (see (3)). In certain cases, omitting the PP (particularly the preposition *from*) results in ungrammaticality (see (4)).

(2) *a. He shook hands and then departed.*
b. New business opportunities will emerge with advances in technology.

(3) *a. The bus for Dallas departs [from the Greyhound-Trailways Terminal]*$_{Source}$*.*
b. A lion has escaped [from its cage]$_{Source}$*.*

(4) *Angry voices emanated *([from the room]*$_{Source}$*).* [2]

[2] Cambridge Dictionary – https://dictionary.cambridge.org/

Goal verbs, such as *advance, cross, plunge, retreat, ascend, rise, collapse, fall, arrive,* and *return,* focus on the endpoint of motion. Like Source verbs, they vary in behavior: some can occur with or without a directional phrase, while others specify both Path and Goal. For example, *collapse* and *arrive* can stand alone (5), *return* and *collapse* may include a Goal phrase (6), and *descend* can combine with two PPs for Path and Goal (7). The examples below illustrate the behavior of Goal verbs, which emphasize the endpoint of a motion event.

(5) *a. He thought his whole world had collapsed when his wife died.*
b. After a long day's travel, we finally arrived.

(6) *a. Odysseus returned [to his home]*$_{Goal}$ *after many years of travelling.*
b. A piece of the wall collapsed [on top of him]$_{Goal\text{-}denoting\ Locative\ PP}$.

(7) *She descended [the sweeping staircase]*$_{Path}$ *[into the crowd]*$_{Goal}$ *of photographers and journalists*.[3]

Goal verbs typically indicate Goal through directional PPs or Direct Object NPs. However, verbs like *come* and *go* form a distinct class. These light verbs denote movement relative to a reference point and can combine with various directional phrases. While they specify Direction, they do not indicate a particular direction but rather a broad range of possible directions in relation to their reference point.

(8) *a. We came by car. (incorporated Goal)*
b. We went [up]$_{Direction}$ *[to London]*$_{Goal}$ *last weekend.*[4]

There are cases of inherently directed motion verbs (*forge, lunge, plummet, slump,* and *swoop)* that integrate both Goal and Manner components into their lexical specifications, labeled Path-Manner verbs (see Drăgan, 2012; 2022). For example, *plummet* describes rapid downward movement, while *lunge* denotes sudden and threatening forward motion. Despite their

[3] Cambridge Dictionary – https://dictionary.cambridge.org/
[4] Oxford Advanced Learner's Dictionary – https://www.oxfordlearnersdictionaries.com/

inclusion of Manner, these verbs are categorized as inherently directed motion rather than manner-of-motion due to their inherent unidirectionality.

2.1.2. Verbs of Manner of Motion

Unlike inherently directed motion verbs, manner-of-motion verbs (*amble, bounce, crawl, creep, float, fly, glide, gallop, hop, leap, march, roll, slide,* etc.) express the manner in which a motion event is carried out.

The class of manner-of-motion verbs is much richer than that of inherently directed motion verbs, with plenty of synonyms, fine-grained semantic distinctions in terms of manner of motion. There are 6 basic manner-of-motion verbs and a large number of verbs that are semantically related to them:

- Move verbs: *barge, creep, dance, dart, flit, float, gallivant, glide, hurtle, jolt, jump,* etc.
- Walk verbs: *amble, limp, mosey, pace, parade, plod, prowl, roam, shuffle, trudge,* etc.
- Rush verbs: *careen, charge, dash, hasten, hurry, nip, race, scram, scramble, speed,* etc.
- Run verbs: *bolt, gallop, jog, lope, romp, scamper, scoot,scutter, scuttle, skitter, swing, etc.*
- Jump verbs: *bounce, bound, cavort, leap, lope, prance, romp, skip, spring, vault, etc.*
- Turn verbs: *coil, roll, rotate, squirm, swing, twist, twirl, wheel, whirl, wind, writhe,* etc

These basic verbs and their correlatives illustrate the richness and variety within the class of manner-of-motion verbs, allowing for precise and nuanced descriptions of different types of movement. Examples are given in (9) below.

(9) *a. She turned off the light and crept [through the door]*$_{Threshold/Path}$.
b. The spider crept [up the wall]$_{Unbounded\ Path}$.
c. She stood up and walked [toward him]$_{Unreached\ Goal}$.

d. She ran [away]Direction [from home]Source.
e. Everyone rushed [to the door]Reached Goal when the alarm went off.
f. A group of teenagers were cavorting [in the park]Locative. [5]

Manner-of-motion verbs exhibit interesting behavior in locative inversion constructions ([Locative PP – V – DP Subject]), a non-canonical focus structure where the sentence-initial PP sets the scene (background information) and the post-verbal DP introduces a new referent (new information). Typically, unaccusative verbs of existence and appearance permit locative inversion, as they align with presenting a new referent within an established location.

(10) *a. On the horizon appeared a large ship.*
b. In the corner stood a tall lamp.

In locative inversion structures, all intransitive verbs are treated as unaccusatives, as these sentences convey an existence or appearance interpretation. They require two arguments: a Theme describing the entity that exists or appears, and a location indicating where the entity exists or appears.

Manner-of-motion verbs are usually felicitous in such constructions and they usually combine with a directional PP, entailing change-of-location. Even when the verb is unergative, there is a behavior similar to the one appearance unacusatives display, the argument being reinterpreted as a Theme that undergoes change of location.

(11) *Into the room walked Sylvia Tucker, with Zahid walking behind her like a puppet*. (Levin & Rappaport Hovav, 1995, p. 243)

Resultative constructions can occur with transitive and intransitive verbs, both unnacusatives and unergatives. A resultative phrase is "an XP that denotes the state achieved by the referent of the NP it is predicated of as a result of the action denoted by the verb in the resultative construction" (Levin & Rappaport Hovav, 1995, 34). A resultative consists of two subevents, generally being in a relation of causation. In syntax, there is a Result Phrase

[5] Cambridge Dictionary – https://dictionary.cambridge.org/

RP that denotes the resulting state/location, which combines with the verb, which expresses the causing subevent.

(12) John hammered the metal flat.

Resultatives require their RP to predicate an affected entity, typically the direct object, as captured by the Direct Object Restriction (Levin & Rappaport Hovav, 1995, p. 35). When the verb is unergative, an unselected or non-subcategorized object must be added the sentence to be grammatical. This object often appears as a fake reflexive or a DP denoting inalienable body parts (Simpson, 1983 in Levin & Rappaport Hovav, 1995, p. 35).

(13) *a. *Dora shouted hoarse.*
b. Dora shouted herself hoarse. (Levin & Rappaport Hovav, 1995, p. 35)

In (13b), the reflexive pronoun *herself* functions as the direct object, satisfying the requirement and making the sentence grammatical.

Manner-of-motion verbs can be unaccusative as well. Unaccusative manner-of-motion verbs take a Theme as argument, which is also the Subject of the sentence. However, they still observe the DOR[6] in resultatives because the single argument of unaccusatives starts out as an internal argument, so the DOR stands if rephrased as RP needs to be predicated of an internal argument (instead of direct object).

(14) *a. The gate rolled open.*
b. The door swung shut. [7]

To sum up, both unaccusative and unergative verbs can be used in resultative constructions, but they follow different patterns that comply with the DOR. Unergative verbs need to add a non-subcategorized or fake reflexive direct object for the Result Phrase to be added. In contrast, unaccusative verbs can combine directly with a Result Phrase because

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[6] *i.e.*, Direct Object Restriction

[7] Oxford Advanced Learner's Dictionary – https://www.oxfordlearnersdictionaries.com/

their single argument is already an internal argument that the Result Phrase can be predicated of.

2.1.3. Prepositions

According to Folli and Ramchand (2005), prepositions can be classified based on whether they indicate just Path or both Path and a final location (Place). Thus, there are three subclasses of prepositions: purely dynamic prepositions (*to, into, onto, across,* etc.), which specify both path and final location. They cannot be used with stative verbs (*I walked to the park.* vs. **I was to the park*). Secondly, there is a subclass of prepositions considered ambiguous (*under, behind, over,* etc.) since they can be interpreted as either dynamic or stative, making their use context-dependent. Lastly, stative prepositions (*in, on, underneath, beneath*) only indicate location and, when used with motion verbs, do not derive Goal of Motion, denoting only the location where the action occurs.

The examples in (15) to (18) below illustrate their distinct behaviour.

(15) *a. Sarah walked to the park.*
b. The cat jumped onto the roof.

The prepositions in examples (15a) and (15b), which are an integral part of the Goal of Motion constructions, are obligatorily dynamic and cannot appear in simple stative constructions, as shown by the ungrammaticality of:

(16) *a. *Sarah was to the park.*
*b. *The cat was onto the roof.*

A small group of prepositions typically used in stative contexts do not combine with Goal of Motion constructions. For instance, using *in* in a sentence like (17a) does not convey a result or endpoint of the motion, unlike *to* in (17b).

(17) *a. John ran in the store.*
b. John ran to the store.

Prepositions like *under* or *behind* are ambiguous, i.e., they may acquire both locative and dynamic interpretations depending on their use. They may denote only Location/Place, deriving only a purely locative reading, or they may express the Goal of motion in a GM construction.

(18) *a. The boy ran behind the fence.*
b. The boat floated under the bridge. (Folli & Ramchand, 2005)

In contrast, prepositions like *in*, *underneath*, and *beneath* are strictly locative, participating only in the expression of located motion, irrespective of the dynamic/stative verb they may combine with:

(19) *a. John is in the store.*
b. The cat slept beneath the table.

Prepositions influence the depiction of motion in English and they are essential for the expression of different types of motion events in English (located vs directed motion).

3. The Syntactic Expression Of Motion

This section discusses the syntactic patterns potentially used to express motion events in English, patterns built on the lexical items (verbs and prepositions) examined in the previous section.

3.1. Motion events and Talmy's (1985; 2000) lexicalization patterns

According to Beavers, Levin and Tham (2009), the resources a language uses to express Manner and Path: lexical elements (manner and result verb roots, stems, affixes, spatial adpositions, particles, and boundary markers); morphological elements (case markers, applicative affixes, aspectual affixes, and compounding); and syntactic elements (adjunction, verb serialization, and subordination). These resources are not specifically dedicated to encoding motion events, but are semantically compatible with the components of such events and can be used for this purpose if they exist in a language.

With respect to expressing motion, Talmy (1985; 2000) identified two types of languages: Verb-framed languages (like Romance languages), which integrate Path directly into the verb, and Satellite-framed languages (like Germanic and Slavic languages), where Path is expressed through a satellite (such as a preposition, particle, or prefix with directional meaning).

(20) *John ran into the house*.

(21) *The boat floated under the bridge.* (Folli & Ramchand, 2005, p. 82)

(22) *a. La barca galleggiò sotto il ponte.*
the boat floated under the bridge
(Folli & Ramchand, 2005, p. 82)
b. La barca passò sotto il ponte galleggiando.
the boat passed under the bridge floating
(Folli & Ramchand, 2005, p. 82)

(23) *a. Barca a plutit sub pod.*
Boat.DEF has floated under bridge
'The boat floated under the bridge'.
b. Barca a intrat sub pod plutind.
Boat.DEF has entered under bridge floating.
'The boat floated under the bridge.'

In Satellite-framed languages like English, Path is expressed through satellites (e.g., prepositions or particles), while the main verb conveys Manner, as in *run into the house* (20). This structure allows flexibility, as seen in (21), where *the boat floated under the bridge* can imply motion or location. In contrast, Verb-framed languages like Italian and Romanian encode Path directly in the verb, with Manner as an adjunct, e.g., *La barca passò sotto il ponte galleggiando* ('The boat passed under the bridge floating') (22) or Romanian *Barca a intrat/sub pod plutind* ('The boat entered/went under the bridge floating') (23a, 23b). These examples illustrate the distinct lexicalization patterns of Satellite- and Verb-framed languages.

3.2. The expression of motion in English

Drăgan (2012) explains how English exhibits various patterns for expressing motion, which differ based on the types of motion verbs used. Generally, English uses either inherently directed motion verbs (such as *ascend, descend, go, come, flee, escape, fall, arrive, depart*, etc.), which can be used with or without PPs, or manner-of-motion verbs combined with directional phrases to express directed motion (Goal of Motion[8]).

Inherently directed motion verbs mostly express Goal, and can occur alone or accompanied by PPs to provide additional details about the Direction or Source[9].

Manner-of-motion verbs (*run, lope, stride, sashay, fly, gallop, walk, jump*, etc.), on the other hand, primarily describe the way in which motion occurs and require additional directional phrases to express directed motion. They indicate a specific Manner of motion and combine with directional PPs to describe motion along a Path toward a specific Goal.

3.2.1. Located motion

Located motion events describe how an entity moves within a specific area. These events use atelic (not goal-oriented) unergative or unaccusative manner-of-motion verbs that can be paired with optional locative prepositional phrases acting as adjuncts. For example:

(24) *a. We spent the afternoon wandering around the old part of the city.*
b. Skaters leapt and twirled on the ice. [10]

There is a special subclass of manner-of-motion verbs, specifically, *run* verbs, that generally resist combining with directional prepositional phrases. These verbs, including *cavort, frolic, gambol, gallivant, mill, prowl, ramble,*

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[8] Combinations like *run to the door, lope into the yard, stride across the plain, sashay out of the room,* etc.

[9] *e.g., Ascend (through the woods)* and *descend (into the valley)* naturally include a sense of direction even without the PPs

[10] Cambridge Dictionary – https://dictionary.cambridge.org/

roam, rove, etc., do not usually express a goal-oriented motion. They describe random or aimless movement within a certain area, and thus, they typically pair with locative prepositional phrases, either ambiguous (in their stative uses) or purely stative (locative).

(25) *a. Several wolves prowled around/*to the camp, but were kept at bay by the fire.*
*b. They watched the children frolicking at/*to the beach.*
*c. Young ladies did not cavort around/*across the estate with male friends...*
*d. Samuel roamed around/*into the chamber, looking for a wall safe*. (Drăgan, 2012, p. 114)

In these examples, the verbs *prowl, frolic, cavort,* and *roam* describe motion that is unrestricted and not directed toward a specific goal, making directional prepositional phrases like *to the camp, to the beach, across the estate,* and *into the chamber* ungrammatical. Instead, these verbs pair more naturally with locative phrases such as *around the camp, at the beach, around the estate,* and *around the chamber*, which focus on the area where the movement occurs rather than on denoting a specific destination.

3.2.2. Directed motion

Directed motion events describe an entity moving toward a Goal and can be expressed in several ways. Pure inherently directed motion verbs (*depart* or *emerge*) may or may not include directional phrases, as in (26). Path-Manner verbs, shown in (27), combine inherent direction with a Manner component. Manner-of-motion verbs, illustrated in (28), always require a PP, encoding both Direction and Manner, but unlike Path-Manner verbs, they are not unidirectional and can pair with various directional PPs (*e.g., creep into/out of the room, up a hill, down the stairs*). Additionally, transitive verbs of inherently directed motion, as in (29), express directed motion with objects indicating Source, Path, or Goal.

(26) *a. Needless to say, I departed quickly.*
b. Gladys emerged from the dressing room. (Drăgan, 2012, p. 37)

(27) *a. Shivering, she forged up the hill toward that boulder.*
b. Pieces of rock plummeted down the mountainside to the ground below. (Drăgan, 2012, p. 41)

(28) *a. Sara crept carefully down the stairs in the middle of the night and left the house.*
b. She flounced out of the room, swearing loudly. (Drăgan, 2012, p. 70)

(29) *a. They exited the building.*
b. The ducks crossed the river.

All these different types of motion verbs and their associated PPs result in a series of directed motion subpatterns, to be discussed in what follows.

The **bare directed motion pattern** is based on inherently directed motion verbs which can optionally combine with a directional or locative PP. Since the meaning of direction is inherent, verbs of inherently directed motion can occur in isolation, as in (30).

(30) *Finally, they came*.

They can be further classified into two classes: Source verbs and Goal verbs (see subsection *2.1.1.*). Source verbs denote the onset of motion and their expression of the actual Source can vary depending on the context. Typically, Source verbs do not require an additional element to express Source, as shown in (31).

(31) *a. An FBI spokesman said Stewart fled before police arrived.*
b. Two prisoners have escaped. [11]

However, some Source Verbs can take a Source PP to further specify the Source overtly.

[11] Cambridge Dictionary – https://dictionary.cambridge.org/

(32) *a. She emerged from the sea, blue with cold.*
b. The train for Cambridge will depart from platform 9. [12]

On the other hand, there are certain Source verbs, such as *emanate*, which need an overt SourceDP to form a grammatically correct sentence (see (33)).

(33) *The sound of loud music emanated *(from the building).*

Another pattern for expressing directed motion, with a specification of Manner as well, is **the directed motion with a manner component** construction, which Talmy (1985; 2000) associates with Romance languages. This pattern combines inherently directed motion verbs with a directional or locative PP and a Manner adjunct. For example, in Romanian, structures like (34) illustrate this construction.

(34) *A intrat în cameră dansând.*
has entered in room dancing
'He/she entered the room dancing.'

Although this pattern is considered typical of Romance languages (Talmy 1985; 2000), English can also express directed motion with a manner component similarly (*He entered/came into the room dancing*). However, due to the greater efficiency of the Goal of Motion construction, this pattern is rarely used in English.

What is more, English can lexicalize both Path and Manner into a single idiomatic construction – the **GO/COME-V-ING-OBL construction**, illustrated in (35a-d) below:

(35) *a. He went running into the room.*
b. She came screaming out of the woods.
c. I went looking for mushrooms.
d. She went skiing in the Alps.

[12] Cambridge Dictionary – https://dictionary.cambridge.org/

The GO/COME-V-ING-OBL construction, as outlined by Broccias and Torre (2018; 2020), is built on the inherently directed motion verbs *come* or *go* combined with a Manner-denoting ING verb, and they are semantically classified into three subtypes: manner, conflation and purpose/activity.

The category of inherently directed motion verbs includes a subset of verbs that inherently combine both Path and Manner – the subclass of **Path-Manner verbs** (Drăgan 2012; 2022). These verbs express movement toward a Goal, while simultaneously describing how that movement occurs. Examples of such verbs include *forge, lunge, plummet, slump, swoop,* etc.

(36) *a. He forged through the crowds to the front of the stage.*
b. She lunged forward and snatched the letter from me.
c. The stock prices plummeted to an all-time low.[13]

Last but not least, **Goal of Motion** refers to a construction that describes a complex event made up of two subevents: the process of motion, typically expressed by a manner-of-motion verb or a verb of sound emission, and the endpoint of that particular motion, expressed by means of a directional PP. Below, there are some examples of Goal of Motion constructions:

(37) *a. The athlete sprinted [toward the finish line]*$_{Unreached\ Goal}$.
b. The child tiptoed [to the window]$_{Reached\ Goal}$.
c. He strode [past her]$_{Path}$ *and mounted the stairs.*
d. He used to run [along the beach]$_{Unbounded\ Path}$ *every morning.*
e. The queue shuffled [forward]$_{Direction}$ *slowly.* [14]

In these sentences, the manner-of-motion verbs (*sprint, tiptoe, stride, run, shuffle*) depict how the motion occurs, while the PP describe different Path segments. Notice that the view of Goal of Motion adopted here aligns with Zubizarreta and Oh (2007), who argue that Goal of Motion constructions need not always be telic but can involve atelic PPs denoting unreached Goals (*e.g., toward, along*). The key requirement is that the Goal be reachable, not necessarily reached.

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[13] Oxford Advanced Learner's Dictionary – https://www.oxfordlearnersdictionaries.com/
[14] Oxford Advanced Learner's Dictionary – https://www.oxfordlearnersdictionaries.com/

According to Zubizarreta and Oh (2007), there are two main requirements for verbs to participate in the derivation of the Goal of Motion construction: they must denote Manner and be atelic. Verbs that denote Manner and are atelic include manner-of-motion verbs (*amble, bolt, hustle, climb, dance, run, jump,* etc.) and verbs of sound emission (*clash, clatter, creak, roar, rumble,* etc.).

Goal of Motion constructions often reflect a creative use of language, allowing for lexical items that might not typically function as verbs or that have different meanings as verbs in other contexts to express the manner of motion. This creativity is evident in sentences like those in (38):

(38) *a. Arakasi wormed out of the ditch.*
b. Blood fountained out of the gash in his neck.
c. But before he could speak, the sitting-room door was flung open and Regal boiled into the room. (Drăgan, 2012, p. 122)

Goal of Motion constructions can be elaborated using complex Paths, where a sequence of directional PPs denotes segments of the overall trajectory. In these structures, manner-of-motion verbs describe how the movement occurs, while the directional PPs outline the Path, as shown in (39) below:

(39) *He walked [out of the room]*$_{Source}$, *[down the stairs]*$_{Bounded\ Path}$, *[into the garden]*$_{Reached\ Goal}$, *and [across the yard]*$_{Bounded\ Path}$.

Goal of Motion constructions are highly productive and preferred in English due to the rich and varied class of manner-of-motion verbs in this language. Additionally, English benefits from access to both dynamic and ambiguous prepositions like *into*, *onto*, *across*, and *under*, which can clearly express direction, allowing manner verbs to occupy the verb position effectively.

4. The Acquisition of Motion in English

Built on the ideas discussed in the previous sections, this section explores how English speakers acquire the lexical tools and syntactic patterns necessary for the expression of motion. Specifically, it investigates the

lexicalization of the Path and Manner components with respect to Talmy's language typology, assessing the lexical tools and syntactic structures used by native English speakers. A corpus containing narratives provided by various age groups will be analyzed to draw out a clear picture of how the initial patterns of motion expression emerge and how they develop over time.

4.1. Database and methodology

The present corpus is selected from the Child Language Data Exchange System (CHILDES) and it consists of oral and written narratives collected by Marchman (adults) and Renner (children) and further used by Berman and Slobin (1994) in their publications. The corpus comprises stories from fifty-nine subjects across five age groups: three-, four-, and five-year-old preschoolers, nine-year-old schoolers, and twenty-year-old adults. Each group, except the five-year-olds (with eleven narratives), contributed twelve narratives, ensuring a balanced and comparable dataset for analysis across age groups.

The participants had to create stories based on a picture book, *Frog, Where Are You?* (Mayer, 1969). The book's 24 images depict a boy and his dog searching for his escaped pet frog in the woods, encountering various animals and experiencing many mishaps.

The analysis focuses on various syntactic structures denoting directed and located motion events, including Path and Manner verbs, simple and complex prepositions, and additional items used in later stages of expressing directed motion, such as Path-Manner verbs and idiomatic patterns denoting Manner (GO/COME/RUN-V-ING-OBL constructions). This broad selection aims to identify a developmental trajectory assessing both lexical and syntactic progression, and determining its alignment with Talmy's lexicalization pattern for S-framed languages.

Although the CHILDES database includes several corpora focusing on frog stories, we have chosen to investigate only Slobin's corpus because it is the only corpus that provides a wide-range coverage of the relevant age groups (young children, preschoolers, schoolers and adults).

In our analysis of the corpus, we focus on examining how native English speakers express motion events by categorizing their motion-

denoting syntactic patterns into five distinct categories: Path verbs with or without PP (bare directed motion), Path verbs with or without PP and a Manner component (directed motion with a manner component), Path-Manner verbs, Goal of Motion constructions and located motion (manner-of motion verb +/- locative PP). By looking at these categories, we aim to determine the preferences and patterns of motion expression across different age groups.

Based on our investigation of the lexical tools and syntactic structures involved in the expression of motion events discussed in the previous two chapters, as well as on Talmy's (1985; 2000) theory of lexicalization patterns, we make the following predictions:

(1) the youngest children will produce simple structures, built on Path verbs with optional PPs, though mainly without the PP (bare directed motion);
(2) young children will also incorporate Manner into their descriptions of motion events rather early in life, *i.e.*, they will produce simple Goal of Motion constructions, given that Manner is a relevant semantic component in the description of motion events produced by speakers of Germanic languages (Talmy 1985; 2000);
(3) as their age increases, children's lexical and grammatical competence with respect to the expression of motion will increase in the sense that their descriptions of motion events will become more elaborate and they will gain access to more marginal lexical items and syntactic patterns;
(4) adults will have access to the entire range of syntactic patterns to describe motion, but will display a marked preference for the lexicalization pattern Talmy (1985, 2000) claims is favoured by speakers of Germanic languages, *i.e.*, the Goal of Motion construction.

4.1.1. Three-year-olds

Analyzing the structures three-year-olds produce reveals several notable patterns. They frequently use basic Path verbs such as *go, get, climb, fall*, and *come*, often with PPs indicating direction and location, demonstrating an

understanding of spatial relations. Contrary to the first prediction, their narratives show more complex structures, with Path verbs frequently accompanied by PPs, rather than bare Path verbs alone. This suggests early comprehension of prepositions and the emerging development of the Goal of Motion pattern, where PPs indicate direction and Path verbs may later be replaced by Manner verbs. Examples in (40) illustrate these combinations in their narratives:

(40) *a. He fell [out the window]*$_{Source\ PP}$. [3:03a]
b. He falled [into the water]$_{Goal}$. [3:03b]
c. The owl come. [3:03d]
d. The boy tried to climb [up it]$_{bounded\ Path}$. [3:03d]
e. He fell [over]$_{Path}$ *with the dog [into the pond]*$_{Goal}$. [3:03d]
f. The dog is going [away]$_{Direction}$. [3:03d]

On the other hand, even at this young age, English-speaking children can and do derive basic Goal of Motion constructions built on basic manner-of-motion verbs, what Slobin (2006; 2014) calls "low manner verbs". In (41), below, some examples are listed:

(41) *a. A owl flew [out of here]*$_{Source}$. [3:03a]
b. He's running [away]$_{Direction}$. [3:03a]
c. They chased [after the dog]$_{Path}$. [3:03f]
d. What if he steps [in the glass]$_{Goal}$. [3:03g]

Predictably, at this age, three-year-olds do not have access to more complex patterns built on special lexical items like Path-Manner verbs. However, they do show the ability to combine basic Path verbs with Manner adjuncts to provide a more refined, detailed description of the event.

(42) *You're going so fast.* [3:03b]

At this stage, the dominant pattern is the bare directed motion structure, built on Path verbs (70 occurrences). Goal of Motion constructions, on the other hand, are just beginning to emerge (there are only 21 occurences, generally built on garden-variety manner-of-motion verbs *like run, fly, jump, swim, step, chase,* and *follow*).

4.1.2. Four-year-olds

The analysis of the motion descriptions four-year-olds produce indicates that these children maintain patterns similar to those employed by three-year-olds.

Firstly, the number of examples of directed motion and Goal of Motion structures has visibly increased. The use of Path verbs remains prominent, with verbs like *go, get, climb, fall,* and *come* still in frequent use with or without accompanying PPs to indicate direction. Similarly to three-year-olds, four-year-olds use more Path verbs accompanied by PPs, thus confirming the assumption previously made concerning the pattern, which is prior to the Goal of Motion constructions.

(43) *a. He got [on a deer]*$_{\text{Goal-denoting locative PP}}$. [4:04a]
b. They landed [in some water]$_{\text{Goal-denoting locative PP}}$. [4:04b]
c. They both fell straight [down]$_{\text{Direction}}$ *[into the water]*$_{\text{Goal}}$. [4:04e]
d. The little boy getting [up]$_{\text{Direction}}$ *[from the rock]*$_{\text{Source}}$. [4:04j]
e. He climbed [a tree]$_{\text{Bounded Path}}$. [4:04g]
f. They dropped. [4:04f]
g. They fell [backwards]$_{\text{Directional Adverb}}$. [4:04g]

Although children mostly choose Path verbs in combination with different types of PPs to describe motion events, they also turn to Goal of Motion constructions to detail certain situations, as indicated in (44) below. What is more, four-year-olds appear to have gained access to the transitive causative variant of a Goal of Motion/change-of-location structure, built on verbs of surface contact through motion, which also indicates the expansion of their knowledge of motion verbs to include transitive causative verbs like *push* (44a), *throw* (44b) and *knock* (44c).

(44) *a. Pushed him [out the window]*$_{\text{Source}}$. [4:04a]
b. He's gonna throw the deer [down there]$_{\text{Direction}}$. [4:04f]
c. He knocked him [down there]$_{\text{Direction}}$. [4:04i]
d. He slipped [onto (...) a deer]$_{\text{Goal}}$. [4:04b]
e. Hop [over the water]$_{\text{Path}}$. [4:04d]
f. Sneaked [over there]$_{\text{bounded Path}}$. [4:04i]
g. He jumped [out a window]$_{\text{Source}}$. [4:04c]

Like the three-year-olds, they rarely use Path verbs with Manner adjuncts (a pattern typical of Romance speakers when they need the specification of Manner, not just Path); instead, their motion descriptions rely on either bare directed motion or some form of Goal of Motion structures, with the latter increasing in frequency. However, the corpus does include an example of a Path verb with a Manner adjunct, illustrated in in (45) below:

(45) *The frog quietly got out of his jar.* [4:04b]

Last but not least, four-year-olds' growing linguistic skills are reflected in the slightly increasing use of Goal of Motion constructions and the acquisition of new Path and Manner verbs. The numbers of Path verb constructions stays the same (70 occurrences), while the number of Goal of Motion constructions has increaseed (25 occurrences).

4.1.3. Five-year-olds

The structures expressing motion events produced by five-year-olds represent patterns similar to those observed in younger children, but they are characterized by increased frequency and increased complexity. Path verbs continue to dominate their descriptions of motion events, most of them being basic verbs of inherently directed motion like *go, get, climb*, or *fall*.

(46) *a. ...bumblebees coming [out of the honey hive]*$_{Source}$. [5:05a]
b. They go [in the water]$_{Goal}$. [5:05d]
c. ...[down]$_{Direction}$ *he went.* [5:05h]

The five-year-olds also produce novel Goal of Motion constructions, using both low and high manner verbs, in Slobin's (2006; 2014) terms, to describe movement toward a Goal (*walk*, *crawl*, *rush* or *race*), as well as new causative/transitive motion verbs like *carry* in (47f) below. Their motion descriptions become more elaborate, reflecting the ability to convey more complex motion constructions.

(47) *a. Frog crawled [out]*$_{Source}$. [5:05c]
b. They walked [down the hall]$_{Direction}$. [5:05e]
c. He rushes [out the window]$_{Source}$. [5:05f]
d. The bees race [after him]$_{Path}$. [5:05f]
e. His frog creeped [out of its jar]$_{Source}$. [5:05h]
f. The moose carried him [over]$_{Path}$ *[to a cliff]*$_{Goal}$. [5:05k]

What is more, one subject in this age group is responsible for the production of another interesting example of Goal of Motion, a novel combination built on an onomatopoeic element turned verb only in this particular construction:

(48) *A owl (…) bammed him on the ground.* [5:05e]

The structure in (48) qualifies as a case of spontaneous creation where *bam*, typically an interjection, is transformed into an ad hoc manner of motion verb.

Overall, five-year-olds still constantly select one of the two main patterns used by the previous age groups – the bare directed motion and the Goal of Motion patterns, built on mainly the same basic verbs with some notable additions. The number of occurrences for both patterns has increased: the former amounts to 80 occurrences, while the latter to 30.

4.1.4. Nine-year-olds

As children reach nine years of age, their expression of motion events becomes noticeably more complex. This age group exhibits greater progress in their linguistic abilities, using more elaborate constructions and introducing new patterns into their descriptions of motion events. The number of Path verbs is clearly higher and so is the number of complex Path structures they combine with:

(49) *a. ...to go [up]*$_{Direction}$ *[in a tree]*$_{Location}$. [9:09j]
b. The boy and the dog fell [off a cliff]$_{Source}$ *[into a swamp]*$_{Goal}$. [9:09i]
c. He came [down]$_{Direction}$ *[from the house]*$_{Source}$. [9:09d]

An intriguing example produced by a nine-year-old is illustrated in (50) below:

(50) *The dog came whimpering over.* [9:09i]

This idiomatic pattern, discussed in the previous chapter and known as the GO/COME-V-ING-OBL construction (Broccias & Torre 2018, 2020), combines the light verb *come*, denoting Path, with the present participle *whimpering*, a verb of sound emission describing Manner in the context of a PrtP (*over*) denoting Path.

While the dominant pattern for nine-year-olds remains the bare directed motion construction built on Path verbs, Goal of Motion constructions also become more pervasive and more complex in the sense that they also incorporate more complex Paths:

(51) *a. An owl poked him [out of the tree]*$_{Source}$. [9:09e]
b. He pushed him [off the side of the cliff]$_{Source}$ *[into water]*$_{Goal}$. [9:09e]
c. The owl popped [out]$_{Source}$. [9:09i]
d. The deer bucked him [off]$_{Source}$. [9:09j]
e. He tips him [off]$_{Source}$ *[over a cliff]*$_{Path}$ *[into the water]*$_{Goal}$. [9:09k]

It is interesting to notice that nine-year-olds also produce a significant number of located motion structures with or without locative PPs, which contribute to creating a background for the main scenes. This tendency demonstrates an increase in the narrative skills of nine-year-olds, as a corollary of their ability to describe complex motion events.

(52) *a. An owl started flying around.* [9:09f]
b. He started stumbling. [9:09f]
c. The owl started to chase the boy. [9:09g]

Overall, this age group has displayed more progress and access to new patterns in expressing motion. The numbers of motion descriptions has grown to 99 instances of Path verb constructions and 37 instances of Goal of Motion constructions.

4.1.5. Twenty-year-olds

As expected, the twenty-year-old group, *i.e.*, the adult group, display the most elaborate constructions in their description of motion events. Their bare directed motion constructions are far more numerous than those produced by the previous groups, but they are also more diverse and intricate. There are numerous new verbs that adults use, some of them of Latin/French origin:

(53) *a. The boy left.* [20:20d]
b. The frog is escaping [from his jar]$_{Source}$. [20:20c]
c. They're headed [to the edge of a cliff]$_{Goal}$. [20:20c]
d. The stag (…) deposits the boy [off the side of the ravine]$_{Source}$ *[into the creek]*$_{Goal}$. [20:20k]

Not only do the twenty-year-olds use Latin-origin verbs, but they also employ prepositional collocations of Latin origin, as seen in (54).

(54) *He goes in the direction of a thicket.* [20:20k]

Additionally, the adults exhibit an ability to express complex Paths in a manner similar to speakers of Romance languages:

(55) *The boy fell off the tree and landed on his back.* [20:20c]

This age group not only uses more varied Path verbs, but also employs more complex constructions such as the COME/GO/RUN-V-ING-OBL construction and the *go+infinitive* pattern, as illustrated in (56) below:

(56) *a. They go wandering out in the woods.* [20:20c]
b. The boy and the dog go running. [20:20e]
c. The dog runs howling. [20:20f]
d. The bees come swarming out. [20:20k]
e. The deer went running off with the little boy. [20:20i]
f. They go call in the woods. [20:20a]

Turning to the Goal of Motion constructions, we notice a significant change in number and complexity. The adults' narratives include 56 instances of the Goal of Motion construction, a large number compared to the number of similar structures produced by the other age groups. The constructions are also more intricate and display more enriched descriptions of the motion events.

(57) *a. An owl pops [out of the hole]*$_{Source}$. [20:20b]
b. The dog has knocked their hive [out of the tree]$_{Source}$. [20:20b]
c. The boy is running [away]$_{Direction}$ *[from the owl]*$_{Source}$. [20:20b]
d. ...while the dog is limping [into the picture]$_{Goal}$. [20:20c]
e. They walk [along]$_{Unbounded\ Path}$. [20:20f]
f. The frog tiptoes [out of the jar]$_{Source}$. [20:20k]

Another pattern that undergoes an increase in frequency of occurrence is that represented by Path-Manner verbs. As they have full access to the lexicon, it is expected that adults should provide descriptions using verbs that can capture both Path and Manner within the same lexical item.

(58) *a. The dog was plummeting [to his fate]*$_{Goal}$. [20:20d]
b. ...dog tumbles [out of the window]$_{Source}$. [20:20f]
c. The boy tumbles [down]$_{Direction}$ *[from the branch]*$_{Source}$. [20:20f]

As for the expression of located motion, adults also expectedly display more variation and the use of new manner-of-motion verbs, compared to the previous age groups.

(59) *a. They chase him [in a long stream]*$_{locative\ PP}$. [20:20k]
b. ...who is flapping about him. [20:20f]

The numbers of identified motion-denoting structures reflect a significant presence of both bare directed motion and Goal of Motion constructions, though the former are more frequent with a number of 113 instances, compared to only 56 occurences for the latter, an issue we will take up in the next section.

4.1.5. The overall picture

The analysis of the corpus of children's motion event descriptions has revealed a clear developmental progression in the complexity and variety of patterns used across different age groups. As children grow older, their descriptions become increasingly more elaborate and varied, demonstrating a more refined understanding of motion events.

The table below encapsulates the progression in children's use of different types of motion constructions from ages 3 to 20 and generally confirms the predictions made at the beginning of this chapter, as discussed in what follows.

The first prediction was that the youngest children would favor simple structures, primarily using bare Path verbs (*come, go, get, fall*, and *climb*), optional PPs, but mostly without them. Table 1 shows that bare directed motion is the most frequent, but the expected preference for the structures without PPs is not confirmed. This may be due to the nature of the Path verbs used: *come*, *go*, and *get* are light verbs that inherently require directional PPs to convey specific meanings.

The table also supports the prediction that young children incorporate Manner into motion descriptions early, as Talmy (1985; 2000) suggests Manner is essential in the motion expression in Germanic languages and is encoded in the verb. The data show that even three-year-olds produce basic Goal of Motion structures, using simple Manner verbs (*run*, *jump*, or *fly*,) in combination with directional PPs.

The table also verifies our third prediction, that, as their age increases, children's lexical and grammatical competence with respect to the expression of motion would also increase. As the table partially shows and as our detailed corpus analysis reveals, by the time they are nine, children have access to the more marginal patterns and lexical items used to express motion events.

Finally, the table partially confirms our fourth prediction: adults use the full range of syntactic patterns to describe motion. However, it does not support the expected preference for Talmy's (1985, 2000) Germanic lexicalization pattern, *i.e.*, the Goal of Motion construction. Instead, bare directed motion dominates across age groups, possibly due to the nature of the experiment. The static images may not encourage more elaborate or creative descriptions, as storytelling, an art form, is only partially embraced by some older children and adults.

Table 1

Motion-denoting patterns

Age – number of subjects – number of tokens	**Path verb +/- PP**	**Path verb +/- PP + Manner adjunct**	**Path-manner verb**	**Goal of motion**	**Located motion (manner-of-motion verb +/- PP)**
Age 3; 12 subjects; 95 tokens	70 73.68%	1 1.05%	0	21 22.10%	3 3.15%
Age 4; 12 subjects; 105 tokens	70 66.66%	1 0.95%	0	25 23.80%	9 8.57%
Age 5; 11 subjects; 120 tokens	82 68.33%	0	0	30 25%	8 6.66%
Age 9; 12 subjects; 159 tokens	99 62.26%	1 0.62%	3 1.88%	37 23.27%	21 13.20%
Age 20; 12 subjects; 201 tokens	113 56.21%	5 2.48%	3 1.49%	56 27.86%	24 11.94%

5. Conclusions

This study provides a comprehensive analysis of how motion is expressed in English, focusing on lexical items and syntactic structures. Using Talmy's (1985; 2000) typological framework – which contrasts Satellite-framed languages (Path in satellites, Manner in verbs) with Verb-framed languages (Path in verbs, Manner as adjuncts) – the study explores various constructions for expressing located and directed motion. These range from basic Path verbs with optional PPs (bare directed motion) and Manner verbs with locative PPs (located motion) to Path-Manner verbs and Goal of Motion structures. Complementing the theoretical analysis, a corpus of English narratives was examined to investigate the acquisition and use of motion verbs and constructions across age groups, from early childhood to adulthood. The findings reveal consistent developmental patterns, with increasing complexity in lexical and syntactic choices as narrators grow older.

The findings have shown that the youngest children mainly use bare directed motion structures, though Goal of Motion constructions also appear in their simplest form. As children grow older, they produce more elaborate structures, acquire more specialized Manner- and Path-denoting lexical items, and use more complex structures to express motion events. Goal of Motion constructions become more frequent, although the corpus does not confirm Talmy's suggestion that it is the preferred lexicalization pattern for English speakers. We propose that the results may be influenced by the experiment's design, as static pictures might encourage simpler descriptions rather than more creative responses.

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LINGUISTIC EVIDENCE IN TRADEMARK DISPUTES: A FORENSIC ANALYSIS OF LEXICAL, SEMANTIC, AND SYNTACTIC MARKERS

Abstract. Trademark disputes imply a linguistic battle over a term or a sequence of terms. Linguistic methods focusing on lexical, semantic and syntactic analysis can play an important role in assessing similarities, differences or the possibility of consumer confusion. The paper presents three real trademark cases from two distinguished linguists, who were called upon as expert witnesses to identify how lexical choices, semantic content and syntactic patterns can affect legal interpretation. Linguistic evidence withdrawn from corpus analysis can be very valuable in a trademark case. The work of the linguist consists in investigating how often the contested term appears in large corpora and in determining whether only the plaintiff has the right to use that certain word or not.

Keywords: linguistic tools, lexical analysis, semantic analysis, syntactical analysis, corpus analysis

1. Introduction

Trademark cases involve a battle over the use of specific words or expressions. For example, as the paper presents in section 2, it happens very often that certain companies claim they are the only ones who have the right to use a word or even a morpheme, such as McDonald's who claims that the use of the bound morpheme "mc-" by other companies may confuse customers and may be a way to take advantage of the firm's reputation. Therefore, trademark cases involve disputes over words, expressions or even morphemes,

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the smallest units of language that contain meaning. Unfortunately, there is also the problem of authority over words and who can decide why certain words or expressions can only be used by a restricted number of people.

These types of cases usually involve a collaboration between attorneys and linguists, where linguistic analyses are recognised as valuable insights, "especially since trademark disputes are largely about language" (Shuy, 2002, p. 1). Over the past years, attorneys have reached out to linguists and asked for their expertise. We will review in the next section of this paper a few cases where linguists were called upon as expert witnesses.

As Gibbons and Turell (2008) state at the beginning of their book, "Dimensions of Forensic Linguistics", Forensic Linguistics can be used as a tool in different areas of study, such as language used in legislation, legal discourse (courtroom proceedings, police interrogations), legal translation and interpreting, various problems that are caused by misunderstandings of laws and legal terminology, trademark cases, the use of legal evidence (for authorship attribution cases, linguistic profiling) and many more. Their book represents a collection of papers from distinguished linguists and they are categorised into three chapters: "Part I: The language of the law", "Part II: The Language of the court" and "Part III: Forensic linguistic evidence"(Gibbons & Turell, 2008, p. 1). Part III also includes papers from Ronald R. Butters and Jennifer Westerhaus (2004), who show the linguistic criteria that can be found in trademark cases and gives examples from his own experience as an expert witness. He states that linguists can sometimes have a role as legal consultants and their professional expertise can add significant value to the case.

Forensic texts include many types of spoken or written forms of language exchanges such as interviews with the police, testimonies, personal diaries and letters, phone calls or transcripts from various contexts the suspects found themselves in. Certain types of legal texts such as wills, contracts or laws can also be considered forensic texts and be subjected to a linguistic analysis. This happens when legal terminology leaves room for interpretation, or when it simply cannot be understood by its recipients. For example, there was often the case that juries were confused by the legal instructions they had received because of the ambiguity of the legal terms used. Or laws had to be rewritten, because of their confusing phrasing which led to sentences not corresponding to the act committed.

An important question is how can linguists help? In recent years, linguists have been asked to help in different types of cases: disputes over specific morphemes in trademark cases, the interpretation of words in certain legal cases and contexts, issues related to authorship, plagiarism or allegations that certain texts are fabricated (such as wills, contracts, or suicide notes like Virginia Woolf's). The analysis, as any linguistic analysis of a text, implies different analytical tools and various methods, depending on what aspects need to be proved. More notably here would be the way linguists present their information and research to the juries and judges. Linguists should make use of quantitative illustration as much as possible. Charts and graphs, data in the form of numbers and percentages, can help render the information much more clearly because "(…) juries, can be impressed by what they hear, but will better remember what they can see" (Shuy 2002, p. 170).

Another admirable role that a linguist has is that of teaching their audience. In one of his cases, Shuy was given the task to explain to the jury the four categories of trademark. Further in his cases, he helped attorneys, judges and juries understand "the qualities and claims of lexicographical practice, and to convey technical linguistic information about the sounds, grammar, meaning, and discourse of the English language in ways that could be grasped by laypersons. If anything characterizes applied linguistics, it is this" (Shuy 2002, p. 169).

Shuy (2002) goes on and states that "trademark law is about the right to monopolize the use of language" (Shuy, 2002, p. 2). He explores how language is used in battles which lead to companies trying to create their own "language planning and policy" (Shuy, 2002, p. 2). Language planning is an area of study in which experts, ususally sociopolitical ones, analyse situations where more languages are used and try to figure out ways to optimise the use of certain words or expressions. These aspects of trademark cases will be reflected in the following case studies that are presented in the next chapter of this paper.

The next section of this paper presents trademark cases where linguistics played an important part.

2. Case studies

The following section explores three real trademark cases from two distinguished linguists, who were called upon as expert witnesses to identify how lexical choices, semantic content and syntactic patterns can affect legal interpretation.

2.1. Woodroast v. *Restaurants Unlimited case*

Woodroad Systems, Inc. in Minnesota filed a complaint against Restaurants Unlimited, Inc. also in Minnesota. Woodroast, also known as "Shelly's Woodroast" contested the use of "Wood Roasted" on Restaurants Unlimited's menu and in its advertising. They claimed they had deliberately violated their mark, as this will create confusion and deception among customers. The initial complaint was made for a few meals listed on their menu: "Wood Roasted Vegetables", Wood Roasted Seafood", "Wood Roasted Oven Prawns". They believed that their name, which was made of only one word "Woodroast", would be confused to the dishes offered by Restaurants Unlimited, even though here there were two words "Wood Roasted". Restaurants Unlimited responded and argued that this was a generic term and also a descriptive one, which pointed to a method of cooking the meat. They also mentioned that many other restaurant chains had similar meals names with "wood roasted" included in their menus. Woodroast answered by claiming this method of cooking was unique to them and they had patented it, a method of cooking the meat in wood-burning ovens. They also claimed they had no knowledge of other restaurants with similar names.

Shuy (2002) was asked to provide his expertise by the Restaurants Unlimited's attorney, Bruce Little. Shuy explains how a good method in many cases is casting a broader net, that is, searching a larger database to check how the respective item is used in real-life contexts and base their conclusions having all these instances in mind. In this particular case, he managed to build a large data base revolving around variations of the term "woodroast" and conducted a corpus analysis. He looked for contexts where the following terms appeared: "wood roasted", "wood roasting" and "woodroast". Firstly, he checked whether there were other

restaurants with similar names to the plaintiff. He found five more restaurant names which included the phrase "wood roasted" ("Cluckers Wood Roasted Chicken, Henpecker's Wood Roasted Chicken, Rollo Pollo Wood Roasted Chicken, Kenny Rogers' Roasters Wood Roasted Chicken, and Red Hot Hen's Wood Roasted Chicken."). He found only one restaurant with "woodroast" in its title, which was the plaintiff. Secondly, he checked menus to see if there were any other meals with "woodroast" or other variations in their names. He found 38 items containing "woodroasted", "wood roasted", "WOOD ROASTED," "WOOD ROASTED," "Wood-roasted," and "Wood-Roasted." Related phrases included "wood-fired roasted," "wood rotisserie," "OVEN ROASTED," "SPIT ROASTED," "SPIT-ROASTED," and "wood flamed." As opposed to the plaintiff, the other 38 restaurants used the term in its past participle form, ending in "-ed". They also used it as a descriptive element, an adjective, with various items in their menus.

Then, he collected data from the media to decide how unique exactly could this term be. He found 44 articles from newspapers and magazines which contained various form of "wood roast". He collected data from affidavit and deposition testimonies.

After that, Shuy looked for "woodroasted" in lexicographic sources as well. It appeared nowhere as a "proper noun, common noun, adjective, or verb". He found "-roasted" in compound words (such as "dry-roasted"). The search for "-roasting" did not have any relevant terms. He searched for "wood" as the first element of a compound word and found two relevant terms: "wood-walled" (1595) and "wood-fired" (1956).

The next step was to look at the other menus from the data base accumulated so far and the obvious difference was that in all these menus the term "wood" is actually combined, using a hyphen, or is separated with "roasted". The syntax of the menu reflected some problems as well. He also used tagmemics here, because he had previously been asked to be "less academic". He surveyed hundreds of menus from different restaurants and discovered the following: "(1) self-congratulations, (2) method of cooking, (3) style of food, (4) the food item, and (5) serving modifications" (Shuy, 2002, p. 98). Slots 1, 2, 3 and 5 were optional. Slot 4 was obligatory. For Woodroast slot 4 was the dish, slot 3 was the style of food and was filled with "Woodroast". This demonstrated successfully, using semantics as linguistic tool, that "Woodroast" represents a style of food and not the dish itself, as Shelly's Woodroast stated.

In other words, the linguistic tools used here were the following:

- Morphology: Shelly's Woodroast used the term "Woodroast" as a proper noun, only one word; other restaurants used "wood roasted", some of them with a hyphen between the morphemes; media articles also used variations of "wood roasted";
- Lexicography: there were no entries for "wood roasted"; none of the searches for "wood roasting" or "wood roasted" was capitalized, like a proper noun;
- Semantics: from the plaintiff's menu one can understand that "Woodroast cooking" was a style of food;
- Syntax: tagmemics, after a survey of hundreds of other restaurants, helped understand the five slots in the menu, "(1) self-congratulations, (2) method of cooking, (3) style of food, (4) the food item, and (5) serving modifications".

As shown in this section, Shuy's analysis consisted of a corpus-based structure which looked for all the occurrences of variations of the term "woodroast".

2.2. Steak n Shake Co. v. Burger King Corp – a linguistic battle over "Steakburger"

Butters (2010) was asked to provide his expertise in "Steak n Shake Co. *v.* Burger King Corp., 323 F. Supp 2d 983, 985 [E.D. Mo. 2004])" (Butters, 2010, p. 359). Steak n Shake Co., a chain of fast-food restaurants, claimed they had marketed one of their sandwiches a long time ago, a sandwich called "Steakburger". When Burger King Corp. presented a new sandwich with the same name, the linguistic dispute began. Burger King's defence team managed to win a first battle by stating that "steakburger" is a generic term and refers to a sandwich which contains steak. Steak n Shake argued that the term became a descriptive mark and had an important meaning for their brand.

Butters used dictionaries and lexicographical methods to conduct a thorough linguistic analysis regarding the term "steakburger":

> The earliest dictionary record of the word steakburger that I found was that of the 1961 publication of the second edition of Webster's New Twentieth Century Dictionary of the English Language, Unabridged, 2d edn (Publisher's Guild, Inc./World): burger [from hamburger] a combining form meaning sandwich of ground meat (and), as in steakburger, cheeseburger, etc. [Slang.]
> A similar definition is found in the Shorter Oxford Dictionary on Historical Principles, 5th edn, 2002: steak … Comb. & phrases: steakburger a beefburger made of minced steak. (Butter, 2010, p. 360)

Butters (2010) withdrew three key aspects from the analysis conducted up to this point: both definitions describe Steak n Shake's product; the period of forty years between the definitions shows that the use and meaning of the term has not changed and that it has become generic; the definition from 1961 has an exemplary role of an entire category of sandwiches with ground meat, with the suffix "-burger". To strengthen his analysis, he also looked for third-party uses, other competitors who use the term in a generic way as well. His corpus extended to newspapers and magazines from 1930 until the present day and resulted in a multitude of examples where "steakburger" was used generically, and not to refer to a specific product or meal.

In the end, the judge decided that "steakburger" has indeed a generic meaning due to the linguistic history of the term and Burger King won the case.

The linguistic tools used in this analysis are the following:

- Lexicographical Analysis: Butters consulted dictionaries, newspapers and magazines to determine how the term "steakburger" had been defined over time; due to the continuity of these definitions, he also proved that the term had been used in generic contexts;
- Morphology: he analysed constructions that included the morpheme "-burger"; and also checked the historical usage of the term.

Therefore, the analysis conducted by Butters in this case employed a corpus-based methodology which looked for all uses of the term "steakburger" and the lexical shifts it went through over the past years.

2.3. "McLanguage"

McDonald's, the giant fast-food marketer, sued Quality Inns, a hotel chain, because they intended in opening a new chain hotel named "McSleep Inns". The new hotel chain would not serve food and did not intend to steal from McDonald's reputation as they claimed. The hotels were planned to be built near restaurants.

McDonald's accused Quality Inns of trademark infringement and demanded that the name "McSleep Inns" be changed. They claimed that the hotel chain took advantage of the fast-food chain's reputation and it would cause confusion among customers. The hotel chain answered and claimed they did not infringe any trademark, did not presuppose false description of the origin of the name and that no other laws were violated. It was not the first time when McDonald's sued for similar reasons and actually won.

During the trial, McDonald's described one of their advertising campaigns in which Ronald McDonald, their advertising icon, had travelled to different states in America and taught children the so-called "McLanguage". This meant simply adding the "Mc-" prefix to various words, such as "McFries". Needless to say, this was concerning to many linguists and social scientists.

"Mc-" is a bound morpheme, which cannot occur in isolation. Having this said, this does not mean it can only occur in "McLanguage". Shuy was called as an expert witness and managed to prove, through a corpus analysis, that "Mc-" had many roles, besides those associated with the fast-food chain. It was clear to him that this bound morpheme, which was originally a Scottish and Irish patronym, had been subjected to a lexical shift and generalization. Initially, it had a meaning associated with family ancestry, but now it was also associated with speed, conveniency and a basic nature. He also searched magazines, local and major newspapers and technical publications. Therefore, no one who read any of the publications he had selected would make any association between "Mc-" and McDonald's. Below are seven categories he identified afterwards. In categorizing these and other third-party citations by their meaning types, I separated them into seven divisions (see Lentine & Shuy, 1990).

1. Proper names: McGruff (the crime dog), MacThrift (a budget office supply store with a Scottish motif).
2. Alliterative patterns based on a proper name: Jim McMyth (football player Jim McMahon) and McVeto McKernan (a name given by protesting union workers to Maine governor John McKernan).
3. Acronyms: McDap (Mason County Drug Abuse Program) and McRIDES (Morris County Rides, a ride-sharing program).
4. McDonald's product names, which were not analyzed here for obvious reasons. I never disputed the fact that the "Mc-" morpheme has a strong association with McDonald's. Instead, I tracked its use into other quite different domains. Of the 150 articles gathered, I excluded 56 of them that were directly about McDonald's restaurants and/or about specific McDonald's products.
5. Macintosh Computer Products or related businesses, such as McTek (a computer discount store specializing in Macintosh products) and McToy (computer accessory for accelerating computer processing time). McDonald's and Macintosh had worked out their differences over these names in earlier agreements, making references to them useless in this context.
6. Parodies of a fast-food product or service: McChow Mein (a hypothetical name for a Chinese fast-food restaurant) and McMania (a hypothetical drive-through therapy clinic).
7. Other words that carried the meaning of basic, convenient, inexpensive, and standardized. This turned out to be a very long list that included such terms as McArt, McBook, McCinema, McEconomics, McJobs, McLube, McMail, McMedicine, McNewspaper, McPrisons, McTelevangelism, McPaper, and McYear (Shuy, 2002, p. 99).

The most important category was number 7: "basic, convenient, inexpensive, and standardized". Shuy went on explaining that:

> If anything identifies McDonald's process of making, selling, and advertising its hamburgers, it is these four characteristics. Fast food is basic (not gourmet). You can find McDonald's stores virtually anywhere in the world (convenient). The product is relatively inexpensive (at least in most places at the time of the litigation). If you've had one McDonald's hamburger, you know that the next one will be just like it (standardized) (Shuy, 2002, p. 99).

Shuy was aware that his testimony had to stand strong against the linguist McDonald's had hired. He went on with his research and demonstrated that context was important as well and that "Mc-" did not always mean or refer to McDonald's. During the trial, he used the word "green" as an example:

> I used the word *green* as an example in the sentence, *Give me the green!* If this sentence is spoken by a speaker holding a bank teller at gun point, it means something quite different from what it would mean when an artist purchases oil paint at an art supply store. In the sentence *The new mechanic was still a little green* we understand that *green* refers to inexperience, primarily from clues given by two other words in that sentence, *new* and *still*. I also pointed out that the context of the sentence alone does not always disambiguate the meaning of *green*. In the sentence *The young sailor was green* we cannot know for sure whether he was seasick or inexperienced. In such cases we have to look for larger context clues found in the surrounding text (Shuy, 2002, pp. 101-102).

Consumers were also an important part of the trial, as with any trademark case. The majority of the consumers asked to participate in a survey related to McDonald's in general, gave answers very close to Shuy's analysis. They mostly believe that the products are basic, uninteresting and convenient.

McDonald's linguist, however, did not go conduct any type of analysis and he stated that he was a theoretical linguist and he had no competency of determining the meaning of the prefix "Mc-". He also mentioned that any opinion he might share would be from the point of view of a native speaker of English. He talked about how most English words have three or four meanings, but no more, as opposed to the 27 meanings that Shuy had found and narrowed down to four: "basic, convenient, inexpensive and standardized". Why did this happen? Shuy had made available his early findings, before they were in a final state, ready to be presented. He explains how this served as a lesson for him never to reveal his work until he had set the pencil down.

Unfortunately, the judge agreed with both linguists, more or less, but emphasized how McDonald's had spent millions of dollars for advertising and for making a name for themselves. Shuy concludes by noting how "one can still wonder why it is that the expenditure of money can determine who can have ownership of a word, much less a prefix" (Shuy, 2002, p. 109).

The linguistic tools used here are the following:

- Lexical analysis: study of the use of the prefix "Mc-";
- Semantic change analysis: study of the meaning of "Mc-" evolution over time; from the use in family names such as "MacDonald" to the meaning of "basic"
- Sociolinguistic analysis: study of the contexts the prefix appears in and how they change its meaning and interpretation.

As shown in this section, the analysis that Shuy conducted in this case implied a corpus-based approach which included all uses of the bound morpheme "mc-".

3. Conclusions

As we have presented in the description of the cases above, linguists can have the opportunity to fulfil a very important role in a trademark case. The cases presented above implied the use of linguistic tools related to morphology, sociolinguistic analysis, semantic, syntactical and lexicographical analyses.

The first case we presented, Woodroast *v.* Restaurants Unlimited case, involved the following linguistic tools: morphology (Shelly's Woodroast used the term "Woodroast" as a proper noun, only one word; other restaurants used "wood roasted", some of them with a hyphen between the morphemes; media articles also used variations of "wood roasted"); lexicography (there were no entries for "wood roasted"; none of the searches for "wood roasting" or "wood roasted" was capitalised, like a proper noun); semantics (from the plaintiff's menu one can understand that "Woodroast cooking" was a style of food); syntax (tagmemics, after a survey of hundreds of other restaurants, helped understand the five slots in the menu, "(1) self-congratulations, (2) method of cooking, (3) style of food, (4) the food item, and (5) serving modifications") (Shuy, 2002, p. 98).

In the second case we presented, the term "steakburger" shows how a thorough analysis can protect the statute of a term. The linguistic tools used here were the following: lexicographical analysis (Butters consulted dictionaries, newspapers and magazines to determine how the term "steakburger" had been defined over time; due to the continuity of

these definitions, he also proved that the term had been used in generic contexts); morphology (he analysed constructions that included the morpheme "-burger"; and also checked the historical usage of the term).

The third and final case, McDonald's v. Quality Inns, proved that even a bound morpheme, such as "Mc-", can start a linguistic battle. The linguistic tools used here were the following: -lexical analysis (study of the use of the prefix "Mc-"); semantic change analysis (study of the meaning of "Mc-" evolution over time; from the use in family names such as "MacDonald" to the meaning of "basic"); sociolinguistic analysis (study of the contexts the prefix appears in and how they change its meaning and interpretation).

This paper showed the intersection between linguistic analysis and trademark cases, focusing on lexicographical, semantic tools, and syntactical analysis. Corpus-based data can establish whether a term functions as a proprietary name or has a generic character. Further research may compare linguistic strategies in trademark cases across different countries.

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Radu IACOB[1]

REDUNDANCY AND IDENTIFIABILITY AS CRUCIAL ELEMENTS FOR ANTICIPATION IN SI

Abstract. *Anticipation* is a crucial aspect in the activity of simultaneous conference interpreting (SI). The interpreter has to predict, based on linguistic, cognitive, situational, and pragmatic inferences, the direction in which the speaker develops the discourse, in order to avoid informational overload and be able to recreate in the target language (TL), the message uttered by the speaker in the source language (SL). One theoretical model that aims to describe the mental processes behind SI it that of Ghelly Chernov. Influenced by the Russian school of psycholinguistics, Chernov views SI activity as a mental process involving, besides linguistic competences, the ability of the interpreter to 'make sense' of the speaker by correctly identifying the relevant new information, the *rheme*, and how this fits into the broader referential framework of the discourse, provided by its *theme*. Its success relies heavily on the *redundancy* of the discourse, manifested by *iteration* and *interdependence*, which allows the interpreter to make inferences based on the information gradually being revealed by the unfolding speech. A contributing factor to *redundancy* is the *identifiability* of referents in the discourse, as theorized by Wallace Chafe. This paper points at the potential complementarities of the two theoretical approaches.

Keywords: Anticipation, Inferencing, Redundancy, Identifiability, Sharedness

1. Introduction

The purpose of this paper is to look at two theoretical concepts that, we believe, are important in understanding the mental processes behind the activity of simultaneous interpreting (SI). To this end, we are going to briefly explore Ghelly Chernov's theoretical model for *probability anticipation*

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in SI and the crucial role played by the concept of redundancy in making anticipation possible in the first place. In doing so, we will argue along the lines of Chernov that interpreter looks for various clues, apparent at lexical, semantic, and pragmatic level based on which she is able to make inferences on which anticipation in SI is possible. These inferences, as we will describe, can be linguistic, cognitive, situational, and pragmatic (Chernov, 2004, p. 141). We will argue that one such clue that the interpreter is focused on, refers to the identifiability of referents, as defined by Wallace Chafe (Chafe, 1994, p. 93).

First, however, let us start by providing some brief theoretical considerations about SI. Thus Robin Setton (1999) approaches "SI as a phenomenon of cognitive performance using the tools of contemporary 'communicative' linguistics and cognitive psychology" (Setton, 1999, p. 1). Setton views SI as a distinct speech behaviour characterised by five features: (1) the particular use of speech systems – as listening and speaking happens at the same time –, (2) the fact that SI is a particular example of a *goal oriented communicative act* – unlike other types of communication, SI is exclusively oriented towards *the reproduction of the message in the TL* –, (3) its subjection to *time constraints* as the pace of the communicative act is determined externally, (4) the *external source* of the message – it is not generated by the mind of the interpreter, hence the importance of *comprehension* –, and (5) the *linguistic difference* between input and output – content and intentionality have to be maintained as much as possible while changing the linguistic code (Setton, 1999, p. 2). All these characteristics, Setton asserts, make SI "a challenge to existing models of how language works", making it extremely relevant as a research topic for cognitive and communication studies (Setton, 1999, p. 2).

In this respect, we could define anticipation in SI as a broader notion, covering the interpreter's power of mental and cognitive prediction, combined with the capacity and constantly developing skill to anticipate what the speaker intends to say, based on what has already been said during the speech. During the interpreting process, the speech is generally focused on a certain topic, and, ideally, on a logical chain or flow of ideas, in which semantical units are interconnected (Chernov, 2004).

The remainder of this paper is structured as follows: first, we are going to look more in detail at Chernov's mode of *probability anticipation*,

in particular at his concept of *redundancy* defined by the *iteration* and *interdependence* of semantic units at the level of the discourse. Second, we are going to briefly present Chafe's concept of identifiability of referents, based on sharedness, adequate level of verbalization and contextual saliency. Last, but not least, we are going to try to provide some brief conclusions about the potential complementarity between the two theoretical approaches and their relevance for SI research.

2. Chernov's model of probability anticipation

Ghelly V. Chernov (1994) defines simultaneous interpretation represents "a complex type of bilingual, meaning-oriented communicative verbal activity undertaken under time constraints and involving a limited amount of information processed at a rate under external control" (Chernov, 1994, p. 140). Chernov's hypothesis is that "the basic mechanism making SI possible is the probability anticipation of the development of the message" (Chernov, 2004, p. 91). Therefore, he defines "anticipation" in terms of the *probability prediction model*, which states that the probability prediction of the verbal and semantic structure of the oral message is the most important psycholinguistic factor in explaining the phenomenon of simultaneity associated with simultaneous interpretation (Chernov, 1994, pp. 139-140).

His approach is based on the Theory of Activity developed by the Russian school of psychology, according to which "mental activity, specifically perception, is driven by a basic principle of anticipatory reflection of reality" (Chernov, 2004, p. 91). This principle is defined by P.K. Anokhin, according to whom anticipation of outside events by a living organism represents "a basic way of adjustment of all life forms to the spatio-temporal structure of the inorganic world, in which sequentiality and iteration of events constitute the basic parameters of time" (Chernov, 2004, p. 91).

The concept of probability anticipation itself is borrowed by Chernov from I.M. Feigenberg and G.E. Zhuravlev, according to whom:

> Past experience and the current situation supply grounds for hypotheses about forthcoming developments, a certain probability being ascribed to each of the latter. In accordance with such a prognosis

> the subject is set, or prepared, for such actions in the forthcoming situation that would help attain a certain objective with the highest probability (Chernov, 2004, p. 92).

In applying the probability anticipation model to SI, Chernov states that "the simultaneous interpreter's brain generates hypotheses in anticipation of certain verbal and semantic developments of the discourse." According to him, these hypotheses are confirmed, or infirmed, during the interpretation process, based on "critical points of the on-going discourse, concurrently on several levels." These speech levels are organized hierarchically: "*syllable – word – syntagm – utterance – discourse*" (Chernov, 2004, p. 93).

However, as Chernov further argues, an important element in the success of *probability anticipation is the degree of redundancy* in the discourse. As he points out "(...) only messages containing an appropriate degree of redundancy can be interpreted simultaneously" (Chernov, 1994, p. 140).

Invoking George Miller's theory, Chernov defines *redundancy* as referring to the *iteration* of the components of a message and the *interdependence* between these components. It manifests both acoustically (phono-tactic interdependencies) and semantically (linguistic meaning), at the level of utterance and complete communication (text, speech) (Chernov 1994, p. 140). According to statistical data, language redundancy generally varies between 70 and 85% (Piotrovski, 1968, p. 58 quoted in Chernov, 2004, p. 94). Chernov also claims that *redundancy* is usually found in the *theme* of a speech, while the information to be conveyed is found in the *rheme*. *Theme* is *what the message is about*: *the starting point for the speaker's utterance* (Halliday, 1994, p. 38), while the *rheme* can be defined as *everything that follows in the sentence and consists of what the speaker states about, or in relation to, the starting point of the statement* (Brown & Yule, 1983, pp. 126-127).

Chernov defines the theme of a discourse as "the first layer of its semantic structure, the designation of something about which the communicative message unfolds" (Chernov, 2004, p. 107). While the theme remains the same during a discourse via the use of "pro-forms, synonyms, paraphrases, recurrent references", it also allows for addition of new information in the form of new relations to "objects of thoughts in the discourse" (Chernov, 2004, p. 107). The theme is also the main cohesive element of a discourse, as it represents the main target for

co-reference. Therefore, cohesion is enabled by adequate thematic redundancy in the semantic structure of the discourse (Chernov, 2004, p. 108).

The rheme, on the other hand, as mentioned above, constitutes the new information that is provided by the speaker during the discourse. Starting from this element, Chernov assumes that there is a neurophysiological mechanism in the brain that ensures the perception of the degree to which information changes, recalling that, for example, people's perception prioritizes moving objects over static ones (Chernov, 1994, p. 146). Chernov argues that this observation echoes Sperber and Wilson's Relevance Theory where human communication is characterised as "ostensive-inferential." Thus, in Chernov's reading "an 'ostensive stimulus' carries the guarantee of its own relevance to a hearer able and willing to process it inferentially" (Chernov, 2004, p. 121).

Extrapolating, he states that comprehension works similarly, the interpreter's attention being primarily focused on those components that contain new information, that is, on the *rheme*. Thus, while a misunderstanding regarding the component of a *theme* can be corrected relatively easily, the loss of a component of the *rheme* can easily generate mistakes in interpretation (Chernov, 1994, p. 147).

Chernov hypothesises that language comprehension is based on the specific ability of people to make inferences, which can be of a linguistic, cognitive, situational, or pragmatic nature (Chernov, 1994, p. 141). The quality of these inferences, however, depends on the degree of redundancy of the discourse. Thus, a redundant text (an oral communication) is predictable, and interpretation involves a simultaneous process of perceiving and understanding (inferences) the communication from the source language and reproducing (generating) the message in the target language (Chernov, 1994, p. 145). Chernov's assumptions reflect P.K. Anokhin's view according to which, "(...) the human central nervous system has developed as a mechanism for maximally anticipating sequential and iterative phenomena in the surrounding world at the greatest possible speed" (Chernov, 1994, p. 145). In conclusion, Chernov states that for Anokhin the anticipatory reflection of reality is a universal natural law.

This brings into discussion a notion that Chernov borrows from semanticists like A.J. Greimas, V.G. Gak and Y.D. Apresyan, namely that of semantic agreement, defined as "the iteration of semes contained in

the words that 'agree between themselves'" (Chernov, 2004, p. 30). Based on Apresyan's view, Chernov asserts that semantic agreement represents the principal rule behind discourse cohesion, allowing the listener (in our case the interpreter) to understand the correct meaning of a message (Chernov, 2004, p. 30).

This takes us back to the importance that Chernov ascribes to the redundancy concept already mentioned above. Given the principles on which semantic agreement functions, it becomes clearer now that redundancy, defined in terms of iteration of discourse elements and interdependence of text units via co-reference, is a direct consequence of semantic agreement. Furthermore, the two features of redundancy – iteration and interdependence –, Chernov postulates, happen both at the level of utterance and discourse (Chernov, 2004, p. 33).

Chernov appeals to the theoretical approach of Wallace Chafe, further substantiating his view on semantic agreement as "semantic dependency, a constraint on the word-combinatory rules operating within the utterance" (Chernov, 2004, p. 34). To this end, he invokes Chafe's "model of semantic constraints for discourses," or, what he labels as Chafe's rule. Thus, according the Chafe, coherent discourses comprise various sequences of the type X => Y, i.e., "(…) 'the presence of semantic element X requires the accompaniment of semantic element Y,' or 'X entails Y'." These constraints, Chafe asserts, "are present at the beginning of a discourse (and) are continually modified by the succession of sentences in that discourse'" (Chafe in Chernov, 2004, p. 34). Thus, as Chernov observes "Chafe's rule is a good generalisation of a number of discourse regularities, including deictic, evaluative, modal, factive, and pragmatic features."

These factors, among other, allow the interpreter to make inferences about the future development of the discourse, Chernov argues. For him, "the retrieval of the sense of the discourse by a receiver is a result of subconscious inferencing, based on language knowledge and the cognitive thesaurus, including background knowledge and awareness of the communicative context" (Chernov, 2004, p. 57).

In his view, inferencing works at different levels and is facilitated by the objective and subjective redundancy arising during the communicative act. The objective redundancy is based on the iteration and interdependence of the semantic constituents of a speech. The subjective redundancy,

however, refers to the general knowledge possessed by the interpreter that is triggered by the objective information present in the unfolding discourse, and which combined, generate a mental representation that becomes, for the interpreter, the sense of the discourse (Chernov, 2004, p. 57). It is the combination of these two processes that allows the interpreter to make inferences about the probable course that the communicative act of the speaker is going to take.

Thus, for Chernov:

> Comprehension begins from the moment the hearer is able to make an inference from the part of the message already communicated, through her perception of the incoming semantic components and relating them to: – other semantic components and their configurations in the discourse (linguistic inference); – elements in her long-term memory or thesaurus of world knowledge (cognitive inference); – factors in the situational context of the discourse (deictic and situational inference); – the social role of the speaker (pragmatic inference). To comprehend means to derive sense from discourse (Chernov, 2004, p. 60).

Based on the complex interaction of all of these elements, Chernov concludes that "anticipation" in SI is based on the "cumulative dynamic analysis of the semantic structure" of the continuously developing discourse, within the boundaries of the thematic and pragmatic framework of the communicative act, that manifests in a "range of probabilities" about the evolution of the "subsequent discourse" (Chernov, 2004, p. 102).

In conclusion, according to Chernov, SI is made possible by the interpreter's mental capacity to 'anticipate' the direction of the unfolding discourse based on linguistic, cognitive, situational (and deictic), and pragmatic inferences that are facilitated by a sufficiently redundant speech, redundancy understood in terms of iterative and interdependent semantic components. In the following section we are going to briefly describe Wallace Chafe's concept of 'identifiability' with the aim of highlighting, what we believe is, a different, yet complementary perspective in relation to the process of *anticipation*, based on inferencing made possible by a sufficiently redundant speech, as described by Chernov.

3. Chafe's concept of identifiability

In his book *Discourse, Consciousness and Time* (1994) Chafe defines the concept of *identifiability* as referring to a discourse property of referents. According to him, in an act of communication a referent is characterized as identifiable if the speaker can reasonably assume that the particular referent can be identified by the listener. In other words, identifiability is an assumption that the speaker makes about particular knowledge in the mind of the listener, in this case, knowledge about a referent (Chafe, 1994, p. 93). From a linguistic perspective, as Chafe points out, in languages such as English, identifiability is, in many cases, associated with *definiteness*, namely the use of the definite article. For him, definiteness is linked to identifiability and to what he labels as "the flow of conscious experience" (Chafe, 1994, p. 93). "The flow of conscious experience" refers to the property of consciousness of being dynamic, or restless, and constantly bringing into and taking out of focus information, in other words, a particular point of interest out of the "totality" of the surrounding world modelled by the observer in her mind (Chafe, 1994, pp. 29-30). For Chafe, this flow is manifested linguistically via "intonation units," identified by features such as "pauses or breaks in timing, acceleration and deceleration, changes in overall pitch level, terminal pitch contours, and changes in voice quality" (Chafe, 1994, p. 69). As he asserts:

> Intonation units are hypothesized to be the linguistic expression of information that is, at first, active in the consciousness of the speaker and then, by the utterance of the intonation unit, in the consciousness of the listener, or at least that is the speaker's intent (Chafe, 1994, p. 69).

Coming back to identifiability, Chafe describes an "identifiable referent" as characterized by three properties, namely (1) *sharedness* – the assumption of the speaker that the interlocutor already has some knowledge about the referent(s); (2) *sufficiently identifiable* – the categorization of the referent in the language by the speaker, makes it possible for the listener to identify it; and (3) *contextual salience* – the extent to which, in a particular context, a referent is distinguishable from other referents in the same category (Chafe, 1994, pp. 94-100).

One can illustrate this concept by the following hypothetical example:

(1) *Speaker A: What a mess in the garden! What can you expect from cats?*
(2) *Speaker B: Cats? Not all cats are so destructive.*
(3) *Speaker A: Maybe not all, but my neighbour's cats sure are.*
(4) *Speaker B: I didn't know your neighbour had cats.*
(5) *Speaker A: Oh, I forgot to mention, we've got a new neighbour, Dan…recently divorced… his Ex kept the kids and the house, and he got…well…a monthly rent to pay and the two cats…really crazy devils…especially Fifi, the black one, Coco, the ginger one, seems more reasonable.*
(6) *Speaker B: So, you're convinced they are the culprits, eh? You must be really pissed off about the whole thing!*
(7) *Speaker A: You bet they are and you bet I am! It's already the third time he's letting them play here, although I've specifically told him not to.*

In utterance (1), speaker A talks about cats that are known to him, but he frames his assertion in a general non-identifiable manner. Although speaker A may assume that speaker B know what cats he is talking about, the criteria of sharedness and contextual salience are not fulfilled. In utterance (3), the referent 'cats' is narrowed down by introducing a new referent – 'my neighbour.' However, for speaker B, these referents are unknown, hence the question and the two statements (one about cats generally and one about the presumed neighbour) in utterances (2) and (4). While there is gained information in terms of contextual saliency – specific cats have made the mess in the garden – there is still no sharedness that would allow the exact identification of the referents. It is only in utterance (5) that all the referents (the cats and the new neighbour) become shared and, as a consequence, are sufficiently identifiable by speaker B. This allows the use of pronouns (they, he) by both speakers in utterances (6) and (7).

In addition to that, based on his concept of *activation cost* "identifiable referents may be either given, accessible, or new" (Chafe, 1994, p. 107). As he asserts:

> We have seen that ideas of referents, events, and states, having previously been active, semiactive, or inactive, may at a particular point in a discourse

> either remain active or become active. This process underlies what is usually thought of as the distinction between given and new information, or what I am calling activation cost (Chafe, 1994, pp. 80-81).

For the purpose of this paper, of particular interest is the distinction Chafe makes between *given* and *new* information. We are particularly interested in the following points he makes: "Given information is typically verbalized in English with a weakly accented pronoun, new and accessible information with an accented noun or noun phrase. (…) Givenness may be established either linguistically or extralinguistically" (Chafe, 1994, p. 81).

Thus, in the example presented above, information in utterances (1) to (4) is *new* to speaker B. It is only starting with utterance (5) that the information becomes given. However, the context of the communicative act (the damaged garden), and the attitude of speaker A is given. This allows speaker B to *infer* the thoughts in the mind of speaker A by combining given and new information. These inferences are verbalized in utterance (6), and confirmed in utterance (7).

In conclusion, the concept of *identifiability* as defined by Wallace Chafe plays an important role speech comprehension, and implicitly supports inferencing, making thus communication possible. In fact, we argue that Chafe's concept of identifiability works in a similar fashion to Chernov's concept of redundancy, based on iteration and interdependence. While both concepts are applicable to various types of communication, we believe that in the specific context of SI they are highly relevant, making inference-based anticipation possible. We believe that Chernov's "cumulative dynamic analysis" process described above relies heavily on the interpreter's capacity to correctly identify referents and ideas during the SI activity. Furthermore, in comprehending the sense of the speech, the interpreter relies on the *iteration* of *given* information that constitute the *theme* of the discourse, while linking *new* information found in the *rheme* to already existing or accumulated one. The mental process involved in SI and described by Chernov is, we argue, the same process that Chafe defines as "the flow of conscious experience."

Therefore, in the context of SI described by Chernov, g*iven* information, in Chafe's sense, is found at all levels – linguistic, cognitive, situational, and pragmatic –, and all these levels contribute to the correct identifiability of referents and ideas by the interpreter. The characteristic of *sharedness* depends largely on the linguistic and cognitive skills of the interpreter, but also in the pragmatic context of the particular event where the SI activity is taking place. This information is, in a sense, given and forms the *theme* of the discourse. The characteristic of *sufficient identifiability* depends both on the skills of the interpreter and on the capacity of the speaker to articulate a coherent discourse, i.e. redundant in Chernov's understanding. This is manifested both at theme and rheme level as the discourse unfolds. Last, but not least, *contextual salience* reflects the continuous flow within the mind of the interpreter as she works out the interdependence between the new semantic components of the rheme and the already existing semantic components that keep adding to the ever-increasing theme that eventually becomes the whole discourse.

4. Conclusion

The objective of this paper was to briefly two theoretical concepts that, we believe, are important in understanding the mental processes behind the activity of simultaneous interpreting (SI). In this respect, we attempted to briefly present the main elements of Ghelly Chernov's theoretical model for *probability anticipation* in SI, based on the concept of redundancy, that makes anticipation possible. In doing so, we presented Chernov's approach to SI as an activity in which the interpreter looks for various clues at lexical, semantic, and pragmatic level allowing for inferences on which anticipation becomes possible. These inferences, we described, are linguistic, cognitive, situational, and pragmatic. However, in order to work, Chernov stresses the importance of *redundancy* in a discourse, characterised by the *iteration* and *interdependence* of semantic components. In its absence, SI would not be possible. We also described the psycholinguistic roots of Chernov's theory, based on the Russian school of psychology and communication, with its focus on the capacity of living organisms to recognize iterative patterns in the surrounding world and, crucially, to distinguish

changes to them. Chernov argues that a similar process takes place in the mind of the interpreter, who distinguishes between recurrent information, present in the theme, and new one, added by the rheme. Last, but not least, the new information in the rheme adds up to the existing theme in a cumulative dynamic process as the discourse unfolds.

In the second section of this paper, we attempted to briefly present Wallace Chafe's concept of *identifiability of referents* within discourse, as characterized by sharedness, sufficient identifiability within language, and contextual salience. We argued that this concept works well in conjunction with Chernov's concept of redundancy in explaining the mental processes behind SI activity. We tried to draw a parallel between the two theoretical approaches, specifically between Chernov's approach to theme and rheme and Chafe's description of given and new information. Lastly, we concluded that Chafe's notion of referents' identifiability is crucial for the ability of the interpreter to make the relevant linguistic, cognitive, situational, and pragmatic inferences and to anticipate the direction in which the speaker is developing the discourse.

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Andreea Codrina TĂNASE[1]

GABRIELA BÎLBÎIE. 2024. ***Sintaxa construcțiilor coordonate în limba română***, Editura Universității din București, București, 295 p. ISBN 978-606-16-1457-8

In this book, Gabriela Bîlbîie offers a significant contribution to the syntax of coordination in Romanian, a topic that has remained relatively underexplored in the linguistic literature. The author's comprehensive classification of conjunctions in Romanian, alongside diagnostic tests and detailed syntactic analyses of coordination phenomena, offers a solid theoretical framework that enriches our understanding of coordination patterns in Romanian. Furthermore, the exploration of related constructions such as gapping and right node raising addresses complex issues that have received limited attention in Romanian linguistic literature. These contributions mark an important step forward in the study of Romanian syntax and help broaden the scope of cross-linguistic syntactic inquiry.

In the introductory chapter, the author emphasizes the under-representation of coordination in the literature, noting that existing studies tend to focus mostly on classifications of coordinators. These treatments, she argues, tend to overlook the broader and more complex set of phenomena inherently tied to coordination. She highlights that coordination encompasses and interacts with a wide range of syntactic configurations, diverse in form and behavior, which makes it a particularly challenging area of study. This complexity is further enhanced by the necessity of analyzing coordination in close relation to other grammatical constructions such as ellipsis, subordination, agreement, etc. These interdependencies

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make it difficult to treat coordination as a self-contained phenomenon, highlighting the need for more detailed research in this area.

With regard to Romanian, the author stresses the need for a new monograph that reflects the latest developments and issues raised in recent literature. As existing works tend to take a primarily descriptive approach, what is needed is a study that not only classifies coordinators but also engages with the underlying syntactic representation and the broader range of related phenomena that interact with coordination.

In the first chapter, *The Empirical Domain of Coordination* (pp. 17–100), the author begins by outlining the fundamental distinctions between coordination and subordination. She contrasts two main approaches: the more traditional, binary distinction that treats coordination and subordination as clearly separate categories, and a more gradient view (see Cosme, 2006; Cristofaro, 2003), which sees the boundary between them as more fluid and context-dependent.

Following this theoretical overview, the author moves on to classify and examine four main criteria used to distinguish between different types of connectors, namely coordinating conjunctions, subordinating conjunctions, and adverbs. These criteria include the inability of coordinating conjunctions to appear together or to be extracted along with the sequence they introduce, as well as constraints related to their mobility and selection properties. Through this analysis, she provides a detailed framework for identifying and differentiating these elements based on their syntactic behavior.

After establishing the foundational distinctions and classification criteria, the author presents a comprehensive set of diagnostic tests aimed at distinguishing coordination from subordination. She identifies and describes eleven such criteria in detail, offering a multifaceted analysis that draws on semantic, pragmatic, syntactic, and typological perspectives. This thorough approach contributes to a clearer delimitation of the empirical domain of coordination and enhances our understanding of how these two syntactic phenomena can be differentiated across various linguistic dimensions.

In the final part of Chapter 1, the author turns to the classification of syntactic types of coordination, based on two main factors: the presence or absence of overt coordinators, and the category type being coordinated, whether words, phrases, or pseudo-coordinated structures. Here, she also

discusses the distinction between simple and correlative constructions, emphasizing the special status of correlatives from both a syntactic and semantic perspective. Through examples of omnisyndetic correlatives in Romanian, she illustrates their unique behavior and highlights their relevance in understanding the broader typology of coordination structures.

After thoroughly examining the restrictions and properties of lexical coordination, phrasal coordination, and pseudo-coordinated structures, the author shifts focus to the inventory of coordinating conjunctions in Romanian, which she classifies into three main categories: copulative, disjunctive, and adversative. To distinguish coordinating conjunctions from other grammatical categories, she discusses syntactic criteria.

In Chapter 2, *Parallelism in Coordination* (pp. 102–143), the author explores the role of parallelism in identifying coordinated structures, particularly in light of the many asymmetries that can arise in actual usage. She begins by outlining the traditional view, which treats coordination as fundamentally reliant on structural parallelism. However, she points out that this assumption only holds for prototypical cases, and does not account for the numerous asymmetric constructions found across languages.

To address this, the author offers a detailed classification of asymmetries, first at the morpho-syntactic level and then at the semantic level. At the morpho-syntactic level, she discusses the classic concept of 'coordination of likes' (Chomsky, 1957), arguing that mismatches are acceptable as long as they conform to Wasow's generalization. She further discusses various types of morpho-syntactic asymmetries, including differences in prepositional marking, drawing on examples from French (Mouret, 2007) and Romanian, as well as variation in case marking across coordinated elements. A particularly insightful section is devoted to the Romanian comitative marker, which introduces notable asymmetry in coordination. The author also examines asymmetries in mood marking between coordinated structures, supporting her analysis with relevant examples from Romanian. She also discusses Daniels' (2002) concept of feature neutrality, using examples from Romanian pronominal clitics and showing that asymmetry in coordination is allowed only when the clitic forms are identical in the accusative and dative.

The focus is then shifted to semantic and discursive parallelism and asymmetry in coordination. The discussion begins with a series of

examples illustrating the range of speech acts that can be expressed through coordinated structures. Based on this analysis, the author argues that coordinated constructions do not necessarily imply a symmetric discourse relation. As long as the relevant syntactic conditions are respected, pragmatic asymmetries are entirely acceptable within coordination, highlighting the flexibility and complexity of how meaning and structure interact in these constructions.

Chapter 3, *The Syntactic Representation of Coordination*, addresses the challenges involved in accurately representing coordination within a formal syntactic framework. The author emphasizes that coordination often resists fitting neatly into pre-existing syntactic models, making its representation theoretically problematic.

In support of a hierarchical rather than a flat syntactic representation of coordination, the author presents a series of compelling arguments. One key point is that the coordinator and the element it introduces together form a distinct syntactic group, which must be represented at a structural level separate from the initial conjunct. This is evidenced by the fact that this group can appear independently, without the first coordinated element. Additionally, she notes that a comma, serving as a marker of prosodic rupture, may follow the first conjunct but never appears between the coordinator and the element it introduces, further reinforcing the special syntactic status of this grouping.

The author then introduces the X-bar representation of coordination, following Kayne (1994), and outlines several arguments from the literature that support its application. However, she also critically examines this model by highlighting its limitations (see Borsley, 2005). After a detailed discussion of coordination as an asymmetric, endocentric construction and its associated challenges, she argues in favor of a symmetric, non-headed analysis. In this view, despite the underlying asymmetry in structure, both coordinated elements contribute equally to the syntactic construction.

The final subchapter focuses on correlative constructions and offers a valuable contribution to our understanding of their syntactic representation in Romanian. Unlike in languages such as English or French, where correlatives can often be accounted for using a single type of representation, the author shows that Romanian requires both symmetric and asymmetric analyses to capture the full range of correlative structures.

Chapter 4, *Ellipsis in Coordination*, begins by establishing clear criteria for delimiting the empirical domain of ellipsis. The author provides a set of diagnostic tests designed to distinguish truly elliptical constructions from those that only appear to involve ellipsis but do not, in fact, presuppose any underlying omission. She then examines several types of ellipsis commonly found in coordinated structures, including right node raising, gapping, stripping, and sluicing. Each construction is analyzed in terms of its syntactic behavior and semantic interpretation.

This book serves both as an excellent resource for linguists, students, and even readers with limited background in linguistics who wish to deepen their understanding of coordination, and as a valuable scholarly contribution to a domain that, as the author convincingly argues, remains highly complex, difficult to define and represent, and still in need of extensive research to be fully understood.

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