Relative Clause Constructions in Turkish Sign Language

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To the Turkish Deaf community

ABSTRACT

This dissertation examines the relative clause constructions (RCCs) in Turkish Sign Language (TİD). TİD, a recognized natural language, has rich, distinctive linguistic properties, as do other sign and spoken languages. For the analysis of various relativization strategies and discourse functions of RCCs in TİD, the collected data is based on TİD monologues in a small corpus (consisting of approximately three film hours), which has been annotated with special attention to RCC types in various discourse modes (narrative, information, report and description), with a high incidence of narrative passages.

The distributions of head noun position, the positions of relative and matrix clauses, the accompanying nonmanual elements, and the relative elements indicated three strategies: (i) head noun exhibited within the scope of nonmanual, (ii) distinctive nonmanual scopes of head noun and modifying clause, and (iii) non-overt head nouns (free RCs). The data reveal that restrictive RCCs strongly favor circumnominal-like constructions, which are generally accompanied by squint, whereas nonrestrictive RCCs in TİD use a variety of strategies. Even though the way that relative clauses in TİD are marked also show a great distribution, the two strategies that were observed the most frequently are (i) no overt relative marker and (ii) clause-final IX (nominalizer).

In order to examine the functions of RCCs in a text, the familiarity status of the head-noun and the accompanying modifying clause of RCCs in the corpus is investigated. According to the findings, several important functions of RCCs are realized. The favored function of RCC is to reintroduce both head noun and modifying clause into the text to either disambiguate the referents or to help the addressee to determine the referent. However, another function of RCCs can also be introducing the head noun with an identifiable modifying clause that has not been introduced into discourse earlier, given that the addressee can infer the identity of the referent using this information (shared information).

Keywords: Turkish Sign Language, Relative Clause Constructions, Discourse

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CHAPTER 1: INTRODUCTION

1.1. Introduction

This dissertation focuses mainly on relative clause constructions (RCCs) in Turkish Sign Language (Türk İşaret Dili – TİD). The first study of RCCs regarding sign languages was Liddell's (1978) study on ASL. Detailed analyses of RCCs in German Sign Language (DGS, Pfau & Steinbach 2005b) and Italian Sign Language (LIS, e.g. Branchini & Donati 2009) have also been put forward. Analysis of the variation among sign languages by Perniss, Pfau & Steinbach (2007) indicates that there may be nonmanual markings on relative clauses (RCs) in common over these three sign languages, i.e. raised eyebrows. However, the aforementioned researchers emphasize that the syntactic contributions do not necessarily have to be the same: the manual markers can vary. For example, Pfau & Steinbach (2005b) show that RCCs in DGS might have unique syntactic properties as compared to RCCs in the other sign languages that have been studied so far.

Data collection within the context of sign language linguistics draws on a variety of techniques such as: introspection (e.g. grammaticality judgments); language corpora; and elicitated production (Van Herreweghe & Vermeerbergen 2012). Researchers working on sign languages are always faced with two core issues: (i) the influence of spoken languages on signed languages and (ii) the unavailability of full-fledged writing systems for signed language (Antinoro Pizzuto, Chiari & Rossini 2010, p. 206, among others). Because of modality differences between signed and spoken languages, methodological questions in the morpho-syntactic and discourse analysis of sign language(s) should be taken into consideration (see e.g. Karlsson 1984 in Van Herreweghe & Vermeerbergen 2012, p. 1032). This dissertation discusses methodological issues regarding the analysis of relative clause constructions (RCCs), especially in Turkish Sign Language (TİD).

Methodology for the analysis of RCCs in the signed languages documented to date is often introspection-based. For example, native signers are asked to sign the equivalent of written sentences in LIS (Cecchetto et al. 2006, Branchini & Donati 2009). Naturalistic data and data elicitation tasks are also used in the elicitation of

RCCs in LIS (Branchini 2006). Participants are asked to produce intended answers within a given situation. Cross-linguistic comparisons between spoken languages and/or signed languages are also frequently employed for the analysis of RCCs in sign languages (Pfau & Steinbach 2005b, Branchini et al. 2007).

Ideally, the functions of relative clause constructions (RCCs) should be analyzed at the discourse level, since the occurrence of RCCs can be explained by looking at interlocutors' use of grammatical and intonational means (Fox & Thompson 1990). To date, RCCs in sign language have been analyzed at the syntactic level with a special focus on cross-linguistic comparisons (see e.g. Pfau & Steinbach 2005b, Branchini & Donati 2009). However, to my knowledge, there has not been any systematic corpus-based analysis of RCCs in sign languages thus far.

At the same time, corpus-based sign language studies have been conducted mostly at the lexical or morpho-syntactic levels. For example, at the lexical level, Johnston (2013) investigated pointing signs using corpus data in Australian Sign Language (Auslan). Bank et al. (2013) describe mouthing and mouth gestures in Sign Language of the Netherlands (Nederlandse Gebarentaal – NGT) using various tiers including mouth (Dutch words that are mouthed), mouth type (mouthing or mouth gesture), mouth lemma (the dictionary version of lemma) and mouth spreading (progressive or regressive spreading occurrences). At the morpho-syntactic level, Branchini et al. (2013) have discussed WH-duplication patterns in LIS by looking at occurrences of WH-signs in the LIS corpus.

Biber, Connor & Upton (2007) state that corpus linguistic studies are in fact a type of discourse analysis because they cover the investigation of the functions of the linguistic forms within a particular context (p. 2). According to them, corpus studies take one of two perspectives: (i) looking at the distribution and functions of surface linguistic features and (ii) investigating the internal organization of texts. They point out that corpus studies have, surprisingly, lacked combination of these two perspectives. This dissertation is an attempt to combine these perspectives, notwithstanding the confronted difficulties.

Following in the steps of Biber et al, the corpus-based analysis of RCCs in TİD follows the so-called top-down approach. In spite of issues specific to modality, there is an urgent need to develop a similar approach to investigate RCCs in sign languages.

The advantage of using such an approach is that the procedure not only captures the discourse functions of RCCs but also identifies different strategies for creating RCCs based on their linguistic forms. An analysis of nonmanual elements which have no independent linguistic function benefits from the top-down approach, as well.

1.2. Objectives and Rationale of the Present Research

The goal of this dissertation is to explore relativization strategies in TİD in various discourse modes and the properties of these strategies. Therefore, a small set of corpora including potential relative clauses was constructed looking at RCCs in four discourse modes, i.e. narrative, descriptive, information and report (Smith 2003). The objectives of the research conducted for this dissertation are (1) to investigate different relativization strategies in TİD and (2) to observe the realization of RCCs at discourse level.

The first objective is to examine whether RCCs exhibit different relativization strategies. The positions of nouns or noun phrases that are relativized and the order of relative clauses and main clauses (i.e. whether or not relative clauses precede the main clauses) were investigated, which then indicated that different strategies of RCCs are exhibited in TİD. Moreover, the occurrence of relative elements and whether these occurrences depend on relativization strategies were also explored and these results also showed which relativization strategies TİD tends to exhibit. The nonmanual elements accompanying RCs were listed and their spreading behavior was investigated; these findings provided a quite substantial overview of relativization strategies in TİD. The findings showed that TİD exhibits two basic relativization strategies and that these constructions do not necessarily include a relative element, but do require use of the nonmanual marker that is 'squint'. Depending on context, other nonmanual markers may also be used. This does not mean that TİD displays no relative elements; rather this study discovered an element which functions as a nominalizing determiner, such as a relativizer.

Second, the discourse functions of RCCs were investigated. The centerpiece of this dissertation is the investigation of how RCCs are realized in

TİD in discourse: whether there is a relationship between how referents are represented in RCCs and the familiarity status of those referents. Segmented Discourse Representation Theory, which Asher & Lascarides (2003) developed from the seminal work, on Discourse Representation Theory, by Kamp (1981) and Kamp and Reyle (1993), is intended to represent.RCCs. The findings demonstrated that RCCs in the narrative mode generally refer to entities introduced earlier. In addition, RCCs in TİD in the descriptive and information modes tend to disambiguate and clarify the content of the noun or noun phrases that are relativized.

1.3. Original Contributions and the Significance of the Thesis

Several aspects of this dissertation provide exclusive contributions to the literature. No study to date has examined the strategies of RCCs, which are one way of forming complex structures like higher-order embedding in a language, using corpus-based research investigating the different word orders, various relative elements and varying nonmanual elements accompanying RCs in any sign language, much less in TİD. Moreover, no study to date has documented the discourse functions of RCCs in a sign language. The findings in this dissertation are significant because they fill an important gap in our understanding of the different relativization strategies in a sign language focusing on the functional use of RCCs at discourse level. A lack of empirical study of RCCs, which are corpus-based, in a sign language presents clear obstacles for the morpho-syntactic analysis efforts discarding other potential relativization strategies. Moreover, documenting procedural strategies for annotation of RCCs, including how to identify their occurrences, provides insights into the possibilities of conducting an analysis of RCCs in general, since the elements of RCCs are mostly nonmanual elements. It is often unclear how to capture and tag these elements together with the functions of RCCs.

1.4. Organization of the Dissertation

The rest of this dissertation is organized as follows: Chapter 2 and Chapter 3 provide introductory information – Chapter 2 introduces the Turkish Deaf community and provides a grammatical sketch of TİD; Chapter 3 provides an overview of RCCs in various spoken languages and sign languages. Chapter 4 lays out the methodological issues of the dissertation with an overview of manual and nonmanual elements in sign languages and the annotation process used in the work. Chapter 5 focuses on RCCs findings in TİD and based on these findings, Chapter 6 investigates RCCs at the discourse level. Chapter 7 wraps up the dissertation with a summarization of the findings, an outline of the limitations of the current research, and indications as to some of the possible priorities for areas of future research with a special focus on potential grammaticalization processes concerning RCCs.

CHAPTER 2: INTRODUCTION to TURKISH SIGN LANGUAGE and the TURKISH DEAF COMMUNITY

Turkish Sign Language (Türk İşaret Dili, or TİD) is the primary language used in the Deaf community in Turkey. Spoken Turkish differs modally from Turkish Sign Language. Stokoe (1960) and Klima & Bellugi's (1979) seminal works on sign language (especially American Sign Language, or ASL) have shown that there are modality differences between spoken languages and signed languages. While TİD has a visual-spatial modality, the modality of spoken Turkish is auditory-visual. Meier (2002) outlines the striking similarities and underlying differences between these modalities, including conventional vocabularies, duality of patterning (see also Hockett 1960), the addition of new vocabularies, syntactic structure, language acquisition, and lateralization (p. 2). These similarities notwithstanding, modality differences occur due to utilization of different articulators and the different properties of the perceptual systems used in each modality. In spoken language, these articulators are primarily the tongue, lips and other organs of speech; in sign language, these articulators are primarily the hands, body movements and facial expressions. Consequently, the perception organs of the two language types also differ: auditory organs for spoken languages, and visual organs for sign languages. It is these properties that make TİD so modally different from spoken Turkish.

Interest in the linguistic structures of TİD has grown rapidly since the beginning of the 21st century (see Arık 2013). Before the introduction of TİD, signers in the Turkish Deaf community used İŞARET sign as their primary means of communication (Zeshan 2002, p. 238). In her work, Zeshan suggests a possible relationship between the signing system currently used in Turkey and the sign language used in the Ottoman court from the 1500s to the 1700s (Miles 2000). However, the first published dictionary by the National Ministry of Education (Milli Eğitim Bakanlığı, MEB) makes reference to the year 1995 and uses the term 'İşaret Dili' (Sign Language) without any national specification. The first documented use of the term 'Türk İşaret Dili', and the abbreviation TİD, can be

traced to the year 2002 (e.g. Zeshan 2002). Subsequently, Özyürek, Arık & İlkbaşaran (2005) provided the first small-sized web dictionary.

In her seminal works, Zeshan (2002, 2003, 2004 and 2006) outlines the basic linguistic elements of TİD. Kubus (2008) investigates the basic phonological and morphological structure of TİD. Arık (2009) and Özyürek, Zwitserlood and Perniss (2010) provide some unique findings for TİD, specifically on the production of stative, locative and dynamic situations, using classifier predicates and sign space. Several linguists have investigated the syntactic structures of negation and interrogation (Açan 2007; Gökgöz & Özsoy 2008; Gökgöz 2009, 2011; Göksel, Kelepir and Üntak-Tarhan 2009, 2010; Makaroğlu 2012, 2013). Additionally, Sevinç (2006) focused her studies on word order and grammatical relationships of TİD. Through her research, she discovered that the animacy property of TİD may have an effect on word order. Arık (2013) provides an actual and detailed overview of the research on TİD linguistics.

The introductory chapter of this thesis will focus primarily on the linguistic and sociolinguistic aspects of TİD. Section 2.1. lays out some of the sociolinguistic, historical and political aspects of Turkish Sign Language. Section 2.2. outlines common assumptions about the structure of TİD, with respect to phonology, morphology and syntax. It also introduces the role of signing space in linguistic domains for TİD.

2.1. Historical, Sociolinguistic, and Political Aspects of TİD

TİD is a full-fledged language, most likely tracing back 500 years. Miles' (2000) study on the use of sign language in Turkish Ottoman society claims that 'mutes' were occupied with providing services to their Sultan in Ottoman courts. The Sultan then took it upon himself to learn the complex sign language in which his servants communicated: …*their signing system became popular, was used regularly by hearing people including successive Sultans, and was reportedly capable of expressing ideas of whatever complexity* (ibid., p. 1). Zeshan (2003) suggests that TİD may be connected to the sign language used in the Ottoman court: TİD's present-day signs for numbers, for example, display a high

formational similarity to Arabic number scripts. Based on these findings, TİD is most likely the world's oldest reported sign language currently in use, though further research is necessary to verify this claim.

TİD is the primary language of the deaf community in Turkey, though the exact number of native speakers is unknown. In the 1998 Budget Report of the Turkish National Ministry of Education (MNoE), the country's hearing-disabled population was reported at approximately 400,000, though the Balkan Survey Project Report of Turkey (Allen, Walters & Emerson 2007) contains conflicting numbers regarding the population of d/Deaf people. According to the records of the United Nations, for example, there are approximately 2.5 million hearing-impaired people in Turkey (as cited in Özyurek et al. 2005, and see also İlkbaşaran 2013). The Turkish Disability Survey (2002), however, lists 252,810 Turkish citizens with hearing disabilities. Though there is no record of the number of native, deaf TİD speakers, the Budget Report of the MNoE (2009) lists 48 primary schools (İşitme Engelliler İlköğretim Okulu), and 16 vocational high schools (İşitme Engelliler Meslek Lisesi) for hearing impaired youth in Turkey. In addition, the country currently has three different national deaf organizations: (i) the Turkish National Federation of the Deaf (Türkiye İşitme Engelliler Milli Federasyonu - TİEMF), (ii) the Deaf Federation (İşitme Engelliler Federasyonu - İEF), and (iii) the Anadolu Deaf Federation (Anadolu Sağırlar Federasyonu). Only TİEMF is both a national member of the World Federation of the Deaf (WFD) and an affiliated member of the European Union of the Deaf (EUD). TİEMF comprises over 50 smaller deaf associations. Based on the number of schools and deaf organizations in Turkey, it can be assumed that a substantial number of deaf Turks use TİD as their primary language.

TİD is recognized under the Disability Law of July 1st, 2005, under the Disability Act subsection no. 5378 (Title: The Law about the Change in Disability Law and Some Law and Rules in Legal Decisions / *Özürlüler ve Bazi Kanun ve Kanun Hükmünde Kararnamelerde Değişiklik Yapilmasi Hakkinda Kanun*). According to article 15, Paragraph 4 of the law:

Turkish Sign Language is created by the Turkish Language Institution in order to provide the education and communication of the hearing impaired people. The methods and principles of the works for creating and implementing this system are determined by the regulation to be issued jointly by the Ministry of National Education, General Directorate for the Social Services and Children Protection and Administration on Disabled People on the coordination of the Turkish Language Institution.[1]

By formally recognizing TİD, this law has removed one of the main hurdles preventing the utilization of the language in schools for the deaf in Turkey. In April 2006, further legislation governing *the identification of the methods and basis of the constitutions and implementations of the Turkish Sign Language System* (*Türk İşaret Dili Sisteminin Oluşturulmasi Ve Uygulanmasina Yönelik Usul Ve Esaslarin Belirlenmesine İlişkin Yönetmelik*) was implemented. According to Article 6, sections a and b of this legislation, the 'Turkish Sign Language System' is supported by the Turkish Language Association (Türk Dil Kurumu – TDK) under law. The protection and development of TİD falls under the auspices of this same institution (see also Kubus 2010).

This legislation covers both the implementation of Turkish Sign Language in deaf schools and the training of interpreters and teachers of Turkish Sign Language. The Turkish Sign Language Scientific Approval Committee (Türk İşaret Dili Bilim ve Onay Kurulu - TİDBO) represents the cooperation between various ministries and institutions, with regard to TİD. According to Article 7 of the legislation (including the changes from January 18th 2011 (*T.C. Resmi Gazete,* no. 27819) and June 21st 2012 (*T.C. Resmi Gazete,* no. 28330), the institutions of the committee, under the authority of TDK, are composed of:

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[1]*Original version:* İşitme özürlülerin eğitim ve iletişimlerinin sağlanması amacıyla Türk Dil Kurumu Başkanlığı tarafından Türk işaret dili sistemi oluşturulur. Bu sistemin oluşturulmasına ve uygulanmasına yönelik çalışmaların esas ve usûlleri Türk Dil Kurumu Başkanlığı koordinatörlüğünde, Milli Eğitim Bakanlığı, Sosyal Hizmetler ve Çocuk Esirgeme Kurumu Genel Müdürlüğü ve Özürlüler İdaresi Başkanlığınca müştereken çıkarılacak yönetmelikle belirlenir. (The English version has been translated by the author.)

a. Four academic staff members, composed of two delegates and two substitutes assigned by TDK.

b. One delegate and one substitute from TDK.

c. Two delegates and two substitutes from the Ministry of Family and Social Policies (Aile ve Sosyal Politikalar Bakanlığı).

d. Two delegates and two substitutes from the Turkish Ministry of National Education.

e. Two delegates and two substitutes from the Turkish National Federation of the Deaf (Türkiye İşitme Engelliler Milli Federasyonu - TİEMF).

The mission of the committee is to develop and implement material to be used for educational purposes. Two national workshops have been held so far. During the first workshop, held in 2007, the chair of TDK formally recognized both the fingerspelling system of TİD, and those interpreters, holding positions in 20 different Turkish cities, whom passed a national proficiency exam created by TİDBO. The second workshop, held in 2010, dealt with the creation of an online TİD dictionary and educational materials, and a TİD grammar book (see Kubus İlkbaşaran & Gilchrist to appear). It can be concluded that the Turkish governmental organizations, despite any differences they may have, make an effort to accept and encourage the nationwide use of TİD. In 2012, the Türk İşaret Dili Sözlüğü (Turkish Sign Language Dictionary) was published online by the Turkish Language Institute, and prepared by Turkey's Ministry of National Education[2]. The readers are referred to Kubus et al. (in press) for an overview of the current situation in Turkey as regards language planning.

2.2. Grammatical Sketch of TİD

This section will provide an outline of the structure of TİD, including its fingerspelling alphabet, phonology, morphology, lexicon and syntax. In particular, it is offered to those readers who are unfamiliar with the linguistic structure of TİD

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[2] The dictionary can be viewed at http://www.tdk.gov.tr/index.php?option=com_content&id=264 (Retrieved on 16 February 2014).

and/or other sign languages. Basic information about other sign languages with possible commonalities to TİD will be presented as well.

2.2.1. The TİD Manual Alphabet

The TİD alphabet utilizes a two handed system (Kubus 2008; Kubus & Hohenberger 2011). This is in contrast to the one handed alphabet systems of many other sign languages, including American Sign Language (ASL) and German Sign Language (*Deutsche Gebaerdensprache,* DGS). The manual alphabet of TİD is comprised of 29 letter signs, which are visually modeled from the Turkish alphabet (see Figure 2.1). In the manual alphabet of TİD, the letters J and Y have a tracing movement similar to the movement used in the execution of the ASL letters J and Z. In contrast to ASL, however, this movement is performed on the non-dominant hand and not in the air. The dot on the 'i' (İ), Umlauts (Ö and Ü), and cedillas (Ç and Ş) in TİD are produced by snapping fingers. Beyond these examples, only Ğ (soft G) uses a hand-internal movement, namely moving the thumb of the dominant hand up and down repeatedly (wagging). Some letters in TİD (C, I, L, O, P, U, V) are one handed. Some letters may have dialectal variants (Figure 2.1 shows only the İstanbul variant of the letter K).
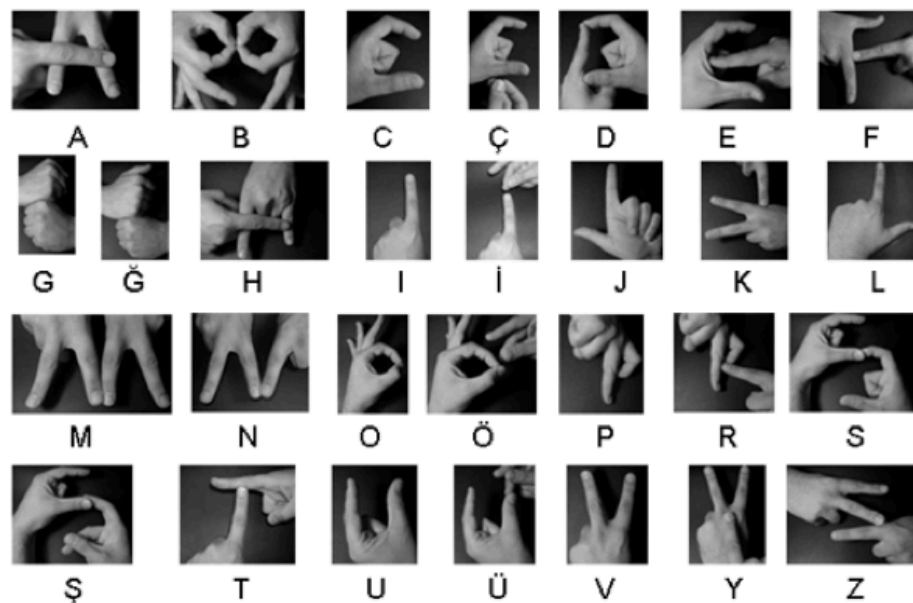
Figure 2.1 - The manual alphabet of TİD (Kubus 2008)

The TİD manual alphabet is generally used when a signer wants to introduce a special name (i.e. the proper name of a person or unknown place) or, in spite of their rare occurrence, words that do not use any expressions or conventionalized signs. However, some conventional signs are derived from the TİD manual alphabet, such as TEŞEKKÜRLER 'thanks', which is composed of the letter 'T' and an epenthetic movement. This process is also known as 'lexicalized fingerspelling' (Valli & Lucas 2001). Taşçı (2012) investigates the phonological process in TİD lexicalized fingerspelling using the Hand-Tier model (Sandler 1989), and closely examines the morphology of lexicalized fingerspelling (see also Section 2.2.4). Generally, words in conversations or sentences are not fingerspelled. Instead, they are expressed through the use of signs.

2.2.2. Phonology and Phonetics of TİD

There is one distinct, modal difference between signed and spoken languages: the system of articulation. Auditory-vocal in their modality, spoken languages use the tongue, teeth, lips, and other speech organs as articulators. In contrast, signed languages use the visual-spatial modality. Thus, signed languages use different articulators, such as the hands, head, body, and mouth. In signed languages, the hands are generally regarded as the sole manual element of the language, while the face, mouth and the upper torso of the body are considered its nonmanual elements (Brentari 1998; Meier 2002). Therefore, the phonetic realization of phonological properties in sign language are completely and substantially different from those in spoken languages.

Stokoe (1960) proposed that signs are composed of three different, simultaneous classes of features: (1) tabula (position of the sign), (2) designator (hand configuration) and (3) signation (movement) (see also Corina & McBurney 2001). Following Stokoe's model, and in order to account for the sequentiality of signs, various models have been developed that attempt to structure the signs into sequential phonemes. These include the Move-Hold Model (Liddell 1984), the Hand-Tier Model (Sandler 1989; Sandler & Lillo-Martin 2006) and the Prosodic Model (Brentari 1998).

Signed languages contain several different phonological parameters, each

considered to be the smallest sub-unit of a sign. These properties are the smallest elements of sign language with the ability to change a sign's meaning. Parameters include handshape, orientation, movement, location, and nonmanual features. Each of these categories will be briefly described in the following paragraphs. Every sign language has its own inventory of features, such as the handshape inventory. There is a larger set of physically motivated features (which can be described in phonetics), however, which may feed the phonology of a sign language with a proper set of features for linguistic purposes.

Although signed languages seem to have universally coinciding feature classes, certain phonological properties and/or elements within these feature classes may be unique to a specific sign language. Some handshapes, such as the ASL letter signs for T ($\bigcirc^2 \backslash^3$ [3]), N ($\bigcirc^3 \backslash^4$), M ($\bigcirc^3 \backslash^4$), and E ($\ominus$) (Figure 2.2), have not been observed in the Turkish handshape inventory. Similarly, the size of the handshape inventory may vary across sign languages: approximately 34 handshapes are identified in the TİD handshape inventory (Kubus 2008). Finger snapping, which is used to represent Umlauts and diacritics in the TİD manual alphabet (for details see Section 2.2.1.), is an important element of the inventory, and one that is unique to the TİD manual alphabet. This handshape, with internal movement, is also used in certain signs, such as UNUTMAK 'to forget' and HIZLA-GİTMEK 'to go fast' (Kubus 2008).
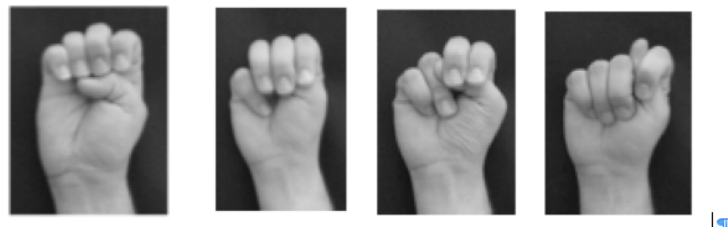
Figure 2.2 - Handshapes that are not observed in TİD: ASL E, ASL M, ASL N, and ASL T (see also Kubus 2008)

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[3] HamNoSys notations for the handshapes can be found in the brackets. Find a full handshape chart from *HamNoSys 4 a*t http://www.sign-lang.uni-hamburg.de/dgs-korpus/tl_files/inhalt_pdf/HamNoSys%20Handshapes.pdf (Last access on 12 May. 2014)

As in other signed languages, TİD signs are classified as either one-, or two handed. Two handed signs can be symmetrical, alternating, or signed with one dominant and one non-dominant hand (Battison 1978, see also Boyes-Bream 1981). Two handed signs found in the third category generally contain handshapes drawn from a set of unmarked handshapes. In ASL, unmarked handshapes include B (◠), A (◯), S (◠), C (◠), O (◠), 1(◠), and 5 (◠) (Battison 1974). Unmarked handshapes in TİD vary slightly from those found in ASL. Kubus (2008) listed unmarked handshapes in TİD as follows: 'the Fist' (◯: equivalent to the A/S-handshapes in ASL), 1 - 5 handshape (◠, ◠), and the TİD-specific O-handshape (◠: similar to the F-handshape in ASL). Although similar in appearance, the position of the thumb in the 'Fist' handshape in TİD is somewhat less selective than that of the 'S' and 'A' handshapes in ASL (◠). The behavior of unselected fingers in the TİD O-handshape is also most likely not distinctive, suggesting that it might have led to a different set of unmarked handshapes. Hypothesizing about the possibility of a bigger corpus of general handshape types for TİD requires further research.

The orientation parameter of a sign refers to both the direction of the hand and the position of the palm. The direction of the hand refers to the metacarpus part of the hand, and the direction to which it points. The position of the signer's palm, relational to hand position, indicates that palm direction dictates the direction of the hand. There are four main palm positions: palm-up, palm-down, palm-left, and palm-right. The palm can also take a position between any of the main palm orientations listed above. When analyzed in connection to handshape (i.e. hand configuration), however, it is unclear whether orientation should be regarded as a main parameter in sign language (Sandler & Lillo-Martin 2006).

The next parameter is location, or where the sign is produced within the signing space. Here, the signing space refers to the area where signers articulate the sign. In this three-dimensional area, signs may be expressed in the neutral space in front of the body, or else may be in contact with an articulator. For instance, in Sandler's (Sandler & Lillo-Martin 2006, p. 176; see also Sandler 1989) Hand-Tier model, location parameters are listed as *[hand], [trunk], [second*

hand], [arm] and settings are *[top], [low], [ipsilateral]* (on the side of the hand that is producing the sign)*, [contralateral]* (on the opposite side than the hand that is producing the sign)*, [proximal]* (the place close to the body) *and [distal]* (the place which is far away from the body).

The movement parameter covers both path movements and internal movements. Path movements, in which the hand moves from one place to another, are defined by location parameters. The movement parameters can be arcs, straight movements, and pivotal or circular movements. With the exception of path movements, internal movements are related to handshape changes, orientation changes, or both (for details see Sandler & Lillo-Martin 2006 as well as Brentari 1998).

Non-manual signals[4] can also be a part of the phonology of a sign language.[5] There is evidence that some TİD lexical items and sign names include nonmanual movements. For example, ALSANCAK[6], the name of a district in İzmir city, is expressed without the use of any manual signs, but by moving puckered lips rightward. This example also shows that nonmanual signals are a part of the lexicon of TİD, i.e. nonmanual expressions realized at a lexical level. However, ALSANCAK may simply be an anomaly, since it is hard to positively say that nonmanuals can form signs all by themselves. Beyond such rare cases in the lexicon, nonmanual signals are usually realized at a morphological or syntactic level (see Section 2.2.3. and 2.2.4). Additionally, signed languages express prosody through nonmanual means (Crasborn 2006; Sandler & Lillo-Martin 2006; Pfau & Quer 2010).

In sum, signs are produced by simultaneously combining five phonological

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[4] The nonmanual parts of a sign include facial expressions, movements of the mouth, eye gaze, and/or head movements, among others. Some signs cannot be realized without their nonmanual components (e.g. the mouth component of the ASL sign AT-LAST, see Emmorey 2002, p. 39). Emmorey suggests that the nonmanual parts are more complicated and less studied than their manual counterparts.

[5] Prosodic constituents are not only realized at a phonological level. Sandler & Lillo-Martin (2006) mention that prosody can also be analyzed as an independent linguistic level, such as with discourse.

[6] It is difficult to provide a minimal pair for the sign ALSANCAK since it has no manual component. This anomaly leads to the question of whether nonmanual components can really be considered a part of parameters at the phonological level.

parameters – handshape, movement, location, orientation, and nonmanual parameters – to form an integrated meaning. Three pieces of evidence have been cited in the literature, indicating that sign languages have their own phonological system: (i) minimal pairs, (ii) slips of the hand and (iii) effects in phonological working memory.

In minimal pairs, each sign has only one differing phonological feature (Klima & Bellugi 1979). For example, Figure 2.3 shows an instance of minimal pair that differs only in handshape: the handshape of CEZA 'punishment' is (♨³), whereas TAVUK 'chicken' has a (☝) handshape.

Figure 2.3 - A minimal pair in terms of handshape: CEZA vs. TAVUK (see also Kubus 2008)

Another piece of evidence for sign language phonology stems from slips of the hand, which occurs primarily within phonological features (ASL: Klima & Bellugi 1979; Newkirk, Klima, Pedersen & Bellugi 1980, DGS: Leuninger, Hohenberger, Waleschkowski, Menges & Happ, 2004; Hohenberger & Leuninger 2012). In their work 'Modality-dependent Aspects of Sign Language Production: Evidence from Slips of the Hands and their Repairs in DGS', Hohenberger, Happ & Leuninger (2002, p. 127) compared and contrasted phonological slips of the hand in ASL and DGS. Klima & Bellugi (1979) reported 89 phonological slips in their ASL corpus, of which 73% were hand configuration slips, 15% location slips, and 12% movement slips. The resulting frequency of phonological errors was

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similar to the frequency shown in the studies of Klima & Bellugi (1979), and Hohenberger et al. (2002).

The final piece of evidence comes from phonological working memory. Baddeley & Hitch (1974) (as cited in Emmorey 2002) modeled the human working memory to include two subsystems: the phonological (previously called 'articulatory') loop (PL), and the visuo-spatial sketchpad (VSSP). Baddeley (1986) presents four main pieces of evidence for PL: the phonological similarity effect, the articulatory suppression effect, the word length effect, and the irrelevant speech effect. Such evidence is also found in sign language: a (sign) phonological similarity effect (Bellugi, Klima & Siple 1975; Wilson & Emmorey 1997), an articulatory suppression effect in ASL (Wilson & Emmorey 1997; Wilson 2001, see also Emmorey 2002), a sign length effect (Wilson & Emmorey 1998), and an irrelevant sign effect (Wilson & Emmorey 2003). For TİD, Kubus & Hohenberger (2007) have shown the combined effect of phonological similarity and irrelevant sign. In sum, the evidence shows that such a phonological mechanism also exists in sign language and that this mechanism exists in TİD in specific.

2.2.3. Morphology of TİD

Morphemes are the smallest meaning-bearing units in language. They can alter the meaning of a word by providing new grammatical information, such as indications as to person, number, gender, case, aspect, tense, or mode (inflection). They can also create a new word, and change the class of an existing word in a process known as derivation (Haspelmath 2002). Signed languages also have morphological processes and constructions, including inflection, derivation and compounding, as well as classifier constructions (Sandler & Lillo-Martin 2006). As is the case with many other sign languages, TİD signs can be inflected in terms of person, number, and aspect, and can be formed by suffixation and compounding processes.

There exists an important, underlying difference in the way that morphemes come together in spoken and signed languages. In spoken language, morphemes are mostly affixed in a sequential (linear) manner that can also be categorized as concatenative. In nonconcatenative morphology, morphemes are mostly combined

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simultaneously. This distinction is rooted in different phonological realization of the morphemes (e.g. Mathur & Rathmann 2011). Sign languages favor nonconcatenative morphology because of the modality difference (see also Emmorey 2007; Aronoff, Meir & Sandler 2005). Both constructions will be analyzed in the next sections.

Section 2.2.3.1 analyzes pluralization of nouns and the morphological processes of verbs in TİD, including person, number and aspect. The next section (Section 2.2.3.2.) investigates the derivational morphology of TİD, focusing on such important aspects as compounds and number incorporation. The final section (Section 2.2.3.3.), explains the construction of classifiers in TİD.

2.2.3.1. Inflectional Morphology

Only a specific group of nouns in TİD can be inflected, but even these nouns can only mark one element: number. Unlike nouns, verbs in sign language are relatively rich regarding inflectional morphology. Generally, verbs can be marked with person, number, and aspect. Both inflection categories are analyzed in the next sections.

2.2.3.1.1. Inflection of Nouns

Most nouns are zero marked in terms of number (Kubus 2008; Zwitserlood et al. 2012, 2013). The plural form of a noun is usually expressed via reduplication (e.g. Pfau & Steinbach 2005a). However, as Zwitserlood, et al. (2012) pointed out, the reduplication process is not used for many of the nouns in TİD. Instead, TİD favors different pluralization strategies. In their work, Zwitserlood et al. (2012; 2013), list additional strategies, such as the use of numerals and quantifiers as well as the marking of nouns with a localization strategy. For example, entity classifiers (see Kubus 2008), are commonly used. Plurality of the entity classifiers can be represented by locative reduplication or the addition of a straight or circular movement. However, Zwitserlood et al., concluded from their research that the many strategies indicating the plural information of the nouns in TİD are not 'productive' in terms of the inflectional processes of nouns.

2.2.3.1.2. Inflection of Verbs

Some phenomena related to inflectional morphology, such as different verb types, and rules for adding adverbial, numerical, or distributive morphemes to root signs, also exist in TİD. TİD verbs also mark aspect. This section will briefly touch on the typical characteristics of inflectional morphology in TİD. Inflectional morphology has two main aspects: verb classes and aspectual modulations.

Verb Classes

According to Padden (1983, 1988), ASL verbs fall into three distinct categories: (i) plain, (ii) spatial, and (iii) agreement. Morphologically, plain verbs are unmarked for subject or object agreement. Spatial verbs and agreement verbs both use signing space to express inflection. Unlike spatial verbs, agreement verbs agree with animate predicates in subject and/or object. These categorizations can be applied to other signed languages as well. TİD verbs, for example, can also be categorized as either plain, spatial, or agreement (Sevinç 2006; Kubus 2008).

In terms of inflectional marking, plain verbs in signed languages can be marked only with an aspect morpheme, and may not be marked with a person or number morpheme. Unlike spatial verbs, agreeing verbs can be inflected with a morpheme denoting person or number. In contrast, spatial verbs do not mark person. Instead, they use loci for representing references indicating spatial information. Table 2.1 summarizes the classes of verbs and gives an example for each group in TİD.

Classification of verbs	TİD examples
Plain verbs	SEVMEK 'to love', KIZMAK 'to get angry', KOŞMAK 'to run'
Spatial verbs	TAŞINMAK 'to move out', YÜRÜMEK 'to walk'
Agreeing verbs	VERMEK 'to give', ANLATMAK 'to tell', GÖNDERMEK 'to send'

Table 2.1- Verb classes and examples in TİD

Differentiation between spatial verbs and agreeing verbs can be ambiguous. Rathmann and Mathur (2008) denote three basic linguistic properties of agreeing verbs: (i) two animate arguments (Janis 1992), (ii) these arguments must refer to subject and object, and (iii) the verbs must undergo a phonological change, often in the direction of movement. However, a change in movement is not the sole phonological change that occurs in agreeing verbs.

The classification of the phonological parameters of agreeing verbs can be denoted as (i) changes in orientation and direction of movement, (ii) exclusive orientation changes, (iii) exclusive direction of movement changes, (iv) changes in orientation, direction of movement, and order of hands, and (v) changes in orientation and order of hands (Mathur 2000, Mathur & Rathmann 2004). According to Kubus (2008), agreeing verbs in TİD do not undergo the last two phonological changes as defined above (see Table 2.2).

There exists a basic line of reasoning on the differences between spatial verbs and agreeing verbs. Spatial verbs are related to the source of the argument. The goal of the verb can be discovered by asking the question 'where?' Agreeing verbs refer to animate objects and use the question 'who?' to uncover the goal of the argument (Rathmann & Mathur 2005). Based on this line of reasoning, a spatial verb cannot take a person feature. Instead they must interact with the locations in gestural space (Rathmann & Mathur 2008).

Categories	TİD examples
(1) Change in orientation and direction of movement (65%)	DESTEKLEMEK 'to support', SEÇMEK 'to choose'
(2) Change in orientation (7%)	ÖĞRETMEK 'to teach', SORGULAMAK 'to question'
(3) Change in direction of movement (28%)	SATMAK 'to sell', SORMAK 'to ask'
(4) Orientation, direction of movement and order of hands	n/a
(5) Orientation and order of hands	n/a

Table 2.2 - Categories of agreeing verbs in TİD at the phonological level (Kubus 2008; adapted from Mathur and Rathmann 2004) (Among 60 agreeing verbs, the percentages are from Kubus 2008 and pertain to TİD)

Agreeing verbs can be further divided into two categories: (i) forward agreeing verbs and (ii) backward agreeing verbs[7]. Forward agreeing verbs are directed from subject to object. Backward agreeing verbs are generally directed from objects to subjects. Table 2.3 shows an example for each subcategory.

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[7] The distinction between forward and backward agreeing verbs has been mentioned in the literature. Friedman (1976) suggests that both kinds of verbs are grouped as a sole category with a semantic analysis using the arguments source and goal. In contrast, Padden (1983) shows that backward agreeing verbs are controversial due to their inconsistency in agreement with the goal. Meir (1998, 2002) uses a different approach when it comes to agreeing verbs, with the direction of the path (DIR morpheme) determined by thematic roles of the arguments (SOURCE-GOAL). The reasoning behind this approach is the distinction between forward and backward agreement. (For a good summary on agreeing verbs, see Lillo-Martin & Meier 2011, and Mathur &Rathmann 2012).

	Forward agreeing verbs	Backward agreeing verbs
First to non-first		
Non-first to first		

Table 2.3 - Two different examples of direction for forward and backward agreeing TİD verbs

Auxiliaries in Signed Language

German Sign Language, (DGS) uses 'Person Agreement Markers' (PAM, Rathmann 2000) to signify agreement of verbs that cannot mark agreement themselves. Some DGS verbs have two animate arguments but cannot be marked for person due to phonetic-phonological constraints. For example, the sign VERGESSEN 'to forget', which is a body-anchored sign, cannot be moved toward the addressee; therefore, PAM adds agreement information to the sentence (1). Certain other sign languages have been observed to have auxiliaries similar to the one in DGS: (LSC: Catalan Sign Language (Quer & Frigola 2006), LSB: Brasilian Sign Language (Quadros & Quer 2008). However, as of the publication of this thesis, such auxiliary verbs have not been observed in TİD.

(1)   INDx KANN^NICHT x**PAM**y VERGESSEN

       I   CAN^NOT   AUX   FORGET

       I cannot forget you.

Person feature in TİD

If we consider the verbs found in spoken Turkish, we find inflection with three person features: (i) first, (ii) second and (iii) third (see also Göksel & Kerslake 2005). In contrast, only two classifications of 'person' exist in TİD (see as in ASL, Meier 1990): (i) first, and (ii) non-first. First-person reference in TİD occurs in the area close to the signer's own chest. Except for the referent defined for first-person, any referent can indicate either second or third person; there is no overt phonological information differentiating them. This distinction in signed languages is not grammatical (Meier 1990), rather, it is realized at a pragmatic level (Rathmann & Mathur 2005). As a result, second and third person features are phonologically realized and categorized as non-first person. Please see Section 2.2.5.2. for a discussion on indexical pointings and classifications of 'person.'

Number feature in TİD

Another inflectional feature is number, which is generally broken into two categories: singular and plural. Agreeing verbs in TİD can also be inflected by these features, however the plural forms in TİD can be further subdivided into three possible values: dual, exhaustive, and multiple (Klima & Bellugi 1979, Padden 1988). Table 2.4 shows first to non-first person inflection of the verb VERMEK 'to give' with person and number features.

	Singular	Dual
First to non-first		
	Exhaustive	Plural

Table 2.4 - Inflections of the verb VERMEK (GIVE) with number features (first to non-first)

To summarize, person and number can inflect the set of verbs known as 'agreeing verbs'. It is important to note that agreement is not realized by loci in gesture space. As mentioned earlier, the phonological change in agreeing verbs is not always categorized by a change in direction of movement/loci; other phonological phenomena have also been observed.

The definition of 'agreement' has long been debated. Early studies on agreeing verbs (Klima & Bellugi 1979; Padden 1988) and R-locus (Lillo-Martin & Klima 1990), formed the assumption that agreeing verbs agreed with loci in signing space. Liddell (2000) underlined that the locus in this space is neither definable nor listable. Rathmann and Mathur (2008) proposed that the agreement is marked by the animate arguments with the help of gestures (i.e. disambiguating the referents through loci). Lillo-Martin & Meier (2011) revised the analysis on verb agreement, using the term 'directional verbs', leaving the R-locus perspective

and affirming that directional verbs rely on the gestural support of phonological specification in terms of location.

Aspectual modulations

Sign languages do not overtly mark tense (for TİD, see Zeshan 2002). They do, however, have rich aspectual morphology systems. Aspect can be applied to all verb classes. In her study on the aspectual modulations of TİD, Zeshan (2003) suggested that sign language has two main aspects: 'completive' and 'continuative' (incompletive). Verbs with completive aspect are signed in a specific direction and/or have a distinct completive movement accompanied by a head nod. Continuative verbs, however, are signed repetitively in one direction.

Klima and Bellugi (1979) have defined several detailed aspectual modulations, applicable to either verbs or adjectives. Several researchers attempted to categorize the modulations observed in ASL (see a detailed review in Rathmann 2005). In his dissertation, Rathmann investigates the situation aspect in ASL verbs, aspectual modulations, and viewpoint aspects. Generally speaking, the term aspect covers both situation types and viewpoint aspects. According to Rathmann's study, ASL situation aspects can be studied within five groups with respect to three features: dynamicism, duration and telicity (see (2)). He utilizes Smith's (1997) theory, in which three different features are defined: dynamism, which distinguishes between state and events; duration, which clusters together activities and accomplishments; and telicity, which indicates the existence of the end point of the movement parameter of the verb.

(2)

- States:	[-dynamicism] (BİLMEK 'to know')	
- Activities:	[+dynamicism] [+duration, -telicity] (OYNAMAK 'to play')	
- Semelfactives:	[+dynamicism] [-duration, -telicity]	
	(ÖKSÜRMEK 'to cough')	
- Achievement:	[+dynamicism] [-duration, +telicity] (EV-YAPMAK 'to build a house')	
- Accomplishment:	[+dynamicism] [+duration, +telicity]	
	(KAZANMAK 'to win')	

From a morphological point of view, ASL verbs are inflected for five aspect morphemes: (i) continuative, (ii) iterative, (iii) habitual, (iv) hold and (v) conative. Additionally, clause-final FINISH determines perfectivity in ASL, comparable to TİD's BİTTİ 'finished', TAMAM 'okay' and OLDU 'to have become' (Zeshan 2003).

Continuative aspect morphemes add information to verbs to indicate events or actions, and are realized by altering the length of the movement (i.e. extension of movement) of the verb stem. Activity and Accomplishment situation types, both of which have a [+duration] feature, may take this aspectual modulation. Iterative aspect morphemes are applied when a given event occurs repetitively. Unlike the continuative modulation, this morpheme is expressed through replications of the movement of the verb. Although stative verbs cannot take this morpheme, other verbs can be modified with it (i.e. those that have the [+dynamic] feature). The phonological realization of the Iterative morpheme is characterized by quick, short repetitions of the movement parameter of a verb. Habitual aspect morphemes are applied when an event occurs regularly, without marking a specific time or duration.

When the movement of an activity verb is suddenly interrupted, it can be said that this verb has been marked by a hold aspectual morpheme. Such morphemes can be used by activity and accomplishment situation verbs, which are [+duration]. In other words, the morpheme adds an end point to the event.

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Activities that the signer intended to accomplish but cannot start due to a given reason are marked by conative aspectual morphemes. This is accomplished by *holding the initial configuration of the hands and arms in place during the articulation of the verb* (Rathmann 2005, p. 44).

The aspectual modulations listed above also appear to exist in TİD. Zeshan's (2003) simultaneous completive aspect[8], which gives an end point to an activity without any interruption, is not counted among the aspectual morphemes of ASL (see also Rathmann 2005). Additionally, this aspect has been observed when accompanied by a characteristic mouth gesture, starting with an aperture of the lips and ending with an inter-dental position of the tongue (as in 'pt') (see also Dikyuva 2011). It is comparable to the perfective final-clause FINISH in ASL. However, there is a difference between a completive aspect and the final-clause FINISH. As can be observed in (3), the perfective FINISH can be applied to future realizations, while a completive marker cannot be (4) (Kubus & Rathmann 2009).

(3) TOMORROW JOHN$_i$ COOK S-A-L-M-O-N FINISH e$_i$ MAKE DESSERT-
 Tomorrow, after John cooks the salmon, he will make the dessert.
(Rathmann 2005, p.135)

(4)

                       <u>   pt</u>
 * YARIN ALİ OKUL GİTMEK ARKADAŞ MİSAFİR
 *TOMORROW ALİ SCHOOL GO-TO FRIEND VISIT
 Tomorrow, after Ali goes to school, he will visit his friend.
(Kubus & Rathmann 2009)

Kubus & Rathmann propose that this aspectual modulation of the nonmanual marker 'pt' should be interpreted as a morpheme, which gives a natural

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[8] TİD also exhibits a particle for completive aspect, such as TAMAM 'okay', BİTTİ 'finished' and OLMAK 'done' (Zeshan 2003, p. 50; Rathmann 2005 pp. 258 -259).

past reading to sentences, and adds telicity to the activity verb group. This example shows that nonmanual signals can also express morphological changes.

In addition to aspectual modulations, Gökgöz & Özsoy (2008) propose that past and future tense in TİD are identified by a single head nod and repetitive head nods, respectively. Neutral conditions are considered to be present tense. These head nods are related to the manual movements of the sign, which specify incompletive and completive aspect modulations. The existence of overt tense morphemes in TİD is open to discussion; however, hand and head movements, which are distinctive in completive and incompletive aspects, indicate that TİD may have 'tense-like nonmanual morphemes.'

As previously mentioned, the nonmanual marker 'pt' is compatible with the completive aspect of the verb. This mouth gesture also occurs simultaneously with a slight forward tilting of the head. Kubus & Rathmann (2009) state that these nonmanual elements are only realized in the past tense, and that they are neither perfect nor perfective. Similarly, it has been claimed that the nonmanually defined incompletive aspect, i.e. repetitive head nods along with repetitive movement of the hands, are nonmanual morphemes realized in the context of future situations.

In addition, Dikyuva (2011) focuses on three nonmanual aspect markers: the completive aspect ('bn'), the inceptive aspect ('ee'), and the continuative aspect ('lele'). In his research paper on nonmanual aspect markers, Dikyuva identifies the nonmanual marker 'bn' as identical to the previously mentioned 'pt'. He defines the mouth movements as follows: *Contact between the tongue and the middle of the upper and lower lips should be maintained, but the tongue should not touch the corners of the mouth* (p. 29). However, what Dikyuva defines as completive aspect, Kubus & Rathmann (2009) argue is a telic marker with past reading. Dikyuva and Kubus & Rathmann do agree on two findings, however: (i) the nonmanual aspect marker is compatible with verbs denoting actions and (ii) this marker adds an endpoint to the verbs. The use of this marker is very common among TİD users (Dikyuva 2011).

Dikyuva investigates two additional nonmanual aspect markers: 'ee' and 'lele.' An inceptive aspect generally indicates the *beginning or near beginning of*

an event or state (Sandler & Lillo-Martin 2006, p. 48 as cited in Dikyuva 2011, p. 30), which is comparable to the conative aspect mentioned above. This mouth gesture adds the meaning of 'start to' to the manual verb. He gives the example of 'ee', which, when combined with the sign for TELL-ME, changes the meaning to *start to tell me* (p. 31). This nonmanual expression is also compatible with action verbs. It also seems to be comparable to conative aspectual modulations. On the other hand, the continuative aspect seems to have its own special nonmanual marker, labeled as 'lele.' Dikyuva describes this mouth gesture as *protruding the tongue slightly between the teeth and flicking it up and down repeatedly and quite rapidly* (ibid). This aspectual marker shows that the verb is being used for on-going activities.

2.2.3.2. Derivational Morphology

Derivational morphological processes, such as compounding, affixation and numerical incorporation, are also observed in TİD. In contrast to inflectional morphology, derivational morphology creates new words, sometimes altering word class (Haspelmath 2002). In his book, Haspelmath lists several distinguishing properties of inflection and derivation, with the most notable one being related to syntax: *Inflection is relevant to the syntax; derivation is not relevant to the syntax* (p. 70). In the next passages, some typical derivational processes observed in TİD will be expanded upon.

Compounding

Compounding is the process of generating new signs from two independent signs. In other words, compounding is a concatenative word formation process. A compound may undergo phonological and/or morphological changes in the compound formation (Liddell & Johnson 1989; Valli & Lucas 2001). Kubus (2008) provides some examples of compound formation in TİD, including AĞABEY 'elder brother' (ERKEK^BÜYÜK 'male'^'tall') (see Figure 2.4) where the handshape of the second part of the compound assimilates into the handshape of the first component of the compound.

Figure 2.4 - AĞABEY 'elder brother' (ERKEK^BÜYÜK 'male'^'tall')

The alteration of one or both compound parts may occur because the prosodic rules of a sign language make its signs either mono- or bisyllabic (Sandler & Lillo-Martin 2006). In order to investigate the transitional movements between the two parts in a compound, Kan & Gökgöz (2009) analyzed 123 compound formations in the TİD database. From their findings, they concluded that sonority[9] might play a role in compound formation. Most first-to-second-part transitions are either held at the same level (i.e. upper torso), or move one level down (i.e. from head to upper torso or upper torso to belly). These findings suggest that, in addition to handshape assimilation, at least one part of the compound may undergo a change in movement. In order to further analyze morphological and phonological changes in TİD compound formations, the reader is referred to Kubus (2008).

Suffixes derived from spoken Turkish

Kubus (2008) also provides an example of a suffix borrowed from Turkish (-lI, -cI), which is added to the end of a sign in order to form a new sign group. The Turkish suffix –cı (-ci, -cu, -cü, -çı, -çi, -çu, -çü), gives to the root the meaning 'seller of something' (somewhat equivalent to the -er suffix in English).

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[9] Kan & Gökgöz (2009) refer here to the 'visual sonority' which Brentari (1998) uses in different processes. In this term (compounding), sonority is understood as *the relative proximity of the joint articulating a sign's movement to the midline of the body. The more proximal the joint, the greater the degree of excursion possible in the movement; such movements are consequently more visible at a greater distance. A single movement articulated by the elbow is therefore more sonorous than one articulated by the wrist* (p. 217; see also Kan & Gökgöz 2009).

Similarly, the –lı (-li, -lu, -lü) suffix, when added to a root, conveys the meaning 'belonging to something.' The vocabulary of TİD also contains suffixes with the same meaning; however, they are not widely used.

Numeral Incorporations

In addition to concatenative word processing in signed languages, sign formations, including spontaneous simultaneous combinations of two signs, also occur in a process known as nonconcatenativate morphology. One example of this phenomenon, a process sometimes referred to as 'numeral incorporation', occurs when two numbers, or a number and temporal noun, are fused together. In terms of the grammatical process (which triggers numeral incorporation), several different approaches to numeral incorporations (and the parameters of what constitute incorporated numeral signs) exist (see Frishberg & Gough 1973, 1974; Chinchor 1981; Liddell, Ramsey, Powell & Corina 1984 and Liddell 1996). It is agreed, however, that such morphological processes can be found in signed languages (Aronoff, Meir & Sandler 2005), and may even be unique to them.

In listing possible numeral incorporations in TİD, Kubus (2008) found that the digits 2 through 5, each of which lack internal movement, are permitted to incorporate any of the temporal nouns. The handshape of the number replaces the handshape of the noun, whereas the orientation, movement, and location of the noun remain unchanged. For instance, in ÜÇ^HAFTA 'three weeks', the handshape of the sign HAFTA 'week' takes the handshape of the sign ÜÇ 'three', but the other phonological parameters in the second part of the sign remain unchanged. However, the digits 6 through 9 do not show any incidence of numerical incorporation (see also Zeshan 2002). This may be due in part to the complicated handshape of 6 and the internal movement of 7, 8 and 9. Mathur & Rathmann (2011), invoke language-internal constraints (i.e. phonological and phonetic constraints), rather than morphological processes as the reason for the incorporation of many, but not all numbers.

2.2.3.3. Classifier Constructions

Sign language has been reported to have a particular set of elements representing iconically real world objects with a set of given phonological parameters, including handshape, movement and orientation (Emmorey 2003, Sandler & Lillo-Martin 2006). Such phenomena, labeled as classifier constructions, seem to be universal among sign languages: TİD (Zeshan 2002; Kubus 2008), ASL (Supalla 1982, 1986), NGT (Sign Language of the Netherlands, Zwitserlood 2003), Israeli Sign Language (ISL, Aronoff, Meir & Sandler 2005), German Sign Language (DGS, Glück & Pfau 1998) and many other sign languages have been found to contain them.

Supalla (1982, 1986) states that ASL has systematical nominal classifiers which function in morphological processes. He categorizes four different types of classifiers: (i) size and shape specifiers (SASS), (ii) semantic classifiers, (iii) body part classifiers, and (iv) instrument classifiers. SASSes are represented by handshapes varying in size, shape, and position of objects and referents. Semantic classifiers, also known as entity classifiers (Engberg-Pedersen 1993), relate to the semantic elements of an object. The flat hand (⌒) in TİD, for example, can represent a vehicle or a rectangular static object. Body part classifiers are used to show the various body parts of animate referents, such as the V-handshape (⍚) in TİD, used to represent human legs. The final group, instrument classifiers, contains two different subcategories: In the first category, manipulation, the signer's handshape refers to a specific, often manipulated, object. In order to show bread being cut by a knife, for example, the 1-handshape (⍚\⍚) can be used to represent a knife, with the handshape defined as manipulation. In the second subcategory, handle, an object can be held in the hand. To represent the holding of a knife, for example, the S-handshape is used as a handling classifier. Supalla also defines verbal classifiers (classifier predicates), which are expressed by location and movement, using the nominal classifiers outlined above. This categorization is widely accepted under different labels. The reader is referred to Schembri's paper (2003) in order to review the different terminologies used in the sign language literature.

In the past, researchers have attempted to determine whether classifier constructions are a part of the linguistic system of signed language, or whether they are simply another form of gesture. After Supalla's attempt to linguistically categorize the classifier constructions, Liddell (2000) claimed that the use of movement and location in such constructions is the result of a gestural use of space. Furthermore, Cogill-Koez (2000) suggests that classifier systems are simply instances of visual representations, which means none of the phonological parameters used in such depictions can be regarded as linguistic in origin.

According to Liddell's (2003, p. 276) analysis of the use of mental space in ASL (Fauconnier 1997), real space and event space contribute to the formation of a depicting sign, in which entities are mapped onto the blended space. Depicting verbs, Liddell's novel terminology for classifier predicates (Liddell 1977), may consist of morphological/lexical units and/or gestural parts (i.e. orientation, location and movement of the verb), which are conceptualized in mental space and depicted in blended space. In other words, he considers classifiers a mixture of gestural and linguistic elements. Supalla (2003), however, reanalyzes classifier predicates, claiming that, *It is clear that the morphology of the verbs of motion offers rich possibilities for linguistic innovation* (p. 253). Such a morphological structure does exist, and it … *involves interaction between a linguistic element such as a verb and a gestural element such as a deictic gesture* (ibid.; for agreement verbs, see Rathmann & Mathur 2008, p. 193). In conclusion, classifier constructions, like verb agreement in signed languages, are highly complex systems, with morphological processes that interact with iconic gestures.

It is difficult to present every viewpoint on this topic. In this section, classifier constructions in TİD will be analyzed according to two subgroups: (i) adjectival classifiers and (ii) verbal classifiers. Supalla's (1982) SASSes are predicates that define form, size, and appearance of objects, and become manifested as adjectival classifiers. Entity (semantic classifiers), Body, and Instrument classifiers are analyzed under verbal classifiers.

SASSes are categorized as either (i) static or (ii) tracing (dynamic). While static SASS do not convey motion, in contrast, a dynamic SASS contains

movement. Movement does not carry any morphological information, however. Rather, it has the function of defining objects. Zwitserlood (2003) compares the two types of SASS and provides their underlying distinctions: handshape, one of the determining features of static SASS, involves no movement, while tracing (dynamic) does. As illustrated in Figure 2.5, the TİD 1-handshape (ᘐ\ᘐ), may refer to long, thin objects, while the TİD O-handshape (ᗄ) (similar to the ASL and DGS F-handshape, see Figure 2.5) and the TİD C-handshape (ᗄ) (different from the ASL and DGS C-handshape, see Figure 2.5), contributes to the formation of circular or elliptical shaped objects. Additionally, the ASL C-handshape (ᗄ\ᗄ) and Claw (ᗄ\ᗄ) are used for denoting cylindrical and spherical objects, respectively (Kubus 2008).
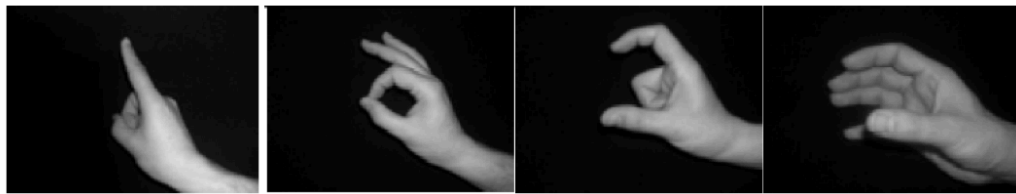
Figure 2.5 - Handshapes used in static SASSes (I-handshape, O-handshape, C-handshape and C/Claw)

In contrast to a static SASS, a tracing SASS can give more detailed information about the size and shape of an object. For example, in TİD, like in many signed languages, long, thin, cylindrical objects are expressed by moving both hands showing the ASL O-handshape (ᗄ) from the center of signing space to its proximal sides. This movement describes the length of the cylindrical object. The I-handshape (ᘐ\ᘐ) is used primarily to signify 2-D geometrical shapes, while the Claw (ᗄ\ᗄ) and Flat Handshapes (ᗄ\ᗄ) are generally used for 3-D Shapes.

Up to now, the focus of this paper has been on adjective classifiers. This section will expand to verbal classifiers, using Mathur & Rathmann's (2007) morpho-semantic model for classifier constructions, based on Reinhart's (2002) argument structure and adapting previous models with root and affixes in classifiers (Supalla 1982; Glück & Pfau 1998; Zwitserlood 2003). Such

constructions involve two morphemes: (i) classifier morphemes, and (ii) root morphemes. Morphological changes in movement and location within phonological parameters are analyzed under root morphemes, whereas classifier morphemes represent hand configuration (HC), the combination of handshape and orientation parameters.

Each hand configuration is used to represent an entity, body part, or instrument classifier. In this context, each hand configuration, as defined by Supalla, represents a classifier morpheme. Handshape varies according to the type of root morpheme. Mathur & Rathmann (2007, p. 143) list the following semantic contributions of three root morphemes:

(5)   a. First root morpheme: agent handles theme with instrument (HANDLE)
       b. Second root morpheme: agent manipulates theme (MANIPULATE)
       c. Third root morpheme: theme moves (MOV/LOC)

<div align="right">Mathur & Rathmann (2007, p. 143)</div>

Four distinct groups, resulting from the combination of Reinhart's (2002) two assumed binary features, exist: (/c = *cause change*; /m = *mental state*) [+c+m], [-c+m], [+c-m] and [-c-m]. To test semantic properties of root morphemes, Mathur & Rathmann used the following three clusters: agent [+c, +m], instrument [+c, -m], and theme [-c, -m]. The agent role contains both mental state and cause change. If a role can cause change but contains no mental state, this role is called an instrument. The third option, the theme role, is a role that neither contains mental state, nor is able to cause change. The authors provide a system of theta roles for each root morpheme.

With regard to the first root morpheme: *handle carries the meaning that an agent carries out an action on a theme with an instrument* (Mathur & Rathmann 2007, p. 151). For instance, in sentence (6), the action of a mother pushing a baby stroller contains three theta roles: mother (agent), stroller (theme) and hands holding the baby stroller (instrument). The classifier uses an S-handshape (⊖), most commonly observed in handle classifiers. TİD also has a C-handshape (∋)

(holding tiny objects), and the Flathand (○\⊝) (holding rectangular objects), and both are used to handle classifiers (Kubus 2008).

(6)   ANNE BEBEK ARABA S-handshape-CL+root1
       MOTHER BABY CAR S-handshape-CL+root1
       The mother pushes the baby stroller.

In contrast to handle, manipulate classifiers, in which … *an agent does an action on a theme* (Mathur & Rathmann 2007, p. 151), do not contain instrument theta roles. In such classifiers, the hands most often represent theme, with a living object (agent), controlling this theme. In (7) we see an example of a manipulate classifier, where a patient's leg is a theme and patient refers to an agent, (translated from ASL into TİD, ibid p. 149).

(7)   HASTA BACAK-CL+root 2
       PATIENT LEG-CL+root 2
       Patient raises his leg.

                                              (Mathur & Rathmann 2007, p. 149),

The final category, MOV/LOC, contains classifiers in which … *a theme is located at some place or undergoes motion from one place to another* (ibid p. 149). Neither an agent nor an instrument can cause any theme changes. The classifier morphemes in this category usually refer to entity classifiers. For example, in (8a) the plane stands in the airport (LOC) and in (8b) the plane flies up into the sky (MOV). In both sentences, the Y-handshape (⪰⁵) is an entity classifier referring to the plane. Other than the Y-handshape, the most frequently used entity classifiers are the I-handshape (⪰\⪰) (human beings), the flat hand (○\⊝) (big vehicles), and the 5-handshape (♨) (plural, human) (Kubus 2008).

(8) a.   HAVALİMAN UÇAK.CL+root 3(x)
         The plane stays at the airport.

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b. HAVALİMAN INDx UÇAK.CL+root 3(x)

The plane flies up in the sky.

2.2.4 Lexicon of TİD

As Stokoe introduced in 1960, signs are composed of parameters and therefore confirm duality of patterning. However, he notices that the signs in ASL might have flexible grammatical categories and therefore bilingual dictionaries, in that case English-ASL, might be inherently inadequate for depicting the flexibility regarding grammatical categories (Stokoe 1972, p. 64). Halliday & Yallop (2007) note that just answering the apparently easy question "What is a word?" concerning a spoken/written language can already be complicated (Hohenberger 2008). Even though it is difficult to compare the lexical units between different modalities, Meir (2012, p. 78) points out the abundance of iconic properties possessed by sign languages:

> [...] signs differ from words in another important respect: they are much better at iconically depicting the concepts they denote (see Taub 2001 [...]). Sign languages make use of this capability. The lexicons of sign languages contain many more iconic and partly iconic signs [...] Iconicity results from the nature of the sub-lexical elements building up a sign, which in turn has an effect on how signs are related to each other.

So far, there has not been a systematic research on the TİD lexicon, apart from publications of TİD dictionaries (see also Section 2.1). There are several reasons for this: challenges to construct a commonly used notation system for TİD, the lack of recordings and/or corpus-based studies on TİD, as well as the modality differences between spoken and signed languages (see Zwitserlood 2010, for the general discussion on sign language lexicography). The existing dictionaries are only one-way dictionaries, giving one sign per word word in Turkish.

Brentari & Padden (2001) show that the lexicon, at least in ASL, might have two lexical categories: the native and the nonnative lexicon. The native

lexicon is composed of the signs that adhere to specific phonological constraints, for example the constraints defined by Battison (1974, 1978) (see details on two handed signs in Section 2.2.2). The nonnative lexicon, on the other hand, consists of signs that were borrowed from a spoken language or formed out of lexicalized fingerspelling units. Brentari & Padden suggest that the native lexicon can be further subcategorized into the core and the non-core lexicon. Highly conventionalized signs are part of the core lexicon. The signs in the non-core native lexicon however are productive and a lot less fixed in their components. The signs in this cateogry are closely related to classifier constructions in signed languages (see details on classifier constructions Section 2.2.3.3). The model suggested by Brentari and Padden (2001) has been confirmed for several sign languages (see also Cormier, Quinto-Pozos, Sevcikova & Schembri 2012) and so far, we have reason to assume this is an underlying principle that can be applied to TİD as well.

Johnston & Schembri (2007, p. 159), working on Auslan (Australian Sign Language), describe the core native lexicon as "*single meaningful units*" and "*equivalent to the free morphemes in spoken languages*". They outline some general properties of lexicalized signs: (i) they use elements of a limited set of building blocks, but are distinctive from each other, (ii) they strictly adhere to the dominance and symmetry conditions (Battison 1978), (iii) the parameters themselves that make up a sign often do not carry meaning. In comparison to the core native lexicon, the non-core native lexicon might not have a limited set of phonological parameters. The signs in this category are known to show high flexibility in location and movement parameters and their handshapes do carry part of the sign's meaning because they correspond to the depicted entity, i.e. they do show correspondence between meaning and form. With these signs, it is also possible to use different handshapes on each hand in combinations that violate the dominance and symmetry conditions that have to be adhered to in lexicalized signs.

According to Brentari & Padden (2001), the nonnative lexicon includes the signs highly influenced by a spoken language. Due to the diglossic situation of

signed and spoken languages, sign languages are expected to be affected in numerous ways. The most salient example is the use of fingerspelling. TİD's manual alphabet (see Section 2.2.1), using two hands which makes it different to most other manual alphabets and adds to the effort one has to invest to use it, could be assumed to be less frequently used than manual alphabets in other sign languages, however, that is not the case. Kubus (2008), Kubus & Hohenberger (2011) and Taşçı (2012) show in what ways fingerspelling has found a way into the TİD lexicon. According to Kubus & Hohenberger (2011), (i) one handed TİD letters are signed with the dominant hand when they are involved in signs as part of the TİD lexicon while otherwise, one handed TİD letters are fingerspelled with the non-dominant hand (as in the case of the letter L, see Figure 2.6), (ii) the handshape of a TİD sign can differ slightly from the handshape of the respective TİD letter (as in the case of the letter P, Figure 2.7) in order to conform to phonological well-formedness constraints, (iii) a movement can be added to both uni- and bimanual letters to form an initialized sign (see Figure 2.8; see Taşçı (2012, 2013) for a revision of these processes). According to Taşçı (2013), the hand reversal is limited to only one handed letters, however if the lexicalized sign has more then one letter and includes one handed letters, the hand reversal occurs optionally.

Figure 2.6 - Initialized signs using the letter L: (a) LAZIM 'need' (b) LİSE 'high school' and (c) LOKAL 'association' (derived from Kubus & Hohenberger 2011, p. 54)
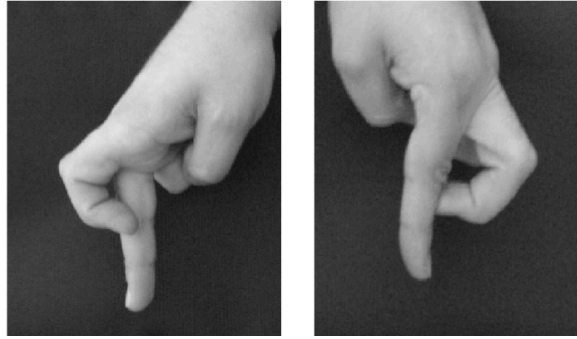
Figure 2.7 - (a) the P-handshape in the TİD handshape inventory (signed with the dominant hand) and (b) the P letter in the TİD bimanual alphabet (derived from Kubus & Hohenberger 2011, p. 53)

Figure 2.8 - Two handed lexicalized fingerspellings (a) TAKSİ 'taxi' and (b) TEŞEKKÜRLER 'thanks'

The nonnative lexicon is not restricted only to initialized or fingerspelled signs, there are further forms like loan translations like semantic loans and mouthing (see also Johnston & Schembri 2007). These sign formation processes are needed to be looked into further concerning TİD. Brentari and Padden (2001) put a strong focus on the polymorphemic and iconic aspects of the non-core native lexicon. There are also iconic structures or gestures such as "highly iconic structures" defined by Cuxac 2000 (cited in Cuxac & Sallandre 2007), which are difficult to analyze as part of the lexicon, however, they are an integral part of the sign language linguistic structure. Cuxac & Sallandre (2007) also describe the group of "frozen" signs which *are the product of "economic" evolution based on groupings resulting from highly iconic structures* (Cuxac & Sallandre 2007, p. 21).

The reader may want to have a look at Section 2.2.3.3 for a short discussion on how gesture and iconic structures might enter the sign language linguistic system.

2.2.5 Syntax of TİD

In this section, we move on from our previous introduction of phonology and morphology in TİD to further areas of grammatical importance in signed languages that have been more extensively researched as compared to TİD. This information can be assumed to be valid for TİD as well. First, TİD word order and possible changes to it will be discussed in Section 2.2.4.1., including a summary of the TİD literature on negation (Section 2.2.4.2.) and interrogation (Section 2.2.4.3.). The section covers basic topic and comment structures in signed languages (Section 2.2.4.4.). Section 2.2.4.5. covers the use of modal verbs in TİD. Finally, sections 2.2.4.6. and 2.2.4.7. will examine coordinated and subordinated sentences in TİD.

2.2.5.1. Word Order

Basic word order in signed languages does not appear to be universal: ASL, for example, is considered to have SVO (subject, verb, object) order (Fischer 1975 as cited in Liddell 1980, Neidle, Kegl, MacLauglin, Bahan & Lee 2000, and Sandler & Lillo-Martin 2006), while DGS is regarded as having SOV word order (Pfau & Glück 2000; Rathmann 2000). However, each language contains the possibility for word order variation. Nonmanual markings in sentences may signify variation in word order (see also topic and focus, 2.2.4.4.), illustrated by samples from TİD and discussed at the end of this section.

Sevinç (2006) examines multiple examples of word order in TİD and notes that animacy of arguments and agreement are both factors in the determining of that order. She suggests that while intransitive clauses have SV order, transitive clauses with a two animate arguments indicate APV (agent, patient, verb), or, if the clause contains an agreeing verb, AVP. Additionally, transitive clauses with one animate and one inanimate argument affect the order of APV. In order to solidify her findings, Sevinç conducted grammar judgment tests on eight native

TİD signers. To better determine basic word order, the stimuli in the judgment tests did not cover any nonmanual markings (such as topic or focus). The results of her tests show that both SV and VS orders are grammatical in intransitive verbs. Word order of sentences with plain, transitive verbs, however, can be both SOV (APV), and SVO (AVP), (see sentences (9a) and (9b)). In that case, OS (PA) order does not seem to be acceptable. Sentence (9c) shows a case of VOS (VPA) order.

(9)   a. SİNAN YAŞAM SEVMEK

         SİNAN YAŞAM LOVE

         Sinan loves Yaşam.

        b. SİNAN SEVMEK YAŞAM

         SİNAN LOVE YAŞAM

         Sinan loves Yaşam.

        c. *SEVMEK YAŞAM SİNAN.

         LOVE YAŞAM SİNAN

         Intended translation: *Sinan loves Yaşam.*

Sevinç indicates that order in a transitive clause, which contains one animate agent and one inanimate patient, seems more flexible when compared to clauses containing two animate arguments. Sentence (10a) shows an underlying word order that most native signers found acceptable, when presented with it in a judgment test. Of the possible word orders, only VOS (VPA) was considered by the raters to be ungrammatical (10b). Sevinç therefore claims that asymmetry only exists between transitive clauses with two animate arguments and transitive clauses with an animate argument and an inanimate argument.

(10)   a. SİNAN KALEM İSTEMEK

SİNAN PENCIL WANT

Sinan wants a pencil.

b. *İSTEMEK KALEM SİNAN

WANT PENCIL SİNAN

**Sinan wants a pencil.*

In regard to agreeing verbs, the basic order for TİD appears to be SVO (11b), though SOV is also acceptable (11a). With the exception of topics cases, OSV and OVS orders are not possible. Sevinç goes on to suggest that agreement is another factor in forming the word order of TİD. Word order can also vary in terms of agreement verb type (i.e. forward agreement vs. backward agreement).

(11)   a. SİNAN$_i$ YAŞAM$_j$ $_i$MİSAFİR$_j$

SİNAN YAŞAM VİSİT

Sinan visits Yaşam.

b. SİNAN$_i$ $_i$MİSAFİR$_j$ YAŞAM$_j$

SİNAN VİSİT YAŞAM

Sinan visits Yaşam.

With respect to animacy and agreement, nonmanual markers have an effect on word order, e.g. topicalization. In ASL, topics are marked nonmanually (Liddell 1977, 1980 and 2003; Aarons 1994). In sentence (12), the object is moved to the initial position and the underlying word order becomes OSV.

(12)   _____t

MY CAT DOG CHASE

My cat, the dog chased it.

(Liddell 2003, p. 55)

Research on Topics and Focus in TİD is yet forthcoming; however, Section 2.2.4.4 does provide an outline of the use of topicalizations in the signed language.

2.2.5.2. Negation

Spoken Turkish expresses negation by using a negative suffix (–mA), adding negative expressions like değil 'not', yok 'not exist', or by using negative connectors like ne … ne 'neither … nor' (see for detailed analysis on negations in Turkish, see Göksel & Kerslake 2005). TİD, on the other hand, does not seem to use negative suffixes or negative connectors overtly. It does, however, have various negation expressions, which function differently from spoken Turkish.

We will analyze negation forms in TİD on three levels: negation words, negation morphemes (or cliticization), and sentential negation. First, I will introduce the various lexemes that indicate negation. Most negation signs are accompanied by nonmanual markers: either a backwards head tilt or a headshake (Zeshan 2003, 2004, 2006; Gökgöz 2009; 2011 and Arık 2006). After a description of lexical and nonmanual elements, I will discuss some morphological processes of negation. Finally, I will explain whether or not nonmanual negation markings are realized on the sentential level.

In her work, Zeshan (2003) lists some of the negation signs in TİD: HAYIR 'no', DEĞİL 'not', OLMAZ 'cannot', YO 'no-no!', YOK 'not exist'), HİÇ 'none'/'nothing', as well as the negating PALM-UP gesture (see also Gökgöz 2009; 2011). In addition to these expressions, SIFIR 'null') is also utilized as an expression of negation under certain conditions.

The most basic negation word in TİD is HAYIR, commonly used in conversations to answer a question in the negative. It is usually accompanied by head shaking. While the nonmanual markings of YO and HİÇ are marked by headshaking, DEĞİL (13a), OLMAZ (13b) and YOK are marked by head tilt. Sentences 13(a-f) provide examples of each of these negation words.

(13)

                                                                             ht

a. INDEX$_1$ ÖĞRETMEN DEĞİL

   INDEX$_1$ TEACHER   NOT

   I am not a teacher.

                                 (Gökgöz 2009, p. 20, Turkish Glosses are added)

                     ht

b. OLMAZ

   CANNOT

   That's impossible / No way.

                                (Zeshan 2003, p. 57, *head back is coded as ht*)

                                   hs

c. IND$_1$ EŞ/EVLENMEK KAVGA YO

   IND$_1$ PARTNER/MARRY FIGHT NO

   I do not fight with my partner.

                             (Zeshan ibid., *head shake is coded as hs*)

                             ht

d. SİNAN EV YOK

   SİNAN HOUSE NOT-EXIST

   Sinan is not at home.

                                hs

e. IND$_1$ YAPMAK SIFIR

   IND$_1$ DO   NULL

   I did not do / I did nothing.

            hs   *ht*

f. SİNAN HİÇ YEMEK^DEĞİL

   SİNAN NONE EAT^NOT

   Sinan ate nothing.

Among the negation particles in TİD, DEĞİL is used most frequently, often following nouns, adjectives, or verbs. When DEĞİL is used with a noun or adjective phrase, the phrase does not undergo any phonological change, as in (14a). However, DEĞİL cannot precede certain phrases (14b), and it is generally supported by a nonmanual element, namely a backward head tilt and raised eyebrows (Zeshan 2003). Such markings are completely different from those used in sign languages in Western countries, like ASL and DGS, both of which use the headshake as their primary marker of nonmanual negation. However, the backward head tilt is observed in Greek Sign Language (GSL; Antzakas & Woll 2002), Lebanese Sign Language (Lughat al-Isharat al-Lubnaniya - LIL) (Zeshan 2003; 2004), as well as Jordanian Sign Language (Lughat al-Ishara al-Urdinia - LIU) (Hendriks 2008). Hearing people in many Mediterranean and Arab regions, such as Greece, Jordan, Lebanon, and Turkey frequently use this (*emblematic*) gesture (McNeill 1992, 2005) as well. Over time, the backwards head tilt may have become grammaticized, which eventually led to its current usage: signaling negation. However, in her data, Hendriks (2008, p. 89) indicates that no manual element in LIU, with the exception of LIKE^NOT, accompanies this facial gesture.

(14)

$$\overline{\qquad\quad h\text{t}}$$

a. ARABA KIRMIZI DEĞİL.

CAR   RED   NOT

The car is not red.

b. * ARABA DEĞİL KIRMIZI

CAR   NOT   RED

The car is not red.

Unlike nouns and adjectives, verbs that are combined with DEĞİL can undergo phonological alteration. For example, in (15) when the sign SEV 'love' is

negated, the movement of the verb stem is slightly reduced, and the location of DEĞİL is assimilated into the area where the verb is articulated (see Figure 2.6). However, some verbs cannot be negated with DEĞİL (i.e. irregular forms), such as, İSTE 'to want' –İSTEME 'not to want'. The stem and the reasons for such irregularities are still unknown, and further research is required.

(15)

$$\overline{\qquad\qquad ht}$$

SİNAN YAŞAM SEV^DEGİL
SİNAN YAŞAM LOVE^NOT
Sinan does not love Yaşam.

Figure 2.9 - Negated form of the verb SEV 'love'

Kubus (2008) points out that verbs are negated with such suffixes, whereas Zeshan (2003) and Gökgöz (2009) label these changes as the cliticized form of DEĞİL. Zeshan (2004, p. 46-47) refers to three separate points of evidence in order to explain why this kind of negation is considered clitic: (i) the ability to separately sign the full form of DEĞİL (ii) the high flexibility of the clitic form, with no full reduction in the movement of verb (i.e. the verb to which DEĞİL attaches is not fully reduced), and (iii) consistency in the handshape structure of both signs. For detailed information on phonological changes in such formations, readers are referred to Zeshan's (2003) article on negative clitics, as well as Gökgöz's (2009) thesis on TİD syntax. The behavior of DEĞİL with regard to the verbs it negates, however, does not necessarily meet basic assumptions about the

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distinction between clitics and affixes, as defined by Zwicky & Pullum (1983, pp. 503-504)[10]:

> *(i) Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems.*
>
> *(ii) Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups.*
>
> *(iii) Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups.*

Although the phonological changes to DEĞİL depend on the host (or stem), i.e., verbs, and do not appear to have a low degree of selection, DEĞİL can be attached as a suffix to almost all verbs. DEĞİL cannot, however, be used with İSTE 'to want' (see Dikyuva & Zeshan 2008). Additionally, DEĞİL can influence its host verbs (or stems), resulting in a drop of repetitive movement in certain verbs, such as BİL 'to know'. Although these claims are not sufficient to provide strong counterevidence against the analysis of DEĞİL as a clitic, this does not rule out the use of this negation form as a suffix, either.

Yet another way to indicate negation in TİD is through a process known as 'zero morpheme' (for ASL, see Aronoff et al. 2005; Sandler & Lillo-Martin 2006). Zero morpheme, which resembles the sign HİÇ, can be applied to both adjectives and nouns. This morpheme adds the meaning 'without (something)' to the stem (Kubus 2008). Figure 2.7 illustrates the example ŞEKER^SİZ 'sugar-free'. The negation process for adjectives and nouns seems to be limited to zero morpheme.

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[10] Zwicky & Pullum (1983) list six characteristics of the distinction between affixes and clitics. Here, only three of them are listed.

Figure 2.10 - ŞEKER^SİZ 'sugar-free'

As mentioned earlier, a declarative sentence with negative, nonmanual marking, generally taking the form of a headshake, is another possible negation marker in ASL and DGS. For instance, negation with NICHT 'not' is an option in DGS, as demonstrated in (16a) (Pfau 2002). In this example, the use of the headshake occurs in conjunction with the verb, making the need for a negative, manual element moot. Similarly, in ASL a headshake is enough to signify negation, as in (16b) (Neidle et al. 2000). Such occurrences have also been observed in TİD, with a headshake (16c), a head-tilt (16d), and a combination of brow raise and head tilt (16e) (Zeshan 2004; Gökgöz 2009; 2011).

(16)

                     <u>   hs </u> <u> hs </u>

a. MOTHER FLOWER BUY (NOT)

Mother does not buy a flower.

(DGS, Pfau 2002, p. 273)

                   <u>   hs </u>

b. JOHN [+neg] BUY HOUSE

She does not buy a flower.

(ASL, Neidle et al. 2000, p. 45)

$$\overline{\qquad\qquad}^{\text{hs}}$$

c. INDEX$_1$ KONUŞ

INDEX$_1$ SPEAK

I do not speak.

(Gökgöz 2009, p. 58)

$$\overline{\quad}^{\text{ht}}$$

d. KONUŞ

SPEAK

I do not speak.

(ibid.)

$$\overline{\qquad\qquad\qquad}^{\text{ht}}$$
$$\overline{\qquad\qquad\qquad\qquad\qquad}^{\text{br}}$$

e. IX$_1$ MUZ   (ÖNE) ATMAK   DEĞİL[11]

I   BANANA   (FRONT) THROW   NOT

I did not throw the banana to the front.

(Gökgöz 2011, p. 60)

In our discussion thus far, nonmanual negation in TİD has been limited to separate occurrences of the headshake and head tilt. I would like to point out, however, that Gökgöz (2009) realized that, due to some phonetic and physical restrictions, the two nonmanual signals could not occur simultaneously. Further investigation of this phenomenon is necessary. Arık (2006), investigated both the headshake and head tilt (known in his terminology as head back) in TİD, through data collected from 15 native signers. According to his results, head tilt is most often associated with negation, and generally occurs at the end of the sentence. In contrast, headshakes occur in both interrogative and negative sentences. As a result, we can conclude that head tilt is the underlying nonmanual negation gesture in TİD, while the headshake does not necessarily mark negation. The nonmanual signals in interrogative sentences will be discussed in Section 2.2.4.3.

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[11] In Gökgöz's (2009) original text, nonmanual markers were backward head tilt ('bht') and non-neutral brow position ('nbp'). Both are replaced with head tilt 'ht' and brow raise 'br' to mark them specifically.

Additionally, Gökgöz (2009) analyzed the use of the eyebrow raise in negative sentences in TİD, which is often observed in combination with the headshake and head tilt. The eyebrow raise also occurs together with certain negation signs, such as YOK and HİÇ. Gökgöz indicates that the head tilt is linked to ^DEĞİL and has a morpho-syntactic function, whereas the eyebrow raise, whose function is syntactic, can spread over its clausal domain. Head tilt is strictly connected to the verb and does not show spreading properties. However, brow raising is spread over the preverbal constituents, with the exception of subject, as illustrated in sentence (17). In other words, while the brow raise can spread over the entire sentence, for phonetic reasons, the head tilt appears to only spread over a single word, or the end of the sentence.

(17)

		ht
		br
INDEX₁	KELİME	BİL^NEG
INDEX₁	WORD	KNOW^NEG

I don't know the word.

(Gökgöz 2009, p. 67)

Gökgöz (2011) further provides a detailed investigation of negations in TİD, looking at different nonmanual markers, including head tilt ('ht')[12], headshake ('hs'), single head turn ('sht') and non-neutral brow position ('nbp')[13]. He states that headshake has two functions: lexical and grammatical. Table 2.5 provides a summary of the percentage of occurrences of nonmanual elements in 56 sentences.

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[12] Gökgöz (2011) prefers to use the term 'backward head tilt' with the abbreviation 'bht.' In order to maintain consistency, ht ('head tilt') it has been replaced by 'ht' ('head tilt').

[13] Non-neutral brow position refers to both active brow lowering and brow raising (Gökgöz 2011).

	On predicate + DEĞİL	On a single negative marker only	Total number of occurrences	
Head tilt	8 / 27 (30 %)	19 / 27 (70%)	27 /56 (48%)	Local & Lexical
	Over a single sign	Spreading over at least one adjacent sign	Total number of occurrences	
Headshake	8 / 16 (50%)	8 / 16 (50%)	16 / 56 (29%)	hs 1: Local & Lexical hs 2: Spreading & Grammatical
	Single head-turn over HİÇ ('at all')	Single head-turn over a sign other than HİÇ	Total number of occurrences	
Single head turn	4 / 6 (67%)	2 / 6 (33%)	6 / 56 (11%)	Local & Lexical
	'nbp' over a negative sign only	'nbp' over the entire sentence	Total number of occurrences	
Non-neutral brow position	8 / 40 (67%)	32 / 40 (67%)	40 / 56 (71%)	Spreading & Grammatical

Table 2.5 - Functions of nonmanuals observed in negation in TİD (Gökgöz 2011, pp. 60-66)

According to the table, head tilt and single head turn are realized and specified lexically. Gökgöz observed that head tilt commonly accompanies DEĞİL and other negative markers, such as YOK 'not exist' and İSTE-DEĞİL 'not want.' Single head-turn, however, has been shown to most often accompany HİÇ 'at all.'

As indicated, headshake may have two different functions, i.e. lexical and grammatical. As a lexical function, headshake often accompanies HAYIR 'no' and HAYIR-HAYIR 'no-no.'

As Table 2.5 specifies, besides negation nonmanual markers that are realized lexically, headshake and non-neutral brow position are the most common nonmanual markers that can spread over sentences. Further down this line of reasoning, Gökgöz observed both eyebrow raise and eyebrow lowering in negated sentences.

Since the head tilt is a short movement, it is not suitable for spreading (this can be compared to the headshake, which can be prolonged through repetition). Even the freezing of the head in the end position of the head tilt would probably not be enough to indicate that the negation is still ongoing. Therefore, non-neutral brow position may be needed, which has a salient end configuration that – even though the raising movement has been terminated – may still be able to convey the continuation of the marking.

To conclude, the basic verbal negation form in TİD is the cliticization (or suffixation) with DEĞİL, together with the nonmanual head tilt and eyebrow raise. The nonmanual signals of the head tilt are realized with the verb as host, while the non-neutral brow position can spread over material preceding the verb, with the exception of the subject. In addition, not every verb is required to cliticize with DEĞİL, and a head tilt after the verb, or marking the verb with a headshake, are sufficient to mark negotiation.

2.2.5.3. Interrogation

Interrogative sentences in sign languages are also marked with nonmanual expressions. The use of different nonmanual markers in both polar (yes/no) and content (wh-) questions is mandatory. For example, nonmanual markings for polar questions in ASL require the use of raised eyebrows as nonmanual expressions (18a), whereas wh-questions are generally accompanied by furrowed brows, as in sentence (18b) (Baker & Cokely 1980; Baker-Shenk 1983, Petronio & Lillo-Martin 1997, Neidle et al. 2000).

(18)

                                       q

a. J-O-H-N BECOME-ANGRY

Is John angry?

(Baker & Cokely 1980, p. 123)

                       whq

b. JOHN BUY WHAT

What did John buy?

(Petronio & Lillo-Martin 1997, p. 26)

The next section will provide an introduction to polar and content questions in TİD, followed by a discussion of the basic syntactical properties of both question types.

Polar Questions (yes/no questions) in TİD

There are two possible methods to express polar questions in TİD: (i) through the use of a head forward movement (hf), or (ii) as a question particle (Zeshan 2003, 2004, 2006). In both cases, as in declarative sentences, word order does not change. Göksel et al. (2009, 2010) analyze yes/no questions in TİD and suggest that they are accompanied by a head-and-shoulders forward movement, as well as a head nod. The spreading properties of these two distinct nonmanual signals are not necessarily the same, however, as can be seen in (19). Furthermore, the research of Arık (2006) supports the hypothesis that a nonmanual head nod (hn) may also be observed in polar questions in TİD. This head nod is very similar to the chin down 'cd' in Gökgöz & Arık (2011).

(19)

```
               hn
_____
                         hf
_____
NOW SAME NOW SAME
```
   Is it still the same now?

<div align="right">(Göksel et al., 2010, p. 2)</div>

Unlike the eyebrow raising and furrowing observed in ASL, TİD appears to mark interrogative sentences through the use of head movements. However, Gökgöz & Arık (2011), claim that eyebrow position is not neutral in polar questions in TİD. The use of both eyebrow raises and furrows has been detected in polar questions in TİD, and may continue throughout the whole sentence, as in sentence (20).

(20)

```
                         cd
_____
                         br
_____
POSS-2   MOTHER   CHILD   HAVE
```
   Does your mother have a child?

<div align="right">(Gökgöz & Arık 2011, p. 69, cd: chin down, br: brow raise)</div>

In addition to the nonmanual markings defined above, the use of a question particle at the end of polar questions (Zeshan 2003, Arık 2006, Göksel et al. 2009 and Gökgöz & Arık 2011), has also been observed. An optional 'question particle' is defined as a question mark sign (Q-MARK), whose movement mimics the shape of a question mark, using the index finger. Q-MARK can also simultaneously occur with the mouthing of the Turkish question particle (-mI). Gökgöz & Arık (2011) note that the question particle used in polar questions occurs at the end of a sentence (21a). The position of the question mark can neither be sentence-initial (21b), nor preverbal (21c).

(21)

$$\overline{\hspace{3cm}}^{\text{cd}}$$
$$\overline{\hspace{3.5cm}}^{\text{br}}$$

a. POSS-2 MOTHER EUROPE GO Q-MARK

Will your mother go to Europe?

b. * Q-MARK POSS-2 MOTHER EUROPE GO

c.* POSS-2 MOTHER Q-MARK EUROPE GO

(Gökgöz & Arık 2011, p. 70)

In sum, polar questions have unique nonmanual markings and use Q-MARK when required. So far we have discussed three different possible nonmanual elements used in polar questions. In her work, Zeshan (2003) claims that the head forward tilt is used to mark yes/no questions, while Göksel et al. (2009) suggest that the head nod has a special feature in yes/no questions.

Gökgöz & Arık (2011) note that eyebrow positions must also be realized. It can therefore be concluded that polar questions are prosodically and syntactically marked with (i) a forward head tilt, (ii) a head nod, and (iii) specific eyebrow positions (e.g. eyebrow raise: Makaroğlu 2012, 2013). Further research is required to determine how and when these nonmanual markings are used to express polar questions.

Content questions (WH-questions)

Content questions differ from polar questions through their use of WH-particles and nonmanual elements. Question particles (WH-particles) are NE 'what', NASIL 'how', NERE 'where', KAÇ 'how many', NE-ZAMAN 'when', KİM 'who', and NEDEN 'why' (Zeshan 2002). There is a lack of distinction between NE and NASIL, both of which are signed by shaking both hands palm-side up.

Zeshan (2004) indicates that content question particles may have different meanings when interrogative nonmanual signals are eliminated. NERE is manually equivalent to the sign YER 'place', while the sign for KAÇ seems to be derived from SAYI 'number'. Similarly, when we sign GÜN 'day' with a nonmanual interrogative expression, the meaning becomes NE-ZAMAN. This correspondence is also true for KİM and NEDEN, both of which have non-interrogative meanings: YÜZ 'face' and NEDEN 'reason', respectively.

With regard to the position of WH-elements, Sandler & Lillo-Martin (2006, p. 435) claim that [...] *all ASL researchers seem to agree that WH-elements may remain in situ.* In regards to whether WH-elements refer to subject or object, the position among researchers is more varied. The examples below show WH-elements in subject-initial position (22a), and in the object-final position (22b). Additionally, nonmanual expressions used in ASL WH-questions are: *furrowed brows, squinted eyes and a slight side-to side headshake* (Neidle et al. 2000, p. 111).

(22)

$$\overline{\hspace{4cm}}^{\text{wh}}$$

a. **WHO** LOVE JOHN

Who loves John?

$$\overline{\hspace{4cm}}^{\text{wh}}$$

b. JOHN LOVE **WHO**

Who loves John?

(Neidle et al. 2000, p. 110)

The position of the content sign in a TİD interrogative sentence may be initial, in-situ, final or doubled (both initial and final). Arık (2006) provides possible positions for each question particle. Even though NE signs are not necessarily overtly expressed (23b), the NE sign usually occurs at the end of the sentence (23a). NEDEN and NERE question particles occur in final position as

well (see sentence (23c) and (23d)), while KAÇ (23e), KİM (23f), and NE-ZAMAN (23g) signs remain in-situ.

(23)

       <u>   whq</u>

a. INDEX_x İSİM **NE**

   INDEX_x NAME WHAT

   What is her name?

        <u>   whq</u>

b. INDEX_x İSİM

   INDEX_x NAME

   What is her name?

         <u>   whq</u>

c. INDEX_x GEL **NEDEN**

   INDEX_x COME WHY

   Why did she come?

          <u> whq</u>

d. INDEX_x EV **NERE**

   INDEX_x HOUSE WHERE

   Where is her house (located)?

        <u>   whq</u>

e. INDEX_x **KAÇ** KARDEŞ VAR

   INDEX_x HOW-MANY SIBLINGS EXIST

   How many sisters/brothers do you have?

<div align="center">whq</div>

f. INDEX_x **KİM** EVLEN

   INDEX_x WHO MARRY

   Whom did she marry?

<div align="center">whq</div>

g. INDEX_x **NE-ZAMAN** İŞ BAŞLA

   INDEX_x WHEN WORK START

   When does she start working?

Researchers observing nonmanual elements for content questions in TİD seem to agree that the side-to-side headshake occurs most frequently (Zeshan 2006, Göksel et al. 2009 and Arık 2006). Göksel et al. (2009) claim that the use of a backwards head-and-shoulders movement also plays an important role in such questions. According to Arık (2006), the spreading of nonmanual markers (here, the headshake), in content questions is possible in sentences that contain NE or NEDEN. In other cases, nonmanuals are usually paired with question particles. However, Göksel et al. (2009) include some examples in their work indicating that headshake may spread over nouns preceding verbs, as in (24).

(24)

<div align="right">hb</div>

<div align="right">hs   hs</div>

DÜGÜN   NEREDE DÜGÜN   DÜGÜN NEREDE[14]

WEDDING WHERE WEDDING WEDDING WHERE

Where was the wedding?

<div align="right">(Göksel et al. 2009, p. 5, hb: head backward, hs: head shake)</div>

With the exception of the expressions defined above, nonmanual markings are not idiosyncratic in WH-questions. However, similar to polar questions, in

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[14] The manuscript does not include Turkish glosses, so Turkish equivalents were added.

content questions, eyebrows may be either raised or furrowed, depending on the content. Makaroğlu (2012, 2013) investigates the role of the eyebrows in both polar and content questions. His collection includes 40 declarative, 40 polar, and 40 content sentences, and measures the height of eyebrows in each category. The results denote significantly that eyebrows are furrowed in polar questions, and raised in content questions.

In summary, TİD interrogative expressions are overtly marked with head movements. So far, we have indicated three different nonmanual expressions in negation, polar questions, and content questions, and these prosodic constituents play a crucial role in distinguishing corresponding sentence types from declarative sentences.

2.2.5.4. Topic and Comment

The utterances of the speaker (or signer) can structurally vary in terms of their *assessment of the receiver's current state of knowledge and attention* (Smith 2003, p. 186). Such changes in the structures can be realized in topic-focus structures. Topic structures often represent a *familiar* state of knowledge, although this does not apply to all cases. In contrast, if the speakers wish to provide new information, such information is focus (ibid).

Wilbur (2012) provides an overview of the different analyses of topic and focus notions. She provides three different topic points: discourse level vs. sentence level topics, subject vs. topic, and topic vs. topicalization. Topic at the discourse level is *any participant in a discourse.* (Givon 1983, as cited in Wilbur 2012, p. 467). In contrast to sentence level topic, topic at the discourse level does *not need to appear in a sentence* (ibid, p. 483). Citing Lambrecht (1994), she states that, at sentence level, *Topics are not necessarily grammatical subjects and grammatical subjects are not necessarily topics* (p. 118, as cited in Wilbur 2012, p. 471). The difference between topic and topicalization is another point of distinction for sentence level topics. Wilbur points out that topicalization is often used for 'focalization', during which NP or PP is relocated to the initial sentence position. Indeed, they are topics, and topicalization is a form of focusing (ibid). Here, the framework is restricted to sentence level topic and topic markings.

Topics are located in sentence-initial position (Swart & Hoop 1995, as cited in Sandler & Lillo-Martin 2006). For example, subject is the topic in English, a SVO language (Smith 2003). Other languages, however, use different topic positions, such as syntactic topic position in Hungarian (É. Kiss 1987), or topic morphology in Japanese (Portner & Yabushita 1998).

In some cases, an argument of verb phrase (VP) or a VP is proposed, as in the ASL example shown in (25).

(25)   <u>   t</u>

MY CAT DOG CHASE

My cat, the dog chased it.

(ASL: Liddell, 1977; as cited in Liddell 2003; p. 55)

Here, the nonmanual markings determine topic (which is labeled as *t*). In (25) MY CAT, the object of the sentence which is located out of the clause operates as a topic. However, this is not always the case, other than an argument of a VP, or a VP can be in the position of the topic (Coulter 1979; Aarons 1994) as in (26). Such examples are referred to as base-generated topics (see Aarons 1994 and Sandler & Lillo-Martin 2006).

(26)   <u>   t</u>

VEGETABLE JOHN PREFER CORN

As for vegetables, John prefers corn.

(Aarons 1994; p. 147)

Liddell (2003) claims that topic in (25) is *prominent* (p. 57). Underlying support for this argument can be seen in (27). In contrast to (25), MY CAT in (27) is both subject and in topic position. Here again, MY CAT is prominent. It is also an indication that subjects can be topics.

(27)   <u>   </u>t

MY CAT CHASE DOG

My cat, it chased dog.

(Liddell 2003; p. 58)

Further research is necessary in the area of topic and focus in signed languages. TİD requires further contrastive linguistic research on topic and focus, as well.

2.2.5.5. Modal Verbs

Like many other signed languages, TİD uses several different methods to indicate modality/mood. Though TİD does make use of modal verbs, this use is relatively limited in comparison to other sign languages. Many examples of modal verbs can be found in both BSL (SHOULD, CAN, MUST and WILL; Sutton-Spence & Woll 1998), and ASL (MUST/SHOULD, CAN/POSSIBLE and others; Shaffer 2000), whereas TİD, by comparison, appears to use only one modal verb: İSTEMEK 'to want'. The notion of a 'modal' in languages is not limited to modal verbs, however. Modal affixes, adjectival and adverbial modal constructions have been observed as well. It has been suggested that some TİD adverbs (MUTLAKA / MUHAKKAK 'absolutely', BELKİ 'maybe'), adjectives (MECBUR 'obliged'; LAZIM 'necessary'), and nouns (YASAK 'ban' and İZİN 'permission') are also part of the modal system. It is hard to say without a deeper investigation whether the functions and meanings of these words indicating mood/modality in TİD have been changed diachronically or whether their roots are based on gesture (Shaffer 2000). In terms of modality expressions in ASL, Shaffer provides a full table of modality markers for necessity and possibility, and examines these expressions within a framework of grammaticization theory.

Palmer (2001) uses the terms realis and irrealis to indicate that modality can be semantically expressed in two categories: propositional and event. Each category can be further divided into two subcategories: epistemic and evidential for propositional modality, and deontic and dynamic for event modality. This

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section will focus on the use of these categorizations to denote modal expressions in TİD. The subsection evidential modality requires research beyond the scope of this dissertation, however, and will not be discussed here.

Epistemic and evidential modalities are distinguished as follows: *Epistemic modality speakers express that judgments are about the factual status of the propositions, whereas with evidential modality they indicate the evidence they have for its factual status* (Palmer 2001, p. 8). According to this definition, epistemic modality signifies the possibility and necessity of propositions.

In order to express possibility in TİD, phrases have the option of being supported by certain verbs, such as OLUR 'possible' (28a) / OLMAZ 'impossible' (28b), both of which indicate the possibility of carrying out an action. When a signer wants to indicate probability, the adverb BELKİ (28c), is most often used.

(28)

    a. INDEX$_x$ YARIN $_x$MİSAFİR$_1$ OL

       INDEX$_x$ TOMORROW $_x$VISIT$_1$ BE

       She may visit me tomorrow.

    b. INDEX$_x$ GECE ÇİKOLATA YEMEK OLMAZ

       INDEX$_x$ NIGHT CHOCOLATE EAT BE-NOT

       She cannot eat chocolate at night.

    c. INDEX$_x$ BİR-HAFTA-SONRA BELKİ GEL

       INDEX$_x$ A-WEEK-LATER MAYBE COME

       She will probably come a week later.

The TİD sign OL is completely different from the Turkish verb 'olmak' which generally means 'to be' or 'to become.' OL has two distinct meanings: (i) to indicate that a specific event is completed, or to state that an action will be completed in a short period of time (Zeshan 2003) and (ii) to express the high probability of a proposition. The second meaning of OL is generally accompanied

by mouthing 'olabilir', meaning 'it is possible'. It has been suggested that the verb OL was borrowed from Turkish and grammaticized in TİD over time until it indicated modality. It is important to remember that comparing the meanings of glosses in Turkish and TİD may lead to confusion for readers.

LAZIM is the modal expression of necessity in TİD, shown in ((29a) and (29b)). It is up for discussion as to whether LAZIM behaves like an adjective or verb. It also has a negated form, as in (29c).

(29)

    a. INDEX$_1$ OKUL GİT LAZIM

      INDEX$_1$ SCHOOL GO NEED

      I need to go to school!

    b. ÇOCUK DERS KİTAP LAZIM

      CHİLD LESSON BOOK NEED

      The child needs a student book.

    c. EV GİT LAZIM^DEĞİL

      HOME GO NEED NOT

      I am not required to go home.

With regard to event modality, Palmer (2001, p. 9) states: [D]*eontic modality relates to obligation or permission emanating from an external source, whereas dynamic modality relates to ability or willingness originating from the individual concerned.* İZİN and SERBEST are frequently used to convey 'may' in the sense of permission, as in (30a) and (30b). In contrast, YASAK is used in situations referring to something banned or forbidden (30c). In contrast, required actions are expressed through the use of either the adverb MUTLAKA or MUHAKKAK (30d). These signs are understood as examples of deontic modality.

(30)

    a. INDEX$_1$ DIŞARI ÇIK İZİN VER

       INDEX$_1$ OUTSIDE GO PERMISSION GIVE

       I give (you) permission to go outside.

    b. ÇOCUK GEZ SERBEST

       CHİLD WANDER-AROUND FREE

       The child is free to wander around.

    c. INDEX$_X$ DONDURMA YEMEK YASAK

       INDEX$_X$ ICE-CREAM EAT FORBIDDEN

       She cannot eat chocolate./ She is forbidden to eat chocolate.

    d. YARIN MUTLAKA MİSAFİR GEL

       TOMORROW CERTAINLY VISIT COME

       You will certainly be a guest of mine tomorrow.

The adjectives MECBUR (31a) and İSTEMEK 'want' (31b) can individually express a speaker's willingness and necessity to embark upon an action. Both expressions are examples of the dynamic modality of TİD. When signers refer to their own capabilities and abilities, they may also use BİL ('know'), as in (31c).

(31)

    a. INDEX$_1$ EV GİT MECBUR

       INDEX$_1$ HOME GO OBLIGED

       I must go home.

    b. INDEX$_1$ EV GİT İSTEMEK

       INDEX$_1$ HOME GO WANT

       I want to go home.

c. INDEX₁ İŞARET BİLMEK

INDEX₁ SIGN KNOW

I can sign Turkish Sign Language.

As shown in the previous example, TİD uses certain lexical items to convey modal expressions, such as permission, probability, necessity, and obligation. Further discussion of modality in TİD requires additional research, however, and will not be covered in this paper.

2.2.5.6. Conditionals

Conditional sentences differ from other subordinations in terms of the non-factual status of both main and subordinate clauses. Both clauses are dependent on the truth of their propositions (Palmer 2001). Most signed languages use nonmanual elements to convey a conditional sentence. The nonmanual marking of conditionals in ASL, for example, is a brow raise, usually accompanied by a *head tilt* and a *slight forward movement* of the body (Baker & Cokely 1980, p. 141). As can be seen in sentence (32), immediately after the conditional clause, the nonmanual expression in the main clause has been changed. In this case, head nodding is used to indicate approval of a statement.

(32)

<u>   cond   </u>   <u>   nodding   </u>

SATURDAY RAIN, GAME CANCEL

If it rains on Saturday, the game will be cancelled.

(Baker & Cokely 1980, p.143)

TİD also uses conditional nonmanual expressions, such as non-neutral brow positions, i.e. brow raise and brow lowering. Non-manual expressions for conditionals with positive sentences, as in (33a), may be accompanied by a head nod (i.e. confirmative declaration). The nonmanual marker for conditionals in

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negative sentences may vary, however, as in (33b): Since both clauses include negation with DEĞİL, head tilt must occur as well (ht). Conditional nonmanuals in TİD is another topic that requires further investigation.

(33)

                  <u>   br   </u>   <u>   (repetitive) hn   </u>

a. [HAVA GÜZEL OLMAK]   [INDEX₁ ISTANBUL GITMEK]

   [WEATHER GOOD BE]   [INDEX₁ISTANBUL GO]

If the weather is good, I will go to Istanbul.

                 <u>   ht   </u>   <u>   ht   </u>

                                               <u>   br   </u>

b. [HAVA GÜZEL DEĞİL]   [INDEX₁ISTANBUL GIT^DEĞİL]

   [WEATHER GOOD NOT]   [INDEX₁ISTANBUL GO^NOT]

If the weather is not good, I will not go to Istanbul.

ISL (Israeli Sign Language) nonmanual markers seem to differ from those used in ASL and TİD (Dachkovsky & Sandler 2009). In their work, Dachkovsky & Sandler state that ISL has two distinct conditionals: neutral (34a) and counterfactual (34b). Counterfactual conditionals are expressed by a squinting of the eyes accompanying eyebrow-raising. The counterfactual conditional type is not observed in TİD, and may in fact be unique to ISL.

(34)

                                        <u>   brow raise   </u>

a. IF INDEX INVITE-ME BIRTHDAY-PARTY OF-HIM   I GO

   If he invites me to his birthday party I will go.

                               (Dachkovsky & Sandler 2009, p. 301)

<div style="text-align: right">brow raise + squint</div>

b. IF GOALKEEPER HE CATCH-BALL, WIN GAME WIN

If the goalkeeper had caught the ball, (the team) would have won the game.

<div style="text-align: right">(ibid., p. 306)</div>

2.2.5.7. Embedded Sentences and Coordination

In contrast to spoken Turkish, which uses a rich set of lexical connectors like …için 'because', …rağmen 'although', ve 'and', and veya 'or', TİD connectors are generally not conveyed through signs. Rather, they are expressed through the use of prosody and/or spatial relations. In sentence (35a), for example, the use of several types of prosodies conveys the connection between the two clauses. Signing in different locations may also function as a connector, as shown in (35b) and (35c).

(35)

<pre>   hs   hn (surprise)</pre>
a. [SİNAN ÇALIŞMAK HİÇ]   [IND₃ İYİ PUAN]

   [SİNAN STUDY LITTLE]   [IND₃ GOOD GRADES]

Even though Sinan never studied, he got a surprisingly good grade.

b. [INDₓ ISPANAK] [INDᵧ ELMA] SEVMEK

   [INDₓ SPINACH] [INDᵧ APLLE] LIKE

He likes spinach and she likes apples.

<pre>   hn   hn</pre>
c. BU AKŞAM [SİNEMA GİTMEK] [TİYATRO GİTMEK] (signing at

<div style="text-align: right">different loci)</div>

   TONIGHT [THE-MOVIE GO]   [THEATRE GO]

Do you want to go to the movies or to the theatre tonight?

Certain unique TİD connectors, borrowed from spoken Turkish (such as ama 'but' (36a), and yüzünden 'due to' (36b)), are sometimes used by TİD signers:

(36)

    a. [INDEX$_x$ GİYSİ GÜZEL] AMA [ÇOK PAHALI]

       [INDEX$_x$ CLOTH GOOD] AMA [VERY EXPENSİVE]

       The cloth is very good but very expensive.

    b. [DÜN ÇOK YAĞMUR] YÜZDEN [EV SU DOLMAK CL:5hand]

       [YESTERDAY MANY RAIN] SO [HOUSE WATER FLOOD]

       Yesterday it rained a lot, so the house flooded up with water.

2.2.6. The Spatial Domain in TİD

Because of the visual-spatial modality of sign languages, sign languages make use of three-dimensional space to convey spatial constructions. Spatial relations are a large part of sign languages and are realized at most of its linguistic levels, including phonology, morphology, syntax and discourse. Such spatial analyses, however, are problematic because ... *describing a spatial locus in terms of some type of phonological or phonetic feature has proven to be extremely difficult and there is currently no satisfactory feature system capable of doing this* (Liddell 2003, p. 136). Indexing, as well as the use of pronouns, agreement verbs, and classifier predicates, greatly interact with spatial locus. Whether loci should be regarded as gestural (visual imagery) representations, or gradient and analogue systems (Liddell 2000, 2003; Emmorey & Herzig 2003), has been hotly debated. As discussed in Section 2.2.3.3, Liddell uses blended space to explain that locations are the projections of conceptual space onto sign space, rather than simply a part of the linguistic system. He claims that this approach resolves the difficulties of dealing with the issue of listability of location realized in pointing, loci in agreeing verbs (indicating verbs), and classifier predicates (depicting verbs). Similarly, Emmorey and Herzig (2003, p. 244) have found through a series of experiments that while the handshape feature of classifiers can be labeled as a

categorical morpheme, the location feature does not fall into this group. Because gestural loci are a part of the greater gestural category, sign languages interact with gestures through the use of spatial relations. In this next section, I will introduce some of the basic properties of the spatial domain in TİD and address their functions.

2.2.6.1. (Gestural) Signing Space

Signers are confined to signing within a specific range − the area where their hands can reach (see Perniss 2012). The potential signing area is subdivided into subareas, with each subarea containing specific locations available for signing. These spaces include the head, the area above the head, the body and the empty space in front of the body, as well as the area to the left and right of the body. Within a signer's signing space, innumerable locations exist in which a given sign can occur. Due to the difference in modality between signed and spoken languages, signing space applies to many linguistic levels, including morphosyntax and discourse. It has been shown that verb agreement (for example see Lillo-Martin & Meier 2011) and the construction of classifiers (for example see Zwitserlood 2012) mostly rely on the use of signing space.

2.2.6.2. Indexical Pointing

Perhaps the most multifaceted issue in the sign language literature is pointing, most often using the 1-handshape form (☝\☝), and realized in many areas: pronouns, determiners (i.e. this book), person referents (nominal establishment: Sandler & Lillo-Martin 2006), pointing to real objects, spatial adjustments (locative pointing), and temporal adjustments (time reference).

As previously noted, the sign language subcategory 'person', which is marked by agreement verbs, can be categorized as either first or non-first. This categorization can also be applied to pronouns: first and non-first person pronoun (ASL: Meier 1990). The index is phonetically realized as having one specified handshape: the 1-handshape (DSL: Engberg-Pedersen 1993). The first person is generally articulated at a signer's chest and is fixed, while non-first person pronouns cover a set of unlimited loci in the sign space. While these same

classifications can be applied to TİD, the 1-handshape is not always used as the index sign. There are, for example, two variants of the first person singular pronoun in TİD. The first variant resembles the pointing handshape, listed above (‾ə), while the second uses the flat hand and requires the signer's palm to make contact with their chest. Dual and plural forms of pronouns have also been observed. There are also different aspects of pronominal index classification. Berenz (2002), for instance, claims that eye gaze, though addressed to the addressee in second person, does not occur in third person. McBurney (2002), offers another example, in which she argues there is no such classification. The readers are referred to the valuable summary on various pronominal systems and their classification by Cormier (2012).

Although it is also possible for a signer to use their signing space to point to real world objects, not every example of pointing necessarily refers to a real world object. For example, instead of a real world object, a signer may create an abstract referential locus in space to refer to a person, and can use that locus to refer back to the previously established person. This process is called *nominal establishment* (Sandler & Lillo-Martin 2006, p. 25), and is often observed in discourse. Signers disambiguate referents by establishing their locations at the beginning of a conversation, and continue to use the same locations to talk about the referents throughout the conversation.

Pointing can also be used to indicate locative expressions, such as *here*, and *there*. In order to refer to the signer's location, the index finger must face downward (here). If the angle of the finger is reversed 180 degrees, its meaning changes, and it now refers to something in the area above the signer's head. According to Senghas & Coppola (2011), the locative expressions are probably much closer to *gestural roots* than to (pro)nominal pointings. They discovered that the nominal pointings are used significantly more in the third cohort of Nicaraguan Sign Language users. Senghas & Coppola (2011) explain that this process involves pointing signs becoming language-like throughout time, integrating into the language.

Temporal expressions are often conveyed using a combination of pointing and signing space. To illustrate, observe the similarities between the ASL signs *now* and *here*. Both signs use the area directly in front of the signer's body and a downward movement. Furthermore, the areas both in front of and behind the signer's body are used in temporal expressions of the past (i.e. yesterday), and future (tomorrow), respectively (Friedman 1975 as cited in Emmorey 2001). The signs BUGÜN 'today' and DÜN 'yesterday' are articulated using the index finger. In contrast, the sign for YARIN 'tomorrow' is indicated by twisting the hand forward, using the A-bar handshape, (a closed fist with an upward pointing thumb).

Considering all of the various functions of pointings discussed above, Pfau & Steinbach (2006) and Pfau (2011) propose a grammaticalization process, which can be modality specific. They suggest that gestural pointings are a part of the linguistic system, functioning as demonstrative pronouns. These pronouns can evolve into demonstrative pronouns, and then into personal pronouns or relative pronouns, and finally into agreement markers or agreement auxiliary based on the facts and hypotheses that they provide (Pfau & Steinbach 2006, p. 61 and Pfau 2011, p. 155).

2.2.6.3. Time References

Time references in signed languages are not limited to yesterday, today and tomorrow. Most signed languages employ various methods to make time references in signing space. According to Emmorey (2001, pp. 109-111), three timelines in ASL can be observed: (i) *deictic*, a timeline parallel to the z line on the xz plane (i.e. FRIDAY is further on the z line than TUESDAY). (ii) *anaphoric,* the time line parallel to the x=z line on xz plane (i.e. 1960s is farther on the x=z line than 1970s. (iii) *sequence time line*: the time line on the horizontal line (parallel to x line on xz plane). These three timelines are also applicable to TİD.

2.2.6.4. Sequential and Simultaneous Expressions in Sign Languages Using Spatial Expressions

Because sign languages differ from spoken languages in terms of modality, sign languages allow simultaneous constructions, meaning that two (or if allowable, three), articulators referring to different entities or events can be articulated at the same time, (for a detailed summary on simultaneous constructions, see Perniss 2007). Perniss lists the detailed functions of such construction as follows:

> *(1) Referent representation on both hands to express locative information (in the depiction of the spatial relationship between two referents).*
>
> *(2) Referent representation on both hands to express the temporal and spatial simultaneity of events (in the depiction of action or interaction between referents).*
>
> *(3) An expression of (the) temporal simultaneity of events or states (aspectual information).*
>
> *(4) A topic hold on one hand, and signs relating further topic information on the second hand (topic – comment structure).*
>
> *(5) An enumeration morpheme hold on one hand, while the second hand provides signs conveying further topic information.*
>
> *(6) An index sign hold on one hand, while the second hand produces further topic-related signs* (p. 40).

Perniss categorizes simultaneous constructions into two groups: Constructions (1) – (3) indicate perceptual structure, while (4), (5) and (6) refer to discourse structure. In the following section, I will provide several examples for each structure in TİD.

2.2.6.4.1. Locative Expressions

Turkish Sign Language, like many other signed languages, is unique from spoken language because of its ability to articulate simultaneously with both hands. Entity classifiers, as discussed in Section 2.2.3.3., are the semantic

categories through which the hands represent entities. For instance, the right hand, referring to a person, takes the V-handshape, whereas the left hand takes the form of a flat-handshape, indicating a wall. Through the use of simultaneous construction, the signer indicates that a person is jumping over the wall.

In their work, Özyürek et al. (2010), investigated which strategies TİD native signers use to show the relationship between Figure and Ground. If we use an example of simultaneous construction, the wall can be considered Ground, while the man jumping over the wall is defined as Figure. The authors found a few simultaneous occurrences showing this relationship between Figure and Ground, and claim that simultaneous locative expressions are not the default mode for TİD signers. Rather, native signers employed strategies, generally through the use of entity classifiers, after the Ground has been expressed. This is not to say, however, that TİD never makes use of simultaneous expression in terms of locative expressions.

2.2.6.4.2. Hold Morphemes

Simultaneous occurrences in TİD are not limited to locative expressions. Temporal and event organizations have also been observed. For example, a signer uses the sign KAYIT 'registration' then preserves the sign on the non-dominant hand (CL: flat hand, a CL handshape referring to 'paper'), while using the dominant hand to form the sign for BAŞVURMAK 'application'. In this example, the flat hand can be considered a hold-morpheme. The hold-morpheme in this case corresponds to the Ground referent referred to earlier (Engberg-Pedersen 1993 as cited in Perniss 2007).

2.2.6.4.3. Buoys

Signers sometimes use the non-dominant hand for reference purposes, which Liddell (2003, p. 223) has termed *buoys*. He categorizes buoys in four ways: (i) list, (ii) theme, (iii) fragment, and (iv) pointer. The first three types are products of *conceptual blends*, whereas the *pointer buoy functions by using the non-dominant hand to point* (ibid, p. 260).

In the buoy subcategory 'list', each finger is used to represent an ordinal number. For example, signers often point to the non-dominant thumb to refer to something as 'first', and use the pinky finger to signify 'fifth'. In ASL, the signer's fingers can be used both to denote the first four weeks of something, and provide a ranking of topics or people (ibid). List buoys can also be referred to as enumeration morphemes (Vermeerbergen 2001). While investigating list buoys cross-linguistically (NSL: Norwegian Sign Language and SSL: Swedish Sign Language), Liddell et al. (2007) discovered some slight differences, such as a MANY-LIST sign in NSL that is absent in SSL, and hand configuration differences in both languages. With regard to my small corpus in TİD, several list buoys have been observed. Generally, the index finger is the first element to which the signer makes reference. In this example, the signer describes three women at the beginning of the story, and then refers back to them throughout the narration using these previously established list buoys.

A theme buoy occurs when *an important discourse theme is being discussed* (Liddell 2003, p. 242). The weak hand takes the 1-handshape, while the signer continues to give related topic information using the dominant hand. Fragment buoys are *created by associating the meaning of a sign with all or part of its final state of production* (Liddell et al. 2007, p. 208). Pointer buoys, however, differ completely from all other buoy types. They use pointing (with the weak hand), as an element in discourse (Liddell 2003, p. 250), and are very often observed as relative elements (see for example Section 5.1.3.3.).

2.3. Summary

After outlining a grammatical sketch of TİD, it is shown that TİD is basically different than Turkish and that both languages have a distinctive grammar, most obviously a different phonology and morphology (for details please see Kubus 2008). The main distinction between Turkish and TİD is the way of transmission as mentioned at the beginning of this chapter: TİD is a visual-gestural language whereas Turkish is a vocal-auditory language. TİD, like other sign languages, uses the two hands, together with nonmanual parameters for

producing language in signing space. However, all languages share commonalities even if they differ in terms of modality. It is clear that both TİD (representing sign languages) and Turkish (representing spoken languages) classify words in terms of grammatical category, such as noun, adjective and verb, have words that can be divided into meaningless units such as phonemes, and have similar morphological processes like inflection, derivation and compounding. Language use may differ in terms of regions and age groups. Sign languages have dialects like spoken languages, too. In TİD some dialectal differences between Ankara and İstanbul have also been observed. However, this variation seems to be mainly located in the lexicon, i.e. there exist lexical differences among dialects.

The main goal of this dissertation is to investigate relative clause constructions in TİD, which have not been investigated. It is also hypothesized that these constructions are different from Turkish relative clauses. The next chapter outlines relative clause constructions in both spoken languages (including Turkish) and sign languages that have been studied.

CHAPTER 3: RELATIVE CLAUSE CONSTRUCTIONS: LANGUAGE TYPOLOGY

This chapter investigates relative clause constructions (RCCs), including the typology of both spoken languages and sign languages. Andrews (2007) defines Relative Clauses as follows:

> *A relative clause (RC) is a subordinate clause which delimits the reference of a NP by specifying the role of the referent of that NP in the situation described by the RC* (p. 206).

Andrews points out two important criteria: a RC as being a subordinate clause and the reference of a NP. Similarly, de Vries (2001, p. 231) provides two properties of relative clauses*:*

(1)   *a. A relative clause is subordinated.*
        b. A relative clause is connected to surrounding material by a pivot constituent.

Subordination (syntactic) and pivotal reference (semantic) seem to be two determinative criteria for relative clauses. However, Downing (1978, as cited in de Vries 2002) states how difficult it is to find a universal definition for relative clauses, due to the fact that there may be more than 200 relativization strategies (de Vries 2001). Considering that relative strategies in sign languages are not included in de Vries' typology, and that sign languages differ from spoken languages in terms of modality, we may face even greater difficulties in defining RCs.

Branchini, in her dissertation in which she investigates RCCs in Italian Sign Language (Lingua Italiana dei Segni – LIS), suggests a revised definition of

relative clauses adapting de Vries' (2002) and thereafter Grosu's (2002)[15] revised definition (Branchini 2006, p. 57):

(2)   *a. A relative clause is a dependent clause.*

b. A relative clause is connected to the matrix clause by a syntactically and semantically shared pivotal element. Such pivot can be overtly realized in either one of the two clauses, in both of them or in neither one of them.

Branchini has changed the term *subordinate clause* to *dependent clause* in (2a). The underlying reason is that the relative clause in correlatives (for a further explanation of correlatives, see Section 3.1.1.2.) is not regarded as a subordinate clause. In addition, she emphasized that not only the semantically shared pivot (as in de Vries' proposal) but also the syntactically shared pivot should be regarded. Branchini compares two different bi-clausal sentences shown in (3) (p.57):

(3)   a. I asked the girl$_i$ to come [although you don't like her$_i$]

b. *I asked (the) *e* to come [although you don't like her girl]

c. The man bought   the horse$_i$, [which I saw e]

d. Bambara:

Tye   ye   [*ne   ye   so   min   ye*]   san

man Pst   I   Pst   horse   Rel   see   buy

The man bought the horse that I saw.

(Keenan 1985 as cited in de Vries 2002, p. 57)

Sentence (3b) shows that 'girl', which is a syntactic object of the matrix clause, and 'her', which is a syntactic object of the dependent clause, cannot be placed within a clause. There is no syntactical sharing in (3a). However, the case of relative clause is different, which is evident in (3c) and (3d): *'which' is bound*

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[15] Grosu (2002, p.145) defines the criteria for RCs as *(a) A relative clause is subordinated (b) A relative clause includes, at some level of semantic representation, a variable that ultimately gets bound in some way by an element of the matrix.* Branchini (2006) gives an example showing that these criteria are not distinguished from other subordinated sentences as in 'I asked the girl to come (although you don't like her)' (p. 55).

by 'horse' (Branchini 2006, p. 56) in (3c) and 'so' (horse) is placed near to the relative pronoun 'min' within the relative clause in (3d). Branchini argues that there must be both syntactical and semantical pivotal sharing between matrix and relative clauses. From now on, Branchini's definition will serve as the working definition of relative clauses in this dissertation.

This chapter is structured as follows: Section 3.1 provides an overview of the typology of relativization strategies in spoken languages. The main focus will be on syntactic typology, semantic categorization and relative elements that are used in relative clauses. Section 3.2 examines how relative clauses are formulated in Discourse Representation Theory (Kamp & Reyle 1993). Section 3.3 presents various RCCs in different sign languages and discusses whether RCCs in sign languages are language-specific or modality-dependent.

3.1. Typology of RCs

This section aims to offer an overview of the differences among RCs in spoken languages. I will outline parameters borrowed from Andrews (2007) and de Vries (2001, 2002) that distinguish these differences. The latter of these researchers provides a broader typology. Before introducing the typology, it is vital to determine which terminology will be used in the dissertation. Andrews (2007) distinguishes the NP of the matrix clause (NP_{mat}), which he provides in italics, and the NP of the relative clause (NP_{rel}), which may or may not be overt (compare 4a and 4b). Andrews uses the label S_{rel} for the relative clause, which he provides in brackets.

(4)   a. *The book* [*I bought yesterday*] was a trade paperback.

         b. *Somebody* lives nearby [**who** has a CD-burner].

(Andrews 2007, p. 206)

For example, in sentence (4a), 'the book' and the S_{rel} 'I bought yesterday' are parts of the overall NP_{mat} ('the book I bought yesterday'). There is no overt NP_{rel} in (4a). In comparison to (4a) sentence (4b) has an NP_{rel} ('who'); however,

S_{rel} ('who has a CD-burner') is not a part of NP_{mat} ('somebody'). Regarding Andrews' definition, four main parameters for distinguishing relative clause structures are as follows:

(5)   a. the structural relationships between S_{rel} and NP_{mat} (for example, whether or not S_{rel} is a subconstituent of NP_{mat})

b. the treatment of the NP_{rel} function (for example, whether it is moved, specially marked, or omitted)

c. constraints on the possibilities of what the NP_{rel} function can be (only subject, only core argument, etc.)

d. the treatment of S_{rel} as a whole (such as whether it is reduced or nominalized)

Andrews (2007) points out that languages show a broad range of relativization strategies. There are various aspects to study in one or more relativization strategies that are endorsed by a specific language. On the other hand, de Vries (2002, p. 27), compiled from typological data in Comrie (1981), Culy (1990), Downing (1978), Givón (1984), Keenan (1985), Keenan & Comrie (1977), Lehmann (1984), Peranteau et al. (1972), and Smits (1988), provides a broader pattern of RCs including more than 200 relative strategies in spoken languages worldwide, based on the following parameters:

(6)   a. Kind of modification/relation: restrictive/appositive/maximalizing
b. Hierarchical status of RC: embedded within DP, correlative
c. Presence of head: headed/free relatives
d. Presence of relative pronoun: yes/no
e. Presence of complementizer: yes/no
f. Presence of resumptive pronoun: yes/no
g. Hierarchical position of head: externally/internally headed RCs
h. Linear order of head and RC: head-initial/final relatives
i. Inflectional completeness of RC: finite/non-finite relatives

j. Position of determiner w.r.t. N and RC: initial/middle/final

k. Position of (Case) marker, if any: on N, on N and RC

In this dissertation, I would like to present selected parameters from both authors in order to provide a framework not only for the typology of relativization strategies in spoken languages but also for the analysis of the relativization strategies observed in TİD in Chapter 5. First of all, the relationship between Srel and NP_{mat} will be analyzed in detail. This analysis implies a typological syntactic classification of RCs covering the hierarchical status of the RC (6b), presence of the head (6c) and hierarchical position of the head (6g). Furthermore, the semantics of relative clauses (6a) will be investigated and then the interaction between syntactic and semantic types will be discussed. Lattermost, it will be demonstrated how the relativized nominal domain is realized, which is parallel to Andrews' criterion (5b) and which covers de Vries' parameters (6d –f). A list of differences in relativization strategies which are considered in the dissertation can be seen below:

(7)   a. syntactic classification: the structural relationship between S_{rel} and NP_{mat}

    b. semantic classification: type of modification / relation

    c. treatment of the NP_{rel}

On the basis of the criteria shown in (7), there are three different typological aspects. In each case, the particular properties of RCs are spelled out and examples are demonstrated for each subcategory. The next sections detail syntactic, semantic subcategories of RCs and how NP_{rel} (the head noun) is treated.

3.1.1. Syntactic Typology of RCs

There are two main subcategories of RCs in terms of whether NP_{mat} is in S_{rel} or not: (i) embedded RCs (Andrews 1985) and (ii) adjoined RCs (Halle 1976), as cited in Andrews (2007). S_{rel} is inside of NP_{mat} in embedded RCs; in other words, RCs are subordinated according to the head noun. Comparatively, in

adjoined RCs, S_{rel} is outside of the NP_{mat} and RCs are not subordinate to the head noun.

3.1.1.1. Embedded RCs

There are three main subcategories of embedded RCs: (a) Externally headed RCs, (b) Internally headed RCs and (c) Free RCs. They are distinguished by Andrews (2007), according to the relationship between Domain Nominals[16] (henceforth DN) and S_{rel}, as shown in the detailed schema below:

(8)   a. External RCs: (… DN [.….]….) or (… [.….] DN ….)
        b. Internal RCs: (… [… DN...]….)
        c. Free RCs: (… [.….]….)

In the following, each type of syntactic RC will be exemplified.

3.1.1.1.1. External RCs

The domain nominal occurs outside of the RCs in externally headed RCs (also known as EHRCs). They are further subdivided into two categories (i) postnominal EHRCs and (ii) prenominal EHRCs. The underlying difference between these two subcategories is related to the order of the domain nominal and the RC. The domain nominal precedes the RC in the postnominal EHRCs. English, German, Italian and Persian exhibit EHRC as seen in (9a-d). In (9), the italicized phrases are the DNs. Often, they are identical with NP_{mat}. NP_{rel}s are given in bold:

---

[16] Domain Nominals are heads (the head nouns) that Andrews (2007) prefers to use. [*They*] *serve a semantic function of identifying the domain of objects upon which the RC imposes a further restriction* (p. 208).

(9)   a. *The boy* [who loves Mary] is going to visit us.

        b. *Das Kind*, [das im Garten ist], kann Chinesisch sprechen.

        The child who is in the garden can speak Chinese.

        c. *Il libro* [che Sara ha comparto] è molto raro.

        The book comp Sara has bought is very rare

        The book that Sara has bought is very rare.

                                                      (Branchini 2006, p. 64)

        d. Hasan *mardi-rā* [ke   zan   (u-rā)   zad]   mišenāsad.

        Hasan *man-ACC* [that   woman he-ACC   hit]   knows.

        Hasan knows the man that the woman hit.

                                                      (Comrie 1981, p. 141)

        Persian, which has SOV word order and differs in this way from English
(9a), German (9b) and Italian (9c) which have SVO word order, also exhibits
postnominal EHRCs. Even though prenominal EHRCs occur more often in SOV
languages, such as Turkish, Japanese and Navajo, as shown in (10 a-c), a SVO
language can also use prenominal EHRCs as in Chinese (10d).

(10)   a. *[Kitap okuy-an]   kadın*   okulda   öğretmen.
        [Book read-PART] *woman*   school-LOC   teacher.
        The woman who reads a book is a teacher at school.

        b. *[Yamada-san   ga   kat-te   i-ru]   saru.*
        [Yamada-Mr   SUBJ   keep-PTCPL   be-PRES]   *monkey.*
        The monkey which Mr. Yamada keeps.

                                                      (Andrews 2007, p. 208)

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c. ['adą́ądą́ą́'   [NP eᵢ]   dahneeshjįd`ęę] hastiinᵢ yidloh.

[yesterday   [NP eᵢ]   jump-Nmn]   *manᵢ* is laughing.

The man who jumped yesterday is laughing.

<div align="right">(Platero 1978, p. 12)[17]</div>

d. [*Zhāngsān   mǎi   de]   qichē   hěn   guì*

[Zanghsan   buy   Nom]   *car*   very   expensive

The car that Zhangsan bought was very expensive.

<div align="right">(Li & Thompson 1981, p. 116)</div>

In overview, SVO languages tend to have postnominal RCs (9a-c), but, very occasionally, even a SOV language can have postnominal RCs, as in Persian (9d). On the other hand, usually SOV languages have prenominal RCs (10a-c), but, very occasionally, even SVO languages can have prenominal RCS, like Chinese (10d). After providing some examples for EHRCs, the next section describes a different kind of structure, called Internally Headed Relative Clauses (IHRCs).

3.1.1.1.2. Internally Headed RCs

Different from EHRC constructions, the domain nominal occurs in the RC in IHRC constructions (also labeled as 'circumnominals' by de Vries 2002). Tibetan, Diegueño (Gorbet 1976; Keenan 1985), Ancash Quechua (Cole & Hermon 1994; Cole 1987; de Vries 2002) and Quechua (Comrie 1981) are some languages which exhibit IHRC constructions, as exemplified in (11):

(11)   a. Tibetan:

[*Peemɛ   thep   khii-pa*]   the]   nee   yin

Peem-ERG book   carry-PART   the   I-GEN is

The book Peem carried is mine

<div align="right">(Keenan 1985, p.161)</div>

---

[17] Japanese (Shimoyama 1999) and Navajo (Platero 1974) can exhibit postnominal EHRCs (Fuji 2010) as well as IHRCs.

b. Diegueño:

[*i:pac* *'wu:w*]-pu-c   ciyaw

man   I.saw-DEM-SUBJ   sing

The man I saw sang

(Gorbet 1976, p. 43)

c. Ancasch Quechua:

[*nuna* *bestya-ta* *ranti-shqa-n*] alli   bestya-m   ka-rqo-n.

man   horse-ACC buy-PERF-3 good horse-VALIDATOR be-PAST-3

The horse that the man bought was a good horse.

(Cole 1987, p. 277)

d. Navajo:

[(Tl'éédą́ą́) ashkii   ałhą́ą́'ą́ą́]   yą́doołtih.

last-night   boy   3SG(OBJ).PERF.3SG.snore-REL.PAST FUT.3SG.speak

The boy who was snoring last night will speak.

(Platero 1974, as cited in Andrews, p. 212)

In one of the IHRC examples from Tibetan, which has SOV order, 'thep' occurs in S$_{rel}$ and keeps its position as object. It also exhibits a nominalizer/determiner 'the' at the end of the S$_{rel}$ (Keenan 1985).

Diegueño also uses IHRC as a strategy of relativization but in a different manner. Nominalized phrases, in this case the S$_{rel}$ 'i:pac 'wu:w', can also take morpho-syntactic elements like determiner and case marking, as shown in (12a+b):

(12) Diegueño:

    a. i:pac   'wu:w

       man   I.saw

       I saw man.

    b. i:pac-pu-c   ciyaw

       man-DEM-SUBJ   sing

       The man sang.

<div align="right">(Gorbet 1976, p. 43)</div>

In (12a) 'w:uw' takes the verb position and in (12b) sentence, 'i:pac' (the man) appears with the determiner -pu and case marking -c. When we look at the relative clause construction in (11b), we can see that the verb is nominalized and appears with the same case marking and determiner.

Ancash Quechua is also known to exhibit both EHRC and IHRC strategies (Cole 1987). Different from (11a) and (11b), the example from Ancash Quechua (10c) does not exhibit an overt nominalizer/determiner within S_{rel} and 'bestya' remains in the object position in S_{rel} (see also Basilico 1996).

Evidence of the DN (domain nominal) to occur within S_{rel} is the occurrence of time adverbials before NP_{rel} within S_{rel} (see Andrews 2007, p. 212). For instance, (11d) from Navajo, 'Tl'éédą́ą́' (last night) may come before NP_{mat} and the time adverb is linked to the relative clause rather than to the matrix clause which refers to the future. Such possibilities are also effective to test whether the NP_{mat} exhibit within S_{rel} or not, in other words, whether IHRC strategy is implemented or not.

3.1.1.1.3. Free RCs

So far we have seen cases where the DN does and does not occur within S_{rel}; however, there is a third group in which DNs are not overtly expressed at all. These free RCs are also known as headless relative clauses. English free relatives generally use wh-elements (13a); however wh-elements are not the sole way to construct a free relative, as the case of Turkish free relatives, exemplified in (13c), shows.

(13)   a. The dog ate [what the cat left in its bowl]

<div align="right">(Andrews 2007, p. 213)</div>

b. The dog ate the meat [that the cat left in its bowl]

c. [Biz-im dikecek]-ler-imiz-de (hata var).

   We-GEN sew-PART-PL-1PL.POSS-LOC

 (There is a fault) with the ones [that we shall be making]

<div align="right">(Göksel & Kerslake 2005, p. 390)</div>

d. [biz-im dik-eceğ-imiz] elbise-ler-de…

 …with the dresses [that we shall be making]

<div align="right">(ibid.)</div>

As shown in (13a) the sentence lacks NP$_{mat}$. Comparing (13a) and (13b), a wh-element 'what' is used in a free relative, whereas 'what' cannot be used in the EHRC version of the sentence with the NP$_{mat}$ 'the meat'. Instead, the NP$_{rel}$ 'that' is used which, however, may also be omitted. In the case of Turkish, when 'elbise' in (13d) is eliminated to construct a free relative as in (13c), number ('-ler', PL) and case ('-de', LOC) markers are added to S$_{rel}$; which were affixed to the DN earlier. (Göksel & Kerslake 2005).

The previous free relatives indicate that English and Turkish, which are postnominal and prenominal respectively, can exhibit both EHRC and free relatives. In many languages, free relatives can exist along with other relativization strategies. Navajo can use free relatives (14) in addition to EHRCs (see 9c) and IHRCs (see 10d) (Andrews 2007).

(14)   [Kinłánígóó   deeyáhígíí]   bééhonisin

   Flagstaff.to   3.go-REL   i.know

   I know the person who is going to Flagstaff.

<div align="right">(Kaufman 1974, p. 527)</div>

De Vries (2002, p. 50) provides a systematic classification of free relatives considering five different properties: realis/irrealis, transparent/opaque, true/false, hanging/independent, (internally) headed/non-headed. In this dissertation I would like to specify only the difference between false and true free RCs. As for other parameters/properties, the reader is referred to de Vries' dissertation.

False free relative clauses differ from true free relative clauses in that they are free relative constructions with a determiner or a pronominal head even though they do lack a domain nominal. In (15a), the (first) determiner 'der' occupies the position of the nominal head (NP_{mat}) in the matrix clause, functioning as pronominal head (Lehmann 1984). The second determiner 'der' (here denoted as D_{rel}) resides within the S_{rel} clause and functions as the NP_{rel}. This case is not observed in true free relative clauses. For instance, the matrix clause in (15b) does not possess an overt head noun, either nominal nor pronominal. Rather, it has a wh-element, e.g., 'was' ('what' in 15b) or 'wer' ('who' in 15c). True relative clauses can also be constructed with an indefinite relative pronoun as in 14c.

(15)   a. False Free Relative C:

      der [der zu spät gekommen ist]…

      D3[18] D_{rel} too late come has

                                      (de Vries 2002, p.42)

    b. True Free Relative C:

      [Was er sagte] kam mir unglaubhaft vor.

      what he said   appeared to me implausible

                                        (de Vries 2002, p.44)

    c. True Free Relative C:

      [wer zu spät kommt]… [FR with pronominal head]

                                        (de Vries 2002, p.43)

---

[18] D3 refers to *a relative pronoun* [that] *excludes a resumptive pronoun or clitic* (de Vries 2002, p. 37).

In sum, free relatives differ from the other relatives in terms of not having an overt head noun (NP$_{mat}$). However, there are some constructions in which (in)definites may replace a head noun, i.e. false relative clauses.

3.1.1.2. Adjoined RCs

After introducing the three main types of embedded relative clause constructions, a different category of relative clause constructions, adjoined RCs, will be exemplified next. The distinctive difference between embedded RCs and adjoined RCs lies in S$_{rel}$ being 'outside of NP$_{mat}$' (Andrews 2007, p. 214). In other words, S$_{rel}$ never occurs within NP$_{mat}$. NP$_{mat}$ generally includes a demonstrative pronoun (DEM). However, the order of NP$_{mat}$ and S$_{rel}$ can vary. There are:

(16)

    a. left adjoined RCs (also known as correlatives):   [S$_{rel}$] NP$_{mat}$

    b. right adjoined RCs (extraposed):   NP$_{mat}$ [S$_{rel}$]

Adjoined RCs occur in various languages such as Hindi/Urdu (Srivastav 1991, Dayal 1996), Warlpiri (Hale 1976), Keenan (1985), Hungarian (Lipták 2005), and Sanskrit (Andrews 1985). Hindi is one of the languages which can exhibit both left- and right-adjoined RCs (Srivastav 1991, pp. 639-640), as shown in (17a+b), respectively:

(17)   a. [jo laRkii khaRii hai]   vo lambii hai.

        REL girl standing is   DEM tall is

      b. vo laRkii lambii hai   [jo khaRii hai].

        DEM girl tall is   REL standing is

      The girl who is standing is tall.

However, Srivastav (p. 649) denotes that (17a) and (17b) are not the same: in the first type (correlative) the demonstrative pronoun 'vo' is obligatory (18a). These pronouns do not have to be used in right-adjoined constructions (henceforth correlatives) which can be seen in (18b) (see also Andrews 2007) and even in

embedded RCs (18c). Therefore, there is a necessity to analyze these constructions separately.

(18)   a. *[jo laRkii khaRii hai]   laRkii lambii hal.
            REL girl standing is   girl tall is
        b. laRkii lambii hai   [jo khaRii hai].
            girl tall is   REL standing is
        c. laRkii   [jo khaRii hai]   lambii hai.
            girl   REL standing is   tall is
        The girl who is standing is tall.

Bhatt (2005b) provides some striking differences between correlatives and headed relative clauses. One of the distinctions, the 'demonstrative requirement', is already exemplified with an example (18c). Here, two more comparisons will be introduced: 'a possible internal head' and 'multi-head relative clauses'.

The head noun can appear in both matrix clause (NP$_{mat}$) and correlative (S$_{rel}$). However, this is not the case for EHRCs (19a) and right adjoined RCs (19b) (Bhatt 2005b, pp. 6-7) (see also Dayal 1996):

(19)   a. * mujhe [vo aadmii [[jo aadmii] Sita-ko pasand hai]] accha: nahĩ: lag-ta:
            I.Dat that man Rel man Sita-Dat like be.Prs.Sg like Neg seem-Hab.MSg
        b. * mujhe [vo aadmii]   ccha: nahĩ: lag-ta: [jo aadmii Sita-ko pasand hai]
            I.Dat that man   l ike Neg seem-Hab.MSg Rel man Sita-Dat like be.Prs.Sg
            I don't like the man who Sita likes.

Multiple heads are only observed in correlatives (Bhatt 2005b, pp. 4 & 9). In (20), one instance is provided from Hungarian (Lipták 2005, p. 5):

(20)   [Aki   amit   kér],   az azt elveheti.
        REL-who REL-what-ACC   wants   that that-ACC take-POT-3SG
        Everyone can take what he/she wants.

Lipták (2009, p. 2) summarizes correlatives in four points, in terms of:

a. a peripheral position of the relative clause. (being left adjoined)

b. the possibility of spelling out the nominal head both in the relative clause (NP$_{mat}$) and in the correlate (S$_{rel}$).

c. a demonstrative requirement on the correlate.

d. the availability of multiple relative phrases.

3.1.2. Semantic Typology of RCs

The semantics of relative clause constructions are generally analyzed in a different category from the syntactic typology of relative clause constructions (see also Branchini 2006). However, there are also strong connections between the type of semantics and the type of syntactic properties (Grosu & Landman 1998 and de Vries 2002, see also Branchini 2006). In this section, three main types of semantics of RCs will be introduced: (i) appositives, (ii) restrictives and (iii) maximalizing. In addition, the basic properties of each type and the interconnection between syntactic and semantic typology will be outlined.

3.1.2.1. Appositive RCs and Restrictive RCs

Appositive RCs, unlike restrictive RCs, provide additional information about the head noun. Specifically, Bhatt (2005a) points out the distinction between them as follows: *As the appositive vs. restrictive opposition suggests, there is a difference in the way an appositive relative clause combines with the head and the way a restrictive relative clause does* (p.1). Yet, this 'truth conditional distinction' does not always work (Potts 2005).

(21)   a. restrictive relative clause:

The students who are from Sydney like Kylie.

All the students don't need to be from Sydney.

b. appositive relative clause:

The students, who are from Sydney, like Kylie.

All the students are from Sydney.

Appositive RCs have a relative pronoun with *wh-* material in English (as in 22b), and they cannot take a relative complementizer like *that* (22a) (Kayne 1994, Bianchi 1999, p. 201, Bhatt 2005a, p. 2):

(22)   a. *This book, that I read thoroughly, is delightful.

b. This book, which I read thoroughly, is delightful.

c. *This book, - I read thoroughly, is delightful.

However, this situation is not universal. It does not hold for Italian relative clauses, where 'that'- clauses are acceptable in appositives. Another underlying distinction between appositive RCs and restrictive RCs is that restrictive RCs do not always involve a true 'restriction' (p. 2):

(23)   a. the positive numbers that aren't negative.

b. the bachelors who are unmarried.

(Potts 2005, pp. 94-95)

Despite their property of providing additional information, appositive RCs still need to refer to head nouns as compared to other reference devices. For example, appositive RCs differ from other subordinate clauses using relative pronouns as shown in (24) (Grosu 2002, see also Branchini 2006). The personal pronoun 'she' in (24a) cannot be replaced with interrogative pronoun as a relative marker 'who' in (24b), because there is a need for an anaphora between head noun and relative pronoun in appositive relative clauses:

(24)   a. The house collapsed; *she* ran away terrified.

         b. *The house collapsed, *who* ran away terrified.

<div align="right">(Grosu 2002, p. 146)</div>

Branchini (2006, pp. 89-90), after de Vries (2002, pp. 181-233) as well as Bhatt (2005a, pp. 1-7), provides additional properties of appositive RCs (see 25). I will provide contrasting examples for each property. As for a detailed discussion, the reader is referred to de Vries (2002).

(25)   a. Appositive RCs require a specific antecedent (e.g., quantified expressions cannot be the head noun for appositive relative clauses)

         b. Appositive RCs are not transparent for binding.

         c. Prosodic cues in appositives may differ from the ones in restrictives.

         d. Appositives have some special semantic properties: noncancellability, anti-backgrounding and scopelessness.

If the matrix clause has an indefinite head noun it must also be specific (also presupposed) (de Vries 2002, p. 182). For instance, (26a) has an indefinite but non-specific head noun and therefore an appositive reading (as indicated by the comma) is not possible, whereas it allows a restrictive reading as in (26b). In the case of (26c), the indefinite antecedent has a specific reading and therefore it can be regarded as appositive.

(26)   a. * Ik zag een man, die een rode hoed droeg.

              I saw a man, who a red hat wore.

         b. Ik zag een man die een rode hoed droeg.

         c. Ik heb een nieuwe trui gekregen, die m'n oma heeft gebreid.

              I have a new sweater received, which my granny has knitted.

<div align="right">(de Vries 2002, p. 183)</div>

Similarly, Bhatt (2005a) provides examples (27) showing that quantified expressions cannot have appositive readings:

(27)   a. *Susan interviewed every senator, who is crooked.

        b. *No person, who knows everything, is perfect.

<div align="right">(Bhatt 2005a, p. 4)</div>

This example can be related to de Vries' (2002, p. 188) statement that *an appositive is opaque for quantifiers and negation*, contrary to restrictives. De Vries provides two examples from Dutch, one of which is restrictive (28a) and the other of which is appositive (28b). While sentence (28a) is possible, 'hij' cannot be used for appositives:

(28)   a. Bijna niemand vertelde over de toren die hij beklommen had

           almost nobody told about the tower which he climbed had.

        b. * Bijna niemand vertelde over de Martinitoren, die hij beklommen had.

           almost nobody told about the Martini tower, which he climbed had.

<div align="right">(de Vries 2002, p. 188)</div>

Jackendoff (1977, p. 176) points out, the negative polarity *item* 'any' cannot be *licenced by a negative element* in an appositive in the way that it does in a restrictive (in de Vries 2002 and Branchini 2006, p. 94), as shown in the contrast between (29a-b):

(29)   a. I didn't see a man who had had any drinks.

        b. I didn't see Bill, who had had some/*any drinks.

In addition to the properties provided above, the distinction between appositives and restrictives can be marked by prosody. For instance, in English, appositives have comma intonation (Emonds 1979, in de Vries 2002, p. 195). Another example is from Jackendoff (1977, p. 173): while the NP in restrictive

RCs can have focus and negation properties (30a), this is not possible in appositive RCs (30b):

(30)   a. We didn't talk to the man who married SUSAN.
         (We talked to the man who married JANE.)
         b. *We didn't talk to the man, who married SUSAN.

The prosodic properties that are shown above are observed in English. As Branchini (2006) states, the intonation variation regarding restrictiveness may be language-specific.

Bhatt (2005b) lists some additional properties such as non-cancellability, anti-backgrounding and non-restrictiveness. The property of non-restrictiveness of appositives has been shown already in (25). The first two properties are exemplified in (31) and (32), as provided in Bhatt (2005b, pp. 6-7; derived from Potts 2003, pp. 147-148):

(31) Non-cancellability:

    a. Edna, who is a fearless leader, started the descent. #Edna is not a fearless leader.

    b. #[19] If Armstrong did win the 2003 Tour de France, then Lance Armstrong, who is the 2003 Tour de France winner, is training.

(32) Anti-backgrounding: Lance Armstrong survived cancer.

    a. # When reporters interview Lance, who is a cancer survivor, he often talks about the disease.

    b. And most riders know that Lance is a cancer survivor.

Potts (2003) indicates that the statement in (31a) which has appositive reading, provides the fact that 'Edna is a fearless leader' and therefore it is not

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[19]   Symbol dash '#' represents sentences that are semantically and/or pragmatically not acceptable or inadequate.

plausible to contradict this fact to say 'Edna is not a fearless leader.' From this statement, we can derive that appositive RCs provide an additional conventional implication. In addition, the presupposition in (31b) 'If Armstrong did win the 2003 Tour de France', given within this context, contradicts with the factual statement 'who is the 2003 Tour de France winner.' This explains itself as noncancellability (or, using Potts' terms, nondeniable meanings.)

Potts (2003) calls statements which are not preferred to be backgrounded with the next utterance by the name antibackgrounding effect. As shown in (32a), repeating the appositive reading 'who is a cancer survivor' does not fit well with the first statement, which already provided the fact that 'Lance Armstrong is a cancer survivor.'

Besides the examples distinguishing between restrictive and appositive provided above, more possible differences and false assumptions on appositives can be found in de Vries' dissertation (2002).

Against the backdrop of the underlying properties of appositives, Branchini (2006) lists some main properties of restrictive RCs (33). Each property will be proved by several examples.

(33)   a. RRCs require a non-specific antecedent.
        b. RRCs form a constituent with their antecedent.
        c. RRCs are transparent for binding.

(Branchini 2006, pp. 80-90)

We have shown that appositives can only take indefinite but specific antecedents. On the contrary, restrictive RCs cannot take specific antecedents. For instance, restrictives cannot modify proper names and pronouns, as shown in (34a) and (34b) (Branchini 2006, pp. 82-83). However, restrictive RCs can take quantified antecedents as in (35), which is not the case for appositive RCs, as shown in the examples in (27) (Ross 1967, in Branchini 2006).

(34)   a. *Thomas that works very hard has been promoted.

        b. *He that works very hard has been promoted.

        c. The young man that works very hard has been promoted.

(35)   Every student who attended my course will be rewarded.

Branchini (2006) shows that restrictive RCs can also contain VP ellipsis. In other words, if the head noun is an object of the verb in a restrictive, they together can form a constituent, as shown in (36):

(36)   My mother *ate the vegetables I cooked*, my father didn't (*eat the vegetables I cook*).

(Branchini 2006, p. 88)

Further, it has been noted that appositive RCs do not allow transparent bindings; however this is different in the case of restrictive RCs. Relevant examples can be found in (27) and (28).

So far the boundaries and restrictions of both appositive and restrictive RCs have been analyzed. There are two main similarities between them (de Vries 2002 and Branchini 2006):

(37)   a. the syntactic role that the pivot constituents play in the relative clause.
        b. both can only modify NPs.

(de Vries 2002, p. 182)

3.1.2.2. Maximalizing RCs (Grosu & Landman 1998)

The third type of semantics of relative clauses, maximalizing RCs, has been brought out by Grosu and Landman (1998). They propose that the semantics of RCs can be ordered on a spectrum as denoted in (38). On this spectrum, Simplex XPs lack relative materials i.e. no overt RCs (in other words, no internal

material) and Simplex CPs are phrases that are not relative constructions (and therefore no external material).

(38) Simplex XPs – Appositives – Restrictives – Maximalizers – Simplex CPs

          1   2   3   4   5

<div align="right">(Grosu & Landman 1998, p. 126)</div>

Appositives and restrictives may include external materials, i.e. the content of the head noun can be derived from material within the relative clauses. However, there is an important difference between appositives and restrictives: in appositives, the head noun is more central than the relative clause itself; whereas in restrictives, external material (here head noun or antecedent) and internal material (relative clause) are both essential. Therefore, restrictives stand in the middle of the spectrum.

In maximalizers, the new type of semantics of relative clauses, the internal material is the most important part as opposed to in appositives and restrictives. Maximalizers can be categorized further into degree relatives, free relatives and correlatives (see Grosu & Landman 1998 and de Vries 2002).

Degree relatives were first introduced by Carlson (1977) as amount relatives. If 'there' is inserted into the relative clauses, it has a degree reading. For example the relative clause in (39a) includes 'there' and has a reading that all three books were on the table and there were no other books on this table. On the contrary, (39b) has a restrictive reading. This means that three of the books which were on the table have been taken away and some books are still on the table. Sentence (39c), which contains an indefinite determiner 'many', has both a restrictive and a degree reading. All examples indicate that the content, i.e. 'how many books I took with me and how many books are left on the table' can be understood from the relative clause rather than from the head noun itself. In (39c) it is derived that the quantity of books that I took with me is the same quantity as the books that were left on the table. The degree reading, i.e. many books, is found in the relative clause (39d).

(39)   a. I took with me the three books that / Ø there were _ on the table.

b. I took with me the three books which were on the table.

c. I took with me three books that there were (d many books) on the table.

d. {d: ∃Bx[Book(x) and |x|=d and ON-THE-TABLE(x)}]

(Grosu & Landman 1998, pp. 128-130)

In this respect, Carlson (1977) denotes a constraint: *the sentence is only true if the maximum is taken* (de Vries 2002, p. 26). See the constraints below:

(40)   a. I took with me every book / any books / the books/ the three books / three of the books that there was / were __ on the table.

b. # I took with me three books / few books / many books / some books / most books / no books that there were __ on the table.

(Grosu & Landman 1998, p. 136)

If a relative pronoun is included then it is impossible to add 'there' (see 41a). In addition, the last diagnostic of maximalization is that maximalizing relatives ('there') (41b) do not stack compared to restrictive relatives ('who') (41c):

(41)   a. I took with me the three books which (*there) were on the table.
b. # The one sailor that there was on the boat that there had been on the island died in the explosion.
c. The one sailor who was on the boat who had been on the island died in the explosion.

(Carlson 1977 as cited in Grosu & Landman 1998, p. 136)

Correlatives and Head internal relatives and free relatives are also subject to sortal-internals. (further details can be seen in Grosu & Landman 1977 and de Vries 2002).

De Vries summarizes the various combinatorial possibilities between syntactic typology and semantic typology of relative clauses in Table 3.1 (p. 29):

Syntactic type ↓	Semantic type →	Appositive	Restrictive	Maximalizing
Postnominal		+	+	+
Prenominal		-	+	+
Circumnominal		-	+	+
Correlative		-	-	+
Free relatives		-	-	+

Table 3.1 - Mapping between syntactic and semantic types of relative clauses. (de Vries 2002, p. 29)

From this table it can be understood that – in terms of syntactic type – postnominal relatives are most liberal in that they allow for all semantic types: appositive, restrictive, and maximalizing RCs whereas free relatives are most restrictive in allowing only maximalizing RCs. Likewise, in terms of semantic type, maximalizing RCs are most liberal in that they may occur in all syntactic types: postnominal, prenominal, circumnominal, correlatives, and free relatives, whereas appositive RCs are most restrictive in that they may only occur in postnominal RCs.

3.1.3. The Treatment of NP$_{rel}$

Andrews (2007) specifies some strategies for the treatment of NP$_{rel}$: marking, reduction to a pronoun, movement and omission. In addition to these strategies, the treatment on *NP$_{rel}$ as a full NP* will be added as well (see Keenan 1985). There are some interconnections between the treatment of NP$_{rel}$ and syntactic typologies. In this section, I will briefly describe each treatment and provide some examples which mostly stem from the review of Andrews (2007) and Keenan (1985). In the next section, relative elements are explained briefly.

3.1.3.1. Marking

There are various ways to mark NP_{rel}, i.e. the position in which NP_{rel} occurs in S_{rel} which are related to the elements in the relative domain. Andrews states that the special markings are generally and arguably not present in IHRC whereas EHRC uses a wide variety of marking strategies. EHRC constructions are known to have relative pronouns (see also Section 3.1.3.6.) to mark NP_{rel}. Such relative pronouns are commonly observed in postnominal relatives, contrary to prenominal EHRCs. For instance, German and English do exhibit relative pronouns as shown in (42). English RCs include interrogative pronouns as relative pronouns like 'who', as in (42b), and 'whose', as in (42c), whereas German uses demonstrative pronouns as relative pronouns, one of which is 'den', as in (42a), and 'deren', as in (42d). Both relative pronouns are located at the beginning of the S_{rel} and this is very common for postnominal EHRC constructions (Keenan 1985). The German language may also exhibit EHRCs with interrogative pronouns as relative pronouns like 'welchen' (Downing 1978, p. 385).

(42)   a. der Mann, den Marie liebt

    the man who(masculine singular accusative) Mary loves

                                             (Keenan 1985, p. 149)

    b. The man who Mary loves.

    c. The students [*whose exams* we reviewed] seem to have been marked fairly.

                                             (Andrews 2007, p. 218)

    d. Die Studenten, deren Examen wir überprüften, scheinen fair benotet worden zu sein.

                                             (Translation of 44c).

Andrews (2007) denotes evidence for these relative pronouns expressing NP_{rel}: *the phenomenon of 'pied-piping' wherein they appear inside a larger*

constituent of the relative clause which is preposed to the front of the RC (p. 218).
The marked NP$_{rel}$ in (42a) is in the accusative case whereas (42b) is in genitive
case. Regarding pied-piping, it is also possible to mark NP$_{rel}$ a relative pronoun
with a preposition (43a). However, it is not possible with relative participle 'that'
as in (43b)

(43)   a. The aspect of the proposal [*to which* I object most strongly] is that it cuts
        library funds by 70%.
        b. * The aspect of the proposal [*to that* I object most strongly] is that it cuts
        library funds by 70%.

<div align="right">(Andrews 2007, p. 218)</div>

The special marking of NP$_{rel}$s in IHRCs is generally indefinite, in
opposition to EHRCs. Williamson (1987, as cited in Andrews 2007) gives
contrastive examples from Lakhota RCs (44a,b):

(44)   a. [Mary owiža wą̱ kağe] ki/cha he opehewathų̱
        Mary quilt   a   make the/a   DEM   I.buy
        I bought the/a quilt that Mary made.

        b. *Mary owiža wą̱ kağe ki he opehewathų̱
        Mary quilt the   make the DEM I.buy
<div align="right">(Williamson 1987, as cited in Andrews 2007, p. 219)</div>

While in an EHRC (44a), both definite and indefinite NP$_{rel}$ (ki NP/cha NP)
are allowed, in an IHRC a definite NP$_{rel}$ is ungrammatical (*ki NP) (44b).

3.1.3.2. Pronominalization
Another common treatment of NP$_{rel}$ is reducing it to an ordinary personal
pronoun. Keenan provides an example from Modern Hebrew (1985, p. 146):

(45)   ha-sarim   she-ha-nasi   shalax otam la-mitsraim

the-ministers   that-the-President   sent   them to Egypt

the ministers that the President sent to Egypt

The use of personal pronouns for NP_{rel} is common among postnominal relatives; however, Mandarin prenominal RCs can also have personal pronouns as well. An example with personal pronoun 'ta' is given below:

(46)   a. wo   da-le   (ta)   yidum   de   neige nanhaizi

I   hit-PERF   him   once   REL   that boy

the boy that I hit once

b. wo   bei ta   da-le   yidum   de   neige nanhaizi

I   by   him   hit-PERF   once   REL   that boy

the boy by whom I was hit once

(Keenan 1985, p. 149)

Apart from personal pronouns, some relativization strategies include 'resumptive pronouns' which are pronouns that refer to NP_{rel} in the matrix clause. Such pronouns generally appear if NP_{rel} is not subject (i.e. less accessible according to the accessibility hierarchy of Keenan & Comrie 1977). When the gap (omission) strategy is not used as a relativization strategy, resumptive pronouns are preferred. Borer (1984, as cited in Andrews 2007, p. 220) provides two sentences from Modern Hebrew:

(47) a. raʔiti ʔet   ha-yeled she-/ʔasher   rina ʔohevet (ʔoto)

saw-I   ACC the-boy REL   Rina love   him

I saw the boy that Rina loves.

b. raʔiti ʔet   ha-yeled she-/ʔasher   rina   xashva   ʔal-av /*ʔal

saw-I   ACC the-boy REL   Rina   thought   about-him/*about

Sentence (47a) shows an optional resumptive pronoun 'ʔoto'; whereas, if the relative clause includes an object preposition, resumptive pronouns cannot be omitted, as shown in (47b).

3.1.3.3. Movement

NP$_{rel}$ in some languages can move rightmost or leftmost within the relative clause. English relative pronouns move leftmost and precede the S$_{rel}$; while in Hebrew moving NP$_{rel}$ is optional. It can be seen that either the object or the propositional object can be placed at the beginning of the S$_{rel}$ in which a relativizer is optional:

(48)   a. raʔiti ʔet   ha-yeled   (she-/ʔasher)   ʔoto   rina   ʔohevet

        saw-I   ACC the-boy   REL   him   Rina   love

I saw the boy that Rina loves.

    b. raʔiti ʔet   ha-yeled   (she-/ʔasher)   ʔal-av   rina   xashva

        saw-I   ACC the-boy   REL   about-him   Rina   thought

I saw the boy that Rina thought   about

<div align="right">(Borer 1984, cited from Andrews 2007, p. 221)</div>

3.1.3.4. Omission

In this strategy neither resumptive pronouns nor relativizers are utilized. There is simply no expression indicating S$_{rel}$s. English exhibits this strategy, which is shown in (49a). However, they may be introduced by complementizers like *she-* in Modern Hebrew (49b) and *that* in English, which are not nominal or pronominal (Keenan 1985, p. 153):

(49)   a. the woman [Ø I know Ø]

    b. ha-nashim [she-ani makir Ø]

      the-women that-I know

      the women that I know.

Both prenominal and postnominal EHRC constructions prefer to use the gapping (omission) strategy, however, it also depends on the NP$_{rel}$'s accessibility hierarchy as mentioned in Section 3.1.3.2. If the NP$_{rel}$ is the RCCsubject of S$_{rel}$, it is likely to use that strategy (ibid., p. 154).

3.1.3.5. NP$_{rel}$ as a Full NP

In EHRC constructions NP$_{rel}$s generally have full NP status. For example, in Tibetan relative clauses, as in (11a), which is replicated in (50) for convenience, [Peemɛ thep khii-pa], 'the book Peem carried' can be said to have NP status since khii- 'carry' has participial (or nominal) status.

(50)   Tibetan:

[Peemɛ   thep   khii-pa]   the]   nee yin

Peem-ERG book   carry-PART   the   I-GEN is

The book Peem carried is mine.

(Keenan 1985, p.161)

Haspelmath (2002, p. 47) defines participles as *verb forms marking relative clauses*. However, he concedes that this is actually not universally recognized. He gives an example from Korean:

(51)   Korean Participle:

Hankwuk-ul pangmwunha-nun salam-i   nul-ko   iss-ta

Korea-ACC visit-PART   person-NOM   increase-ing be-DECL

Those who visit Korea are increasing.

(Chang 1996, p. 148)

Haspelmath adds that participles have an additional function in some languages: through the (present) participial inflection, a verb becomes an adjective (p. 230). (52) is a relevant example from German:

(52) der   im   Wald   laut   pfeif-end-e   Wanderer

      the   in-the forest loud   whistle-PART-masculine-singular   hiker

      The hiker who is whistling loud in the forest.

<div align="right">(Haspelmath 2002, p. 230)</div>

De Vries (2002) prefers to use the term 'participial relatives' (one of the non-finite relatives) for the examples that I have shown in this section. Different from normal finite inflection, the verb in relatives carries participial inflection. Kayne (1994) insists that such adjectival constructions should be considered as relative clauses. However, de Vries makes a distinction between true participle relatives and simple participle-adjective conversion. Some languages (e.g., Telugu, a Dravidian language) can show participle properties on the verb for the objects as the head noun as in (53). In German or Dutch, the head noun must be subject.

(53) Telugu:

      [Miru   naku ic-cin-a]   pustukamu   cirigipo-yin-adi.

      you-pl me   give-PRET-PART   book-NOM   tear.up-PRET-3.SG

      The book you gave me has been torn up.

<div align="right">(Lehmann 1984, p. 50, as cited in Vries 2002, p. 17)</div>

3.1.3.6. Relative Elements and Main Syntactic Types of RCs (de Vries 2002)

So far, different treatments of NP_{rel} have been identified: marking, pronominalization, movement, omission, and nominalization (NP_{rel} as a full NP). In this section, I would like to summarize these treatments and point out the relationship between some of these properties and the main relativization strategies, in line with de Vries (2002) and also Lehman (1984).

First of all, I would like to provide the framework of relative elements defined by de Vries. He classifies the relative elements as follows: (a) relative pronouns, (b) relative particles and (c) resumptive pronouns (see Table 3.2). Relative particles are subcategorized as (i) relative complementizers, (ii) relative markers, and (iii) relative affixes.

relative elements				
relative pronouns	relative particles			resumptive pronouns
	relative complementizers	relative markers	relative affixes	
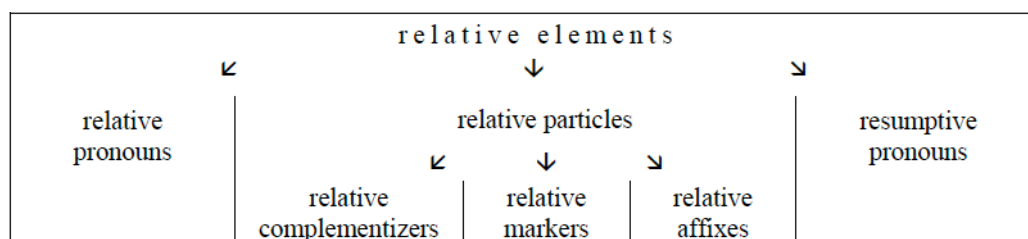
Table 3.2 - Relative elements (de Vries 2002, p. 62)

De Vries shows that relative pronouns can have three different formats: *wh*-format, *d*-format and a specialized format as mentioned in Section 3.1.3.1., in which relative pronouns may use *wh-* interrogative particles as in English 'who', 'which'. However, in English relative pronouns as wh-interrogative particles are not wh-moved which differ from question sentences with wh- particles. Relative pronouns can simply be pronominal, see Section 3.1.3.2., like German relative pronouns. In addition, relative pronouns can have special morphemes, like Hindi 'jo', see (17a).

De Vries explains further relative complementizers, relative markers and relative affixes. Relative complementizers, the first type of relative particles, are located in the complementizer position and no movement is observed. English 'that' and Persian 'ke' (see (9d)) are given examples of relative complementizers. On the other hand, relative markers, the second type of relative particles, are located in the first position of the relative clause and somewhat show agreement with the head noun. Relative markers can either be observed in non-classifier languages (e.g., classical Arabic: 'al-la-di') or in classifier languages (e.g.., Hungana: 'wi', 'ki', 'yi', and Wolof: 'g-u') (further examples can be obtained from de Vries 2002). The third type, relative affixes, are affixes that are added to the verb for the purpose of relativization. One of the examples is from Tibetan (see 50), namely participial relatives. Turkish relatives also use relative affixes, which differ according to subject, or object. Furthermore, in Turkish relativization also varies depending on different tense readings (see also Göksel & Kerslake 2005).

Resumptive pronouns, as briefly mentioned in Section 3.1.3.1., are either personal pronouns or demonstratives. Such resumptive pronouns are also observed in correlatives; however, they are located within the matrix clause and relative clauses may additionally have relative pronouns. De Vries distinguishes both in terms of the position of the element: *resumptive pronouns are in situ, or at least not sentence initial* (p.173).

De Vries provides a possible mapping between these relative particles and the syntactic typology of relative clauses. In Table 3.3, the 'gap strategy' is also included (for further information on omission/gap strategy, please see section 3.1.3.4.)

	Relative pronouns	Relative complementizers	Relative markers	Relative affixes	Resumptive pronouns	Zero strategy
Postnominal	+	+	+	+	+	+
Prenominal	-	- (+)	-	+	- (+)	+
Circumnominal	-	- (+)	-	+	-	+
Correlative	+	- (+)	-	- (+)	-	+

Table 3.3 - Relative elements in the main syntactic types of relative clauses. (de Vries 2002, p. 176)

3.2. RCCs in the Discourse Representation Theory (DRT, Kamp & Reyle 1993) Framework

Multi-sentential constructions depend on the context. Therefore, there is a need for a theory for the representation of the semantics regarding dynamic interpretation. Discourse Representation Theory, which is based on the seminal work by Kamp (1981) and which has been further developed by Kamp & Reyle (1993), has been chosen as a helpful framework for this dissertation. DRT is based on a two-stage structure: first, Discourse Representation Structures (DRS) are constructed and then the DRS indicates relevant interpretations. It is possible to integrate new DRSs into already built discourse structures. Therefore, multi-sentential constructions will not be regarded separately (Kamp 1984). DRT is

known to solve anaphoras, donkey sentences[20], conditionals and universals.

Kamp deals with unbound anaphora for which it is important to establish connections between various referents. If new discourse referents are added, there will be more entities to be dealt with. It would be difficult to define such anaphoric referents. For instance, the first sentence in (54) includes an indefinite article. Two discourse referents, which can also be regarded as variables, are introduced. The second sentence in (54) covers two pronouns, which are linked to the previously established discourse referents. However, how is it possible to read the pronouns as variables bound to the previous discourse referents?

(54)   A man$_1$ met an attractive woman$_2$. He$_1$ smiled at her$_2$.

(Eijck 2005, p. 252)

DRT can solve this issue, because in DRT the discourse referents are free variables. The theory allows an updated version of representation structure to be constructed, so that bigger and more widely interconnected contexts can be comprised. A DRS, as shown in (55), is constructed for the first sentence. Two free variables, x and y, are defined and linked to two discourse referents, man and woman, respectively.

(55)

x, y
man (x)
woman (y)
attractive (y)
meet (x,y)

---

[20] Donkey sentences are sentences that include an anaphora between an indefinite (within a noun phrase) and a pronoun, as the famous instance between 'a donkey' and 'it', 'Every farmer who owns a donkey beats it.' Linguists have been trying to solve the problem of the semanticity of donkey sentences for a long time.

When new discourse is added, for instance 'He smiled at her' in (54), two new variables, t and z, are added. This discourse is updated with these two new variables, indicating only that the pronoun 'he' is linked to 'a man'; and the pronoun 'her' to 'a woman.' Hence, the link between 'a man' and 'he', likewise 'an attractive woman' and 'her', is shown in DRS, see box (56).

(56)

x, y, t, z
man (x)
woman (y)
attractive (y)
meet (x,y)
z = x
t = y
smile at (z, t)

DRT provides a tool for solving the unbounded pronoun issue. To see different problems and their solutions, i.e., donkey sentences, conditionals etc., the reader is referred to Kamp (1981) and Kamp & Reyle (1993).

We turn now to the representation of relative clauses in DRT. First, two sample sentences will be analyzed. As shown in (57a), there is a definite variable 'the son' and we introduce a variable to the discourse, labeling this variable as x. Then the next context includes a pronoun 'he' which is linked to the NP 'the son.' Box (57b) shows how this is interpreted as DRS.

(57)   a. The son attended a boarding school. He was insufferable.

b.
x, y
son(x)
attend_boarding_school (x)
y = x
insufferable (y)

If we present the given discourse (58a) in DRT, it is necessary to add a construction rule 'and' (CR.AND), which is one of the construction rules (CRs) as proposed in Discourse Representation Theory (DRT) (Kamp and Reyle 1993, p. 221). This CR assigns an index for each coordination, i.e. (γ, i), where 'i' represents 'index' (i=1,2,3..). The coordination representation in (58b) would be different from the representation in (57b). In this example, after indexing (i=0) the first variable 'son' and 'attending boarding school', a CR.AND rule is applied and a new index (j=1, i<j) added to express the conjunction. The brackets in (58b) show CR.AND conjunction indexes.

(58)   a. The son attended a boarding school and he was insufferable.

b.
x, y
(son(x), 0)
(attend_boarding_school (x), 0)
(y = x, 1)
(insufferable (y), 1)

The treatment of relative clauses in DRT would be different from coordinated sentence. If we analyze (59a) which is taken from Kamp & Reyle (1993, p. 256), DRS (59b) would be constructed (for details see also construction

rule CR.NRC, (p. 81)). However, a problem arises here: How is it possible to distinguish restrictive relative clauses from nonrestrictive ones?

(59)   a. Kamp & Reyle (1993, p. 255):

       The son who attended a boarding school was insufferable.

     b.

x
Son (x)
attend_boarding_school (x)
insufferable (x)

Kamp & Reyle (1993) show the difference between nonrestrictive (60a) and restrictive relative clauses (61a) in DRSs (60b) and (61b), respectively. They claim that an additional construction rule needs to be formulated for both restrictivity and nonrestrictivity.

(60) Kamp & Reyle (1993, pp. 255-256):

    a. Restrictive:

     The son who attended a boarding school was insufferable.

b.

.

x
x∈X
son (x)
attended_a_boarding_school (x)

y
y∈X
son (y)
attend_boarding_school (y)

⇒

y=x
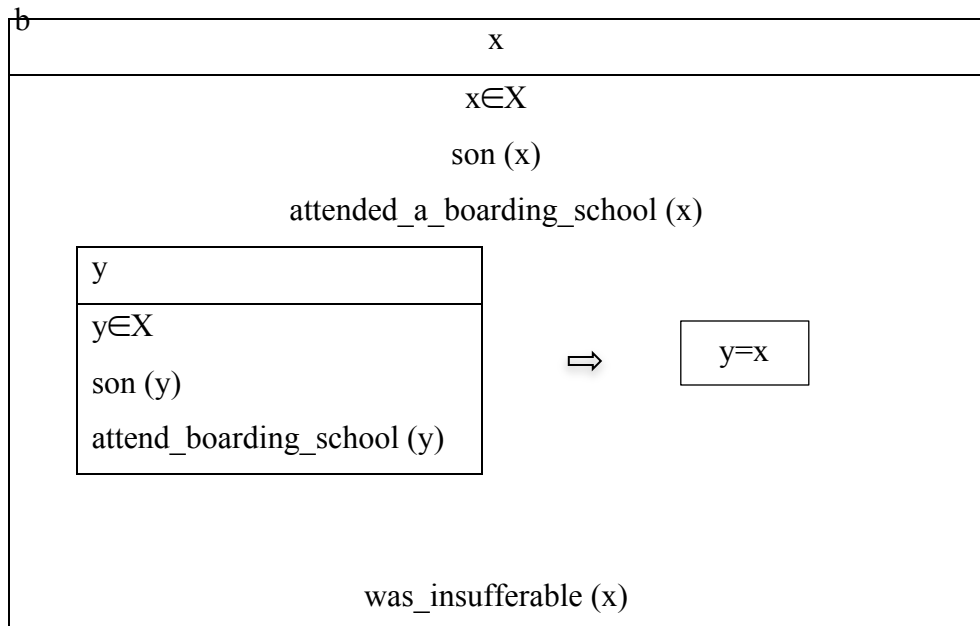
was_insufferable (x)

(61) Kamp & Reyle (1993, pp. 255-256):

    a. Nonrestrictive:

        The son, who attended a boarding school, was insufferable.

b.

x
$x \in X$
son (x)
attended_a_boarding_school (x)

y
$y \in X$
son (y)

$\Rightarrow$ | y=x |

was_insufferable (x)
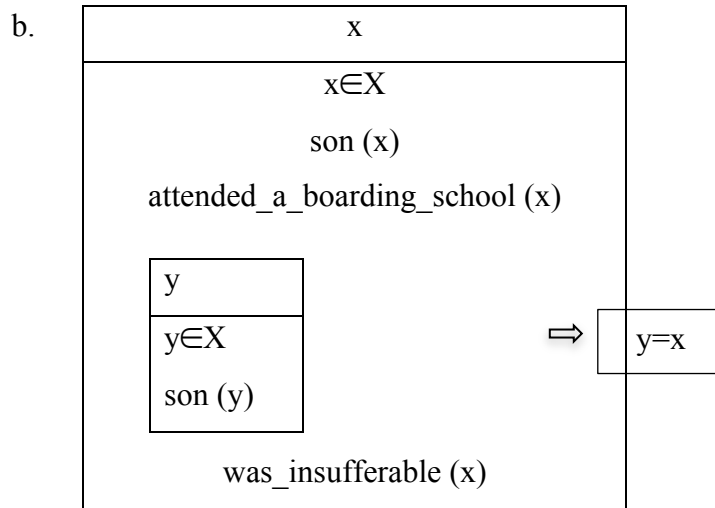
    Riester (2009, p. 71) states that this proposal regards how to differentiate the *restrictions on the definite determiner's implicitly or explicitly available context set X*. Box (61b) indicates that there is only a son attending a boarding school, whereas, box (61d) includes only the set of son. However, a criticism postulated by Riester is that the question remains of how to determine the context set.

3.3. RCCs in Sign Languages

    This section focuses on RCCs in various sign languages and their properties. The first study on RCCs in ASL was introduced by Liddell (1978). His study will be described in Section 3.3.1. Furthermore, there are also many more studies related to RCCs in ASL, namely, Coulter (1983), Fontana (1990), Miller (1990) and Galloway (2011), whose contributions will be analyzed as well.

    Detailed analyses on RCCs have been put forward for DGS and LIS in addition to ASL. The analysis of the variation among sign languages, by Perniss, Pfau & Steinbach (2007), indicates that the nonmanual markings on RCs in these three sign languages may be common, i.e. raised eyebrows. However, they

emphasize that the syntactic contributions do not necessarily have to be the same: the manual markers can also vary. For example, Pfau & Steinbach (2005b) show that DGS may have typical EHRC constructions, whereas Cecchetto et al. (2006) propose a correlative analysis for LIS relative clauses. Branchini (2014) provides a detailed comparison of RCCs in sign languages including ASL, LIS, DGS and many other sign languages.

In Section 3.3.2., Pfau & Steinbach's EHRC analysis of DGS RCCs will be investigated in detail. Section 3.3.3. is related to three different perspectives on RCCs in LIS, by Cecchetto et al. (2006), Branchini & Donati (2009), and Brunelli (2011).

3.3.1. RCCs in American Sign Language

Liddell's (1978) prominent studies on relative clauses in ASL described a particular nonmanual marker performing as a restrictive relative clause in response to Thompson's (1977, as cited in Liddell 1978) statement of ASL not having 'syntactic subordination.' The basic description of the nonmanual marker was a back head tilt, raised eyebrows and tensed upper lip. After signing the relative clause, these nonmanual markings change immediately (62). The nonmanual markings are indicated as 'r' in the following example sentence (62). This sentence has two possible readings because it lacks the relative pronoun 'that' (p. 80). It is also difficult to derive from its context because the dog can either chase the cat or vice versa.

(62) _____ r

RECENTLY DOG CHASE$^+$ CAT   COME HOME

(1) *The dog that recently chased the cat came home.*

(2) *The cat that the dog recently chased came home.*[21]

(Liddell 1978, p. 66)

---

[21] There are two possible interpretations, which leads to ambiguity in the English translation. According to Liddell, the head is internal, not external; therefore, the head noun – DOG or CAT – is not easily identified. One of the ways to determine the head is the context and semantic plausibility.

Liddell distinguishes between conjunction (see 63a) and subordination (63b, in that case, a restrictive relative clause). When sentence (62) is compared to sentence (63b) which includes a conjunction BUT, one can see that the nonmanual markings cannot be exploited in conjunctions. The conjunction BUT and the nonmanual subordination feature 'r' are mutually exclusive.

(63)

    a. [RECENTLY DOG CHASE CAT] BUT   [NOT-YET COME HOME]
      The dog recently chased the cat but hasn't come home.

    b.   <u>   </u> r
      *[RECENTLY DOG CHASE CAT] BUT [NOT-YET COME HOME]
      The dog which recently chased the cat but hasn't come home.

<div align="right">(Liddell 1978, p. 72)</div>

In addition, Liddell described optional relative conjunctions, namely the sign THATa, which can be used for testing whether a sentence includes a relative clause. This manual marking may be located between head noun (subject) and verb, as shown in (64). According to Liddell, if the subject DOG were outside of the scope, in other words if it were to be an external head, the sentence would be understood as the first interpretation.

(64)   <u>   </u> r
    RECENTLY DOG   THATa CHASE$^+$ CAT   COME HOME

    (1) *The dog that recently chased the cat came home.*
    (2) *The cat that the dog recently chased came home.*

<div align="right">(Liddell 1978, p. 75)</div>

There are two more THATs, whose functions are different from THATa, which are indicated as THATb and THATc, respectively. *To make the sign THATb, the forearm remains nearly vertical with the wrist cocked back slightly* (ibid., p.

77). THATb can be a part of a relative clause but its function is *to give the addressee a chance to signal the signer that he knows which person or thing the relative clause is describing* (ibid.). On the contrary, THATc has the meaning 'That's the one.' (ibid), which is different from THATa, in that THATc has a initial backward movement. THATc is usually located at the end of the sentence or occurs alone (65). Liddell claims THATc is outside of the scope of the relative clause and that it is obligatory when the relative clause is located at the end of the utterance. Again, the ambiguity still continues since two referents DOG and CAT are within the scope of the nonmanual.

(65)   i^{22}
 ———————————————————————
  ———————————————————————————————— r

    'ME' FEED [[DOG BITE CAT THATb]$_S$ THATc]$_{NP}$
    (1) *I fed the dog that bit the cat.*
    (2) *I fed the cat that the dog bit.*

(Liddell 1978, p. 76)

As shown in (62) and (64), there are two possible interpretations, which leads to ambiguity in the English translation. According to Liddell, the head is internal, not external; therefore, the head noun – whether DOG or CAT – is not easily defined. One of the ways to determine the head is the context and semantic plausibility. In addition, sentence (62) includes a temporal adverbial (i.e., RECENTLY), which is located before the head noun (either CAT or DOG) (see also Pfau & Steinbach 2005b). Such relative clauses are called Internally Headed Relative Clauses, *IHRC,* which occur only in OV languages (Cole 1987), as typology suggests.

    Liddell (1978) provides examples for the EHRC type in ASL, in which the head is outside of the scope of the relative clause's nonmanual marker, as shown

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[22] The sign THATb is emphasized (intensified) during the relative nonmanual marker which is notated as 'r'. Liddell (1978) adds 'i' notation so as to indicate the intensification on the word THATb. (p.76)

in (66). Therefore, ASL may utilize two different types: internally headed and externally headed relative clauses.

(66)
$$\overline{\qquad\qquad\qquad\qquad\text{r}\qquad}$$
ASK$^{[X:'him']}$ GIVE$^{[X:'me']}$ [DOG [URSULA KICK]$_S$ THATc]$_{NP}$
I asked him/her to give me the dog that Ursula kicked.

(Liddell 1978, p. 85)

Following Liddell's (1978) publication, Coulter (1983) pointed out that there was almost no distinction between nonmanual signals used in topicalization and relativization. Furthermore, Fontana (1990) offered the criticism that it would be wrong to describe ASL relative clauses as IHRC.

Coulter (1983) shows that Liddell's evidence does not indicate that restrictive relative clauses are subordinates. Coulter assumes ASL is a young creole and has 'young' syntactic constructions. Even terms considered as restrictive relative clauses are more constrained than in English (p. 317), as indicated by the ungrammaticality of all three examples in (67):

(67)

a.
$$\overline{\qquad\qquad\qquad\qquad\qquad\qquad\text{i}\qquad}$$
$$\overline{\qquad\qquad\qquad\qquad\qquad\text{r}\quad\underline{\text{nod}}}$$
*LONG-AGO HAVE KING, HAVE BEAUTIFUL DAUGHTER, THAT.
Once upon a time there was a king who had a beautiful daughter.

b. $\overline{\qquad\qquad\qquad\qquad\text{r}\qquad}$
* PEOPLE LIVE GLASS HOUSE, BETTER NOT THROW$_{+distr.+ indefinite.}$
People who live in glass houses better not throw things around.

c.   r

    * PERSON COOK MEAT, SHAKE PEPPER TOO-MUCH.

    The person who cooked the meat put too much pepper on it.

<div align="right">(Coulter 1983, p. 310)</div>

The head in restrictive RCs in ASL cannot provide new information (HAVE BEAUTIFUL DAUGHTER), as in (67a). The head noun with generic readings (PEOPLE) cannot be relativized either in (67b). Furthermore, if the addressee does not know the entity (PERSON), this entity cannot be included in the relative clause (67c).

Coulter shows that the topic and restrictive relative clauses share the same NP (GREEN-THAT) (68a). In addition, there are such examples in which there is no shared NP (ROOMMATE - I) (68b):

(68)

    a.   r

    GREEN, THAT PRO+1 WANT.

    (You know) the green one(?), that one I want.

    b.   r

    REMEMBER   ROOMMATE   BUY   CAR,   NOW   NOT+MUST BICYCLE COMMUTE.

    Remember (my) roommate bought a car(?), now (I) don't have to commute by bicycle.

<div align="right">(Coulter 1983, pp. 312-313)</div>

According to Coulter, the NP not being shared, the head nouns in the position of topic, as well as the similarities between nonmanual markings between topics and relativization, may indicate that such syntactic constructions are indeed either conjunction or adjunction, i.e., paratactic rather than hypotactic constructions.

Fontana (1990) discusses further the resemblance of the nonmanual markings in restrictive relatives and the topic-comment structure in ASL. Topic and comment structures usually use referents which are known by both speaker and addressee, in line with Chafe (1976). Furthermore, topic-comment structures generally use 'locating verbs' like LOOK-AT, KNOW, and REMEMBER (Fontana 1990, p. 245). Wilbur (1994b) suggests that pseudoclefts[23] are preferred instead of generic heads in relative clauses and that the head includes locatives or temporals like WHERE, WHEN, as shown in (69a) and (69b), respectively.

(69)

a. <u>   br</u> [24]

DON(fs)[25] CUT WHERE, GARAGE

Where Don cut something/got cut was in the garage.

b. <u>   br</u>

MARY(fs) EXERCISE WHEN, TUESDAY, THURSDAY NIGHTS

It's ON TUESDAY AND THURSDAY NIGHT when/that Mary exercises.

(Wilbur 1994, p. 654)

Wilbur & Patschke (1999) clarify the issue of whether or not brow-raise in ASL is only connected to old information. They provide some examples where markings with brow-raise are not necessarily used for old-information, i.e., in conditionals and contrastive topicalizations. As a result, Coulter's claim that brow-raise is a topic marker in ASL is not fully acknowledged. Similarly, Dachkovsky & Sandler (2009) reject Coulter's generalization in Israeli Sign Language (ISL); topics and relative clauses are not accompanied by a brow-raise. According to them, percentages of facial action units for relative clauses in their ISL data are as

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[23] Wilbur (1994b) uses the term "pseudoclefts" for sentences that include two parts with the first part resembling an interrogative sentence and the second part including the answer to this first interrogative part. According to Wilbur, pseudoclefts have the function of backgroundıng (the question part) and foregrounding (the answer part).
[24] Here, 'br' stands for brow raise.
[25] Here, 'fs' stands for fingerspelling.

follows: upper lip raise (50%), squint (85%) and head forward (67%). However, the nonmanual expressions for topics and relative clauses have features in common even in ISL. (Relative clauses in ISL will be discussed in Section 3.3.4). Yet, the issue of distinguishing 'topics' and 'relative clauses' still remains in question.

Galloway (2011) provides a different aspect of relative clauses. ASL uses two relativization strategies: correlative and nominalization. The determiners 'point' and THAT generally occur in relative clauses. In a rare case, SELF is used as determiner (see also 70c). ASL correlatives may have a resumptive pronoun in the matrix clause, like 'pt$_a$' (pointing) in (70a), as well. In the correlative strategy, the nonmanual marking is brow-raise but not tensed upper lip. In such strategies, the use of two determiners is regarded as ungrammatical, as in (70b). On the contrary, relative clauses using the nominalization strategy have two different possibilities: subject relatives are accompanied by raised brows and tensed upper lip; object relatives are preferably accompanied by a nose-wrinkle.

(70)

    a. Correlative:

       [pt$_a$ GIRL BUY DOG]$_S$ pt$_a$ STUDY FRENCH

       The girl who bought the dog studies French

    b. Correlative but not nominalization:

     * [THAT   GIRL pt$_{girl}$ TEACHER PUNISH]   pt LOVE PRINCIPAL

       The girl that the teacher punished loves the principal.

    c. Subject relative & nominalization:

       [GIRL BORROW BOOK] SELF1] GONE

       The girl who borrowed the book is missing.

    d. Object relative & nominalization:

       [BOOK pt$_{book}$ DOCTOR BORROW pt] MISSING

       The book the doctor borrowed is missing.

(Galloway 2011)

Galloway does not explain why the sentences in (70) are distinguished as being correlatives and nominalizations. However, she points out that heads with non-agreeing verbs are utilized with a determiner. The agreement verbs in relatives may give us a clue about the use of determiners, relativizers or relative pronouns.

3.3.2. RCCs in German Sign Language

Pfau & Steinbach (2005b) denote that relative clauses in German Sign Language (DGS) are postnominal externally-headed relative clauses with a relative pronoun, like German relative clauses. The head nouns are not exhibited within relative clauses. In addition, relative pronouns are utilized to refer to the head noun. Pronouns can vary according to human and non-human referents, glossed as SELBST (RPRO-h) (Relative pronoun-human) (71a) and INDEX (RPRO-nh) (Relative pronoun-non-human) (71b), respectively (Figure 3.1). Only RPROs are accompanied by nonmanual markers, which resemble the nonmanual marking used for topicalization in DGS. The special nonmanual markers here are glossed as 're', as indicated in the DGS relative clause examples (71):

(71)

    a.   <u>   re   </u>

        [MAN (IX$_3$) [RPRO-H$_3$ CAT STROKE]]

        the man who is stroking the cat

    b.   <u>   re   </u>

        [BOOK [RPRO-NH$_3$ POSS$_1$ FATHER READ]$_{CP}$]$_{DP}$

        the book which my father is reading

                                         (Pfau & Steinbach 2005b, p. 512)
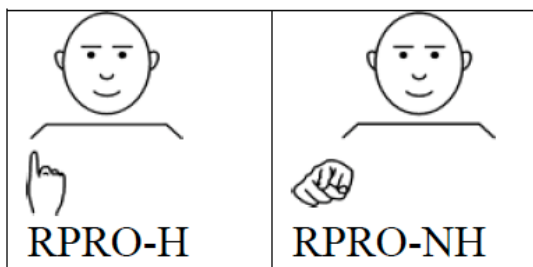
Figure 3.1 - Two relative pronouns: RPRO-H (human entities) and RPRO-NH (nonhuman entities) (Pfau & Steinbach 2005b, p. 512)

RPRO-NH is formationally similar to pointings (see Figure 3.1). Therefore, Pfau & Steinbach states that IX and RPRO-NH cannot be practically produced sequentially. On the other hand, the form of RPRO-H is phonetically different from IX and therefore RPRO-H can be uttered after IX (for details see Section 5.2.3.1.).

Pfau & Steinbach (2005b, p. 512) provide two arguments as to why they label these constructions as EHRC: *a) DGS always makes use of a relative pronoun, b) temporal adverbials preceding the head noun have scope over the main clause* (72a). The use of resumptive pronouns is not observed in DGS, in fact, such pronouns are not used to disambiguate referents (72b). Therefore, we can conclude that DGS does not seem to have correlative constructions; instead, DGS exhibits externally headed relative clauses.

(72)

a.
$\qquad$ re

YESTERDAY [MAN (IX$_3$) [RPRO-H$_3$ CAT STROKE]]ARRIVE

The man who is stroking the cat arrived yesterday.

*The man arrives who stroked the cat yesterday.

b.
$\qquad$ re

MAN (IX$_{3a}$) [RPRO-H$_{3a}$ WOMAN IX$_{3b}$ (*IX$_{3a}$) LIKE $_{3b}$PAM$_{3a}$]

the man who the woman likes

(Pfau & Steinbach 2005b, pp. 513-514)

Liddell (1978) shows that ASL RCs may have an ambiguity in relative clauses, i.e., which head noun is relativized (see again (62)). Pfau & Steinbach (2005b) claim that such ambiguity does not occur in DGS because of the relative pronouns, which specify the head nouns. However, they observe some internal ambiguity within the relative clause, see (73a). Such internal ambiguities can be resolved by either contextual information, by using agreement verbs like HELP in (73b), or PAM (Personal Agreement Marker, for details please see Rathmann 2000):

(73) internal ambiguity in DGS:

$$\overline{\qquad\qquad \text{re} \qquad\qquad}$$

a. [WOMAN (IX$_3$) [RPRO-H$_3$ MAN EXAMINE]$_{CP}$]$_{DP}$

the woman who is examining the man

the woman who the man is examining

$$\overline{\qquad\qquad\qquad \text{re} \qquad}$$

b. [WOMAN (IX$_{3a}$) [RPRO-H$_{3a}$ MAN INDEX$_{3b}$ $_{3a}$HELP$_{3b}$]$_{CP}$]$_{DP}$

the woman who is helping the man

*the woman who the man is helping

(Pfau & Steinbach 2005b, p. 514)

According to Pfau & Steinbach (2005b), relative clauses in DGS allow center-embedding (74a). However, this does not mean that extra-positioning or post-positioning is disallowed. As shown in (74b), when the head noun and the relative clause are located in the topic position, and this is indicated with special nonmanual markers, they can be fronted. Nevertheless, fronted RCs are favored. DGS also allows extraposition (74c). In sum, the position of RCs in DGS can be in situ (74a), fronted   (74b), or else extraposed (74c):

(74)

$$\overline{\hspace{5cm}}^{\text{re}}$$

a. INDEX1 [BOOK [RPRO-NH3 POSS1 FATHER READ]] BUY

I bought the book that my father is reading.

$$\overline{\hspace{5cm}}^{\text{top}}$$

b. [BOOK [RPRO-NH3 POSS1 FATHER READ]] INDEX1 BUY

The book that my father is reading, I bought (it).

$$\overline{\hspace{2cm}}^{\text{re}}$$

c. INDEX$_1$ [BOOK INDEX$_3$] BUY [RPRO-NH$_3$ POSS$_1$ FATHER READ]

(DGS, Branchini et al. 2007, pp. 7-8)

In sum, compared to ASL RCCs, DGS exhibits externally-headed RCs with an obligatory relative pronoun, which can vary between human and non-human entities. This shows that relative clauses in sign languages have syntactical variation (Perniss et al. 2007). Now, we turn to RCCs in Italian Sign Language (LIS).

3.3.3. RCCs in Italian Sign Language

Cecchetto et al. (2006) and Geraci (2007) argue that LIS exhibits correlative constructions and observe that the clauses in RCs are indeed two separate elements. Hence, they reject the claim of universality among sign languages, giving examples from correlative structures in LIS, and claiming that relativization is language-dependent, instead of modality-dependent. On the other hand, Branchini (2006) and Branchini & Donati (2009) think differently, in fact they show that relative clauses are IHRC (PE-clauses) in LIS with a specific sign called PE.

Branchini, Donati, Pfau & Steinbach (2007) agree that signed languages use various relativization strategies. Furthermore, Brunelli (2006, 2011) states LIS may use both IHRC (PE-clauses) and EHRC as a relativization strategy. He refers to de Vries (2002) who also showed that many spoken languages do have more than one relativization strategy. In Section 3.3.3.1, correlative constructions in LIS

are discussed. Section 3.3.3.2. is concerned with PE-clauses. The EHRC strategy proposed by Brunelli will be introduced in section 3.3.3.3.

3.3.3.1. RCCs in LIS as Correlatives

Cecchetto et al. (2006) showed glossed Italian sentences to three native LIS signers for elicitation of LIS relative clauses. The authors of this study demonstrated four different types of (written) Italian relatives (see 75) to participants, which are externally headed, in order to obtain different relativization strategies (i.e., subject, object relativization) in LIS:

(75) Four different categories in Italian glosses:

    a. A boy [that *e* called] left

    b. Mary kissed a boy [that *e* left]

    c. A boy [that Mary kissed *e*] left

    d. John hit a boy [that Mary kissed *e*]

<div align="right">(Cecchetto et al. 2006, p. 947)</div>

LIS signers preferred to use head internal correlative constructions. Correlative clauses come before the matrix clause and LIS exhibits relative pronouns which are glossed as PROREL, functioning as demonstrative morpheme. Some nonmanual marking is also observed: raising eyebrows (labeled as 're'). The LIS glosses for each sentence are shown in (76) below:

(76)

    a. LIS glosses for (75a)

      i.   <u>   re   </u>

        BOY_i CALL $PROREL_i$ LEAVE DONE

      ii.   <u>   re   </u>

        BOY_i CALL $PROREL_i$ HE_i LEAVE DONE

b. LIS glosses for (75b)

    i. MARIAi BOY$_j$ cl-person KISS$_{i-j}$ PROREL$_j$ LEAVE

    ii. MARIA$_i$ KlSS$_{i-j}$ BOY$_j$ cl-person$_j$ PROREL$_j$ LEAVE DONE

c. LIS glosses for (75c)

    i. BOY$_j$ MARIA$_i$ KISS$_{i-j}$ PROREL$_j$ LEAVE

d. LIS glosses for (75d)

    i.   GIANNI BOY$_j$ HIT$_{z-j}$ IXi-PROREL$_j$ MARIA$_i$ KISS$_{i-j}$

<div align="right">(Cecchetto et al. 2006, pp. 953 - 4)</div>

Cecchetto et al explored three alternative analyses for each gloss: (i) externally headed relative clauses, (ii) correlative constructions and (iii) internally relative clauses. According to their analyses, they argue that LIS has correlative constructions.

The head noun of the relative clause in (76c-i), BOY$_j$ seems to be external. However, they asked the informants whether temporal adverbs, which can be used in relative clause contexts, come before the head noun or not. Sentence (77), which is analog to (76a), shows that temporal adverbs precede the head noun and therefore cannot be analyzed as externally headed relative clause. Interestingly, PROREL seems to be uttered in the same nonmanual marking scope as in (76a) and (76b) which may mean that PROREL is not regarded in the matrix clause. This condition may lead us to misinterpret them as externally headed.

(77)

    [YESTERDAY   **BOY$_i$** CALL   PROREL$_i$] TODAY LEAVE

    A boy that called yesterday left today.

<div align="right">(Cecchetto et al. 2006, p. 958):</div>

The sentence above resembles either internally headed relatives or correlatives, because the head noun is located within the relative clause. According to the

authors, however, these constructions cannot be internally headed (Cecchetto et al. 2006, p. 966):

> *First, there is no overt indication of the NP character of the PROREL clause (case marking, presence of determiners, etc.). Second, PROREL clauses always occur at the left periphery of the sentence. All examples that involve PROREL clauses in central positions are rejected by our informants. One instance of this fact is …. [(78)] …. with the brackets required by the internally headed analysis*:

(78)   *MARIAi [$_{NP}$ BOY$_j$ LEAVE PROREL$_j$]   KISS$_{i-j}$ DONE

(ibid, p. 966)

Maria kissed a boy [that *e* left]

(ibid, p. 961)

In addition, the head noun in the relative clause cannot be repeated in the matrix clause. Sentence (79) shows that the reduplication of the head noun is regarded as ungrammatical.

(79) The example is derived from Branchini & Donati (2009, p. 8):

<u>   re   </u>
*DOG$_i$ CAT CHASE PE$_i$ DOG$_i$ HOME COME DONE
The dog that chased the cat came home.

Cecchetto et al. (2006) argue the semantic analyses show that such LIS constructions are not restrictive, either. For instance, sentence (80a) has two possible interpretations. The native LIS consultants think such a sentence means that all the relevant boys must have left. The authors argue that (80a) has a closer meaning to the second interpretation 'All the boys left and called.' rather than the boys that left called, because the interpretation 'All the boys that left called' does

not cover the meaning 'all the boys left,' however, (80a) sentence has a such meaning (p. 954). This may give us a clue that the semantic property of relative clauses in LIS does necessarily have to be restrictive. Furthermore, PROREL constructions cannot take negative quantifiers like NOBODY/NO-ONE as in (80b). The final argument is that PROREL also permits proper name antecedents, in which case the meaning of the relative clause must be appositive. As a result, Cecchetto et al. show that LIS correlatives do have non-restrictive interpretations.

(80)

    a. ALL BOY$_i$ –IX LEAVE PROREL$_i$-THEY$_i$ CALL DONE

      Two interpretations:

      All the boys that left called.

      All the boys left and called.

    b. Negative Quantifier (p. 968)

     * NOBODY LEAVE PROREL CALL

     ?Nobody who left called

    c. PROREL permits also having proper name antecedents

                                          (p. 955, footnote 10):

     GIANNI$_i$ CALL PROREL$_i$ LEAVE.

     Gianni, who called, left.

                                     (Cecchetto et al. 2006, p. 968)

3.3.3.2. RCCs in LIS as Circumnominals

Branchini & Donati (2009) and Branchini (2006) provide a new framework for relative clauses in LIS, different from the one Cecchetto et al. (2006) first proposed. They prefer to label such bi-clausal constructions as 'PE-clauses', due to the existence of a specific sign called PE, which *co-occur with the silent articulation of a labial stop* (p. 7). PEs are equivalent to PRORELs, in which way Cecchetto et al. proposed to label them. In spite of different labels, they appear to be identical signs. In the rest of this section, I will use the name 'PE-clauses' to

refer to them. Branchini and Donati intend to analyze these bi-clausal constructions as IHRC.

Data from three informants is obtained in a relative clause elicitation task in Branchini & Donati's work. Two of the informants are from Ancona and the other is from Rome. In addition, Branchini has a variety of other data at her disposal in her dissertation: (i) a corpus of naturalistic LIS data, (ii) a corpus consisting of some elicited data from research done at the University of Milan Bicocca, and (iii) a corpus of elicited data which mainly consists of elicitations from seven native deaf signers from Rome, Ancona and Pesaro. Both studies mainly refer to the area of Rome and Ancona.

As for the elicitation task in Branchini's dissertation, the native signers are exposed to a situation or a setting with some context, in which there are some referents (i.e. three women) who are described in terms of their actions and properties, so that they can answer some elicitation questions referring to that contextual information. For example, a question like *Which woman left early?* is expected to be answered like *The woman who did not talk to anyone left early.* (p. 16).

PE-clauses in LIS have two important properties: (i) the presence of PE and (ii) the presence of nonmanual markers. Branchini & Donati (2009, p. 7) describe the sign PE in details: *PE is realized manually with the index finger stretched out and shaken downwards*. PE signs also interact with signing space, the movement of PE is directed at the location of the head noun. The nonmanual marker for correlatives in LIS has only been identified with eyebrow-raise by Cecchetto et al. (2006). Branchini & Donati add some more realized facial expressions: *tension of eyes and upper cheeks* (p. 7).

They show two different bi-clausal constructions to compare coordination and subordination (here, relative clauses). The main distinction between (81a) and (81b) is the existence of PE and nonmanual markers in the PE-clause, which is glossed as 'rel' in this section:

(81) a. DOG$_i$ CAT CHASE (IX$_i$) HOME COME DONE

The dog chased the cat and came home.

b. <u>   rel</u>

DOG$_i$ CAT CHASE PE$_i$ (IX$_i$) HOME COME DONE

The dog that chased the cat came home.

<div align="right">(Branchini & Donati 2009, p. 6)</div>

Branchini & Donati agree that such constructions are not externally headed and free relatives as Cecchetto et al. claim. The head noun occurs in the PE-clause and temporal adverbs for the context in the relative clause may precede the head noun. The rest of their competing analysis concerns correlatives and IHRC. As opposed to Cecchetto et al., Branchini & Donati argue that PE-clauses are extraposed internally headed RCs. They argue on the grounds of three pieces of evidence: (i) the nominal status of PE-clauses, (ii) the correlation between PE and head noun and (iii) extraposition.

The first piece of evidence for extraposed IHRCs in LIS is the nominal status of PE-clauses. According to Branchini & Donati, the sign PE has a nominalization and determiner function. (82a) shows an example for nominalizing the head noun HOUSE, with raised brows (which is glossed as 'rb'). If PE can be found in nominal contexts, it is also possible to nominalize the clause itself. PE can either take the determiner position or nominal position, as for instance, PE in (82b), or be located at the end of the PE-clause, as in (81b):

(82)

<u>   rb </u>

a. HOUSEi PEi ANNAi IXi BUY WANT

It is a house that Anna wants to buy.

<u>   rel</u>

b. CHILD PE COMPETITION WIN TEACHER PRIZE GIVE

The teacher gives a prize to the child who has won the competition.

<div align="right">(Branchini & Donati 2009, pp. 13-14):</div>

An index can follow the PE sign, as shown in (81b). The parentheses indicate the optionality of the index. Branchini & Donati describe the co-referentiality in correlatives where the PE-clause can co-refer to a pointing or a gap. They show another example for co-referentiality: the PE-clause can co-refer to quantifiers (83) (p. 14):

(83)

$$\underline{\dots \qquad\qquad\qquad\qquad \text{rel}}$$

BOY$_i$ EXAM DONE PE$_i$ PASS NOBODY

No boy that took the exam passed.

Branchini & Donati provide one more piece of evidence: extraposition. In the analysis of correlatives, the position of the (cor)relative is left (left-adjoined). However, they argue that PE-clauses are in fact extraposed (to the left). One indication of this is the obligatoriness of the nonmanual markers in the PE-clause. The nonmanual notated as 'rel' which includes 'tensed eyes' somewhat tends to locate the leftmost. They do not provide any further explanation of the reason for this tendency. Another clear piece of evidence is *the sensitivity to islands* as shown below. In (84a), the relative clause disallows the 'I know' construction. *The relative clause the teacher who gave a prize is an island blocking reconstruction of the relative clause the child who wins* (p. 17).

(84)

a. $\underline{\qquad\qquad\qquad\qquad\qquad\qquad \text{rel}}$

[CHILD$_i$ COMPETITION WIN PE$_i$] [IX KNOW TEACHER PRIZE ~~CHILD COMPETITION WIN PE~~ GIVE]

I know that the teacher gave a prize to the child who won.

b. *[CHILDi COMPETITION WIN PE$_i$] [TEACHER$_k$ PRIZE ~~CHILD COMPETITION WIN PE~~ GIVE-PE$_k$] [IX KNOW]

I know the teacher that gave a prize to the child who won.

<div align="right">(Branchini & Donati 2009, pp. 17-18)</div>

Branchini et al. (2007) lists the possible positions of PE-clauses in LIS. For instance, sentence (85a) shows that relative clauses cannot split the matrix clause. They have to be located either before the matrix clause (85b) or immediately after it (85c). As opposed to DGS, as shown in (74a), LIS does not allow center-embedded.

(85)

<div align="center">rel</div>

a. * TEACHER [CHILD$_i$ COMPETITION WIN PE$_i$] PRIZE GIVE$_i$

The teacher gives a prize to the child who wins the competition.

<div align="center">rel</div>

b. CHILD$_i$ COMPETITION WIN PE$_i$ TEACHER PRIZE GIVE$_i$

<div align="center">rel</div>

c. TEACHER PRIZE GIVE$_i$ CHILD$_i$ COMPETITION WIN PE$_i$

<div align="right">(Branchini et al. 2007, p. 4):</div>

If we consider the semantic analysis of LIS (cor)relatives, Cecchetto et al. argue LIS correlatives are non-restrictive, as mentioned earlier; however, Branchini and Donati show that LIS PE-clauses tend to be restrictive. They provide several good tests for the restrictivity of PE-clauses. Before introducing these tests, I would like to provide some counter-arguments against the Cecchetto et al. examples (80a,b), provided by Branchini (2006).

Cecchetto et al. show non-restrictivity using the semantic interpretation of quantifiers in (cor)relatives. For example, in (80a), which is repeated here for convenience in (86a), with a slight modification, the quantifier ALL can be applied to both the (cor)relative and matrix clause; in other words, the interpretation yields 'all the boys left' and 'all the boys called', as indicated in the interpretation (80b).

Branchini compares this unexpected interpretation to a non-restrictive example (86c) in English, which is an EHRC. As shown in the English version, the quantifier 'all' is external to the relative, because 'all' is combined with the NP. Likewise, ALL in LIS can be internal to the relative which does not necessarily lead to interpret this as a non-restrictive relative. If the quantifier is in the relative clause as in (86d), this also yields a similar interpretation. Branchini and Donati (2009) call this 'unexpected entailment'. Thus, if ALL is considered as internal to the relative, it is possible to obtain a restrictive reading.

(86)

    a. ALL BOYS$_i$ LEAVE PE$_i$ THEY$_i$ PHONE[26]

                               (see also Cecchetto et al. 2006, p. 968)

    b. All the boys left and phoned.

    c. All the boys, who left, phoned.

    d. ? The boys who all left phoned.

                                     (Branchini 2006, p. 174)

      Cecchetto et al. also show the impossibility of using negative quantifiers in (cor)relatives (80b), which is repeated in (87a). Even in English, which permits both appositive and restrictive readings, it is not permitted to use 'nobody' in both readings. Because these arguments may lead to the wrong interpretations, Branchini & Donati (2009) think they do not satisfactorily support the non-restrictive reading.

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[26] Branchini (2006) uses the examples from Cecchetto et al. (2006, p. 968). She prefers to use PHONE instead of CALL, because she thinks the context is clearer to readers.

(87)

    a. *NOBODY LEAVE PE PHONE DONE

<div align="right">(see also Cecchetto et al. 2006, p. 968)</div>

    b. *Nobody, who left, phoned.

    c. *The boys who nobody left phoned.

<div align="right">(Branchini 2006, pp. 174 -175)</div>

In addition, Branchini & Donati, list the testing criteria for the restrictivity of PE-clauses (see Table 3.4). They compare English appositive and restrictive clauses to LIS PE-clauses. They conclude LIS PE-clauses behave like restrictive clauses (Table 3.4). For example, LIS PE-clauses cannot take sentential adverbs in their scope (for English samples, see Ogle 1974). The head in PE-clauses cannot be a pronoun nor a proper name; while PE-clauses may include ordinal heads. The head of PE-clauses can be under matrix negation. PE-clauses allow stacking[27] ellipsis reconstructions. Finally, PE-clauses are within the scope of intentional verbs, such as 'to think'. Such properties cannot be applied to appositive readings. Thus, Branchini & Donati clarify the restrictivity of PE-clauses. The reader is referred to their article for LIS examples.

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[27] "Stacking" is defined as to *internal recursion namely the in the possibility for the relative CP to contain an antecedent modified by another relative clause*. (Branchini 2006, p. 64) Recursive is the opposite of the linear embedding (stacking).

Property	Restrictive	Appositive	LIS RC
1. Sentential adverbs	No	Yes	No
2. Pronominal antecedent	No	Yes	No
3. Matrix negation	Yes	No	Yes
4. Stacking	Yes	No	Yes
5. Proper name antecedent	No	Yes	No
6. Ordinal head	Yes	No	Yes
7. Intentional Verbs	Yes	No	Yes
8. Ellipsis reconstruction	Yes	No	Yes

Table 3.4 - Testing restrictivity of LIS PE-clauses and comparison with English
appositives and restrictives (Branchini & Donati 2009, p. 30)

3.3.3.3. RCCs in LIS as EHRC

Brunelli (2006) observes a different relativization strategy: externally headed relative clauses in LIS, in addition to correlatives (Cecchetto et al. 2006) and left-extraposed internally headed relative clauses (Branchini & Donati 2009). Another difference that Brunelli notices is that there are sentences without the PE sign, which means the PE sign may not be obligatory (compare 88a and 88b).

(88)

a. <u>   tense cheeks</u>

<u>   tense eyes </u>

VESTITO ROSSO IX1-2 IERI VEDERE CLnum+pos (IX1) COMPRARE

FATTO

cloth   red   I-you yesterday see CLASSIF. I   buy-PERF

The red cloth that we saw yesterday among the others, I have bought it.

b.   <u>tense cheeks</u>

<u>   tense eyes </u>
VESTITO ROSSO PE IX1-2 IERI VEDERE CLnum+pos (IX1)

COMPRARE FATTO
cloth   red   (pe) I-you yesterday see CLASSIF I   buy-PERF

(Bertone 2007, pp. 71-72 as cited in Brunelli 2011, p. 237)

Bertone (2007) distinguishes two nonmanual markers: (i) tense cheeks and (ii) tense eyes. The scopes of both nonmanual markers do not have to be the same. Tense cheeks indicate definiteness and topicalization whereas tense eyes indicate restrictiveness. When the nonmanual marker 'tense eyes' is analyzed, in both sentences in (88), the head noun is not within the scope of 'tense eyes'. Therefore, it is still difficult to ignore the analysis of EHRC. This is comparable to Brunelli's (2006) analysis, which suggests the following nonmanual markers: (i) raised eyebrows and (ii) a 'smiling' effect (which is equivalent to 'tense cheeks and eyes'). He also claims tense cheeks and eyes are associated with restrictive relative clauses. Thus, eyebrow raise is observed in (89a), which has a restrictive reading, but not in (89b), which does not have a restrictive reading; however, both exhibit tense cheeks and eyes. If the sentences are carefully considered, the temporal adverbs follow the head noun and are not within the scope of tense eyes and cheeks. Consequently, Bertone suggests LIS also exhibits externally headed relative clauses.

(89)

a. _____ raised eyebrows

_____ tense eyes/cheeks

BOOK DIX$_{LFT}$ YESTERDAY FATHER$_{RGT}$ $_{LFT}$BUY$_{RGT}$ TOMORROW IX$_1$ READ$_{LFT}$

Tomorrow I will read the book that my father bought yesterday.[28]

b. _____ tense eyes/cheeks

MAN YESTERDAY $_1$SIGN$_{MID}$ DIX$_{MID}$++ SISTER PIX$_1$ ENGAGED TOGETHER$_{MID}$

IX$_{MID}$ IX$_{MID}$_____

The man I spoke to yesterday (and) my sister are engaged. or

The man I spoke to yesterday is engaged to my sister.[29]

(Brunelli 2006, pp. 71-72)

Brunelli also investigates non-restrictive relative clauses in LIS. He asserts that nonmanual markers in appositives would be slightly different. Lack of tense eyes and cheeks would indicate appositive readings in LIS relatives. He suggests that sentence (90) is regarded as appositive relative clause. Here again, the head noun is not within the scope of raised eyebrows. However, he proposes that the eyebrow-raise does not indicate apposition but topicalization, as in (90);

---

[28] "DIX" stands for a demonstrative pronoun, *which usually serves also as 3 person strong personal pronoun* (Brunelli 2011, p. 41).
[29] Brunelli (2011) prefers to use LFT (left) and RGT (right) abbreviations to indicate where the indexes are localized in order to disambiguate third personal pronouns or pointing, i.e. located at the left or right.

(90)

          <u>   raised eyebrows   </u>

MARCO$_{MID}$ YESTERDAY IX$_1$ IX$_{MID~1}$SIGN$_{MID}$ DIX++$_{MID}$ STUDENT GOOD FIRST

IX$_{MID}$

Marco, who I spoke to yesterday, is my best student. or

Marco, to whom I spoke to yesterday, is my best student.[30]

(Brunelli 2006, p. 68)

Note that the nonmanual behaviors defined in Branchini & Donati (2009) do not include eyebrow-raise. Since Brunelli (2006) suggests that brow raise gives the sentence nonrestrictive readings, Branchini & Donati have not looked at nonrestrictive readings.

Brunelli (2011) compares the previous examples with sentences in DGS which have been argued to be postnominal EHRCs. As shown in (71ab), (72ab) and (91a), the nonmanual markers occur only at PROREL. (91b) (which is repeated here for convenience from 74b) also shows that the relative clause and the head noun can be in a topicalized position. If the head noun is topicalized, the nonmanual markers spread over the relative clause.

(91)

    a.   <u>   rel   </u>

        IX$_1$ [BOOK$_{3a}$ [RPRO-NH$_{3a}$ POSS$_1$ FATHER READ]] BUY

        I bought the book that my father is reading.

    b.<u>   top</u>

        [BOOK$_{3a}$ [RPRO-NH$_{3a}$ POSS$_1$ FATHER READ]] IX$_1$ BUY

        The book that my father is reading, I bought (it).

(DGS, Branchini et al. 2007, p. 6)

Brunelli (2011) concludes that LIS also exhibits postnominal EHRCs as one of the relativization strategies. In addition, the nonmanual markers 'eyebrow-

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[30] Brunelli (2006) uses MID code for the 3rd person which is located between signer and addressee (p.5).

raise' and 'tensed cheeks' function distinctively. In other words, 'eyebrow raise' is associated with topicalization, while 'tense cheeks' marks restrictivity in relative clauses. Therefore, it is also possible for LIS to produce appositive relative clauses.

3.3.4. RCCs in Other Sign Languages

The literature review on relative clauses in sign language is not restricted to American Sign Language, German Sign Language and Italian Sign Language. There are also some examples of RCCs in other sign languages. In this dissertation, I would like to present sample RCCs and their properties in Brasilian Sign Language (LIBRAS), Catalan Sign Language (LSC), Hong Kong Sign Language (HKSL), Israeli Sign Language (ISL) and Sign Language of the Netherlands (NGT).

Nunes & Quadros (2004) presented an example of RCCs without a complementizer in LIBRAS. They gloss relative clauses as 'r', however, there is not a specific explanation for how they are realized. As (92) indicates, the head noun does not appear within the scope of relative clause markers. Hence it can be assumed that LIBRAS may have a postnominal EHRC construction as in DGS , as presented by Pfau & Steinbach (2005b). In addition, LIBRAS may also exhibit IHRC-like constructions (Quadros, personal communication, as cited in Branchini et al. 2007, p. 9).

(92) LIBRAS:

    GIRL   [BICYCLE FALL]$_r$ IS HOSPITAL

    The girl that fell off from the bicycle is in the hospital.

<div align="right">(Nunes & Quadros 2004, p. 5)</div>

Mosella Sanz's (2011) investigations on Catalan Sign Language (LSC) suggest that RCs are circumnominal. It is necessary to note that both correlatives and internally-headed RCs exhibit circumnominal properties, i.e., the head noun is realized in the relative clause which differs strikingly from EHRC constructions. A nominalizer, MATEIX, can be preceded by a relative clause but this is not obligatory - compare (93a) and (93b). The sign MATEIX has a lexical meaning,

'the same', however, the function of MATEIX does not seem to be related to this lexeme. Mosella Sanz suggests that MATEIX has gained nominalizing function through grammaticalization over time. Mosella Sanz prefers to label this sign as a nominalizer because it can be used in different contexts: e.g., RED MATEIX 'the red one' or POSS$_1$ MATEIX 'mine.'

(93) LSC:

$$\overline{}^{\text{rel}}$$

a. TEACHER IX$_1$ SON HELP+++ MATEIX IX$_1$ PLANT GIVE

I gave a plant to the teacher who has helped my son a lot.

$$\overline{}^{\text{rel}}$$

b. TEACHER IX$_1$ SON HELP+++ IX$_1$ PLANT GIVE

(Mosella Sanz 2011)

The nonmanual markers, here glossed as 'rel', are raised eyebrows, body lean and squinted/tensed eyes. However, Mosella Sanz specifies that eyebrow-raise is compulsory, while squint is optional for shared information (see also ISL, Dachkovsky & Sandler 2009). Mosella Sanz's descriptions of nonmanual markers used in relative clauses may indicate that restrictive relative clauses in LSC are realized with squint/tensed eyes. Furthermore, spreading of the nonmanual markings over the relative clause is compulsory, if MATEIX is absent. Otherwise, it is sufficient to indicate the nonmanual markers only on MATEIX, and spreading can vary, e.g., starting from MATEIX and going back up to the beginning of the left boundary of the relative clause. However, MATEIX is occasionally favored as in (94a), in order to distinguish restrictive relative clauses from counterfactual conditionals (94b). Note that the nonmanual markers for both constructions are the same: raised eyebrows 'rb' and squint:

(94) LSC:

<u>   rb+squint   </u>

a. PERSON SMOKE NO NEG MATEIX LAW TOBACCO SUPPORT

The person who has never smoked supports the anti-smoking law.

<u>   rb+squint   </u>

b. PERSON SMOKE NO NEG   LAW TOBACCO SUPPORT

Relative clause reading:

The person who has never smoked supports the anti-smoking law.

or counterfactual reading:

If a person has never smoked, s/he would support the anti-smoking law.

(Mosella Sanz 2011)

Mosella Sanz (2011) investigates the possible positions of relative clauses. Relative clauses cannot be located within their matrix clause (95a). However, relative clauses can be either fronted (95b) or extraposed/postposed (95c). Such a finding is also in common in LIS PE-clauses (Branchini et al. 2007). Branchini's examples can be seen in (85).

(95) LSC:

a. * JOAN [YESTERDAY BOOK BUY IX$_1$ MATEIX] BRING NEG.

Joan has not brought the book that he bought yesterday.

<u>   rel   </u>

b. [YESTERDAY BOOK BUY IX$_1$ MATEIX] JOAN BRING NEG.

<u>   rel   </u>

c. JOAN BRING NEG [YESTERDAY BOOK BUY IX$_1$ MATEIX].

(Mosella Sanz 2011)

Tang, Prudence & Lee (2010) investigated relativization strategies in Hong Kong Sign Language (HKSL). The nonmanuals for relative clauses in HKSL are as follows: brow raise, occasionally forward head movement and eye contact with the addressee. However, Tang et al. distinguish between two different IX types

exhibited in relative clauses: (i) clause-initial IX (96a) and (ii) clause final IX (96bc). The nonmanual markers for each IX seem to differ: while clause-initial IX is accompanied by brisk pointing and gaze to the location of the nominal referent, clause-final IX is marked with a hold on the IX sign accompanied with an open mouth and eye contact with the addressee. It seems that the first IX is related to definiteness, whereas the last IX is a determiner/relativizer. However, according to Tang et al., final IX are not necessarily utilized when the referents and the nonmanual markers are clearly uttered (for instance, 96a). They argue that relative clauses in HKSL are indeed head internal, since temporal adverbs may precede head nouns and have scope over the relative clauses.

(96) HKSL:

$$\overline{\qquad\qquad\qquad\text{rel}\qquad}$$
a. [IX$_i$ FEMALE$_i$ CYCLE] TOMORROW pro$_i$ FLY BEIJING.

   The lady who is cycling will fly to Beijing tomorrow.

$$\overline{\qquad\qquad\qquad\text{rel/bl}^{31}}$$
b. Hey!   IX$_3$ LIKE [IX$_i$ MALE$_i$ EAT CHIPS IX$_i$].

   Hey! She likes the man that is eating chips.

$$\overline{\qquad\qquad\text{rel/bl}\qquad}$$
c. Hey! [IX$_i$ MALE$_i$ EAT CHIPS IX$_i$] IX$_3$ LIKE t$_i$.

   Hey! She likes the man that is eating chips.

(Tang et al. 2010)

Their HKSL signers/informants prefer fronted relative clauses as in (96a) and (96c); however, relative clauses are also possible in situ (96b). They do not clearly state whether it is possible to post-pose relative clauses.

Nespor & Sandler's (1999) seminal work on phonological phrases and prosody in Israeli Sign Language (ISL), which is a head complement language, includes a sample of relative clauses (97). The head noun 'book' in (97) is not

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[31] Tang et al. (2010) use the abbreviation bl for eye blinks. In RCCs in HKSL, eye blink is one of the prosodic boundary markers.

realized in the relative clause; hence, the sample is head external and non-restrictive. The researchers show that the pause between intonational phrases (not phonological phrases), i.e., between the relative clause and main clause in (97), has an important role in defining the characteristic border of the subordinate clause.

(97) ISL:

> [books he write past] I [I like] I [deplete] I
> *The books he wrote, which I like, are sold out.*[32]

<div align="right">(Nespor & Sandler 1999, p. 22)</div>

Sandler (2011) defines various functions of some nonmanual elements. 'Squint' is one of them, which is occasionally observed in Israeli Sign Language. Squint is essential to mark restrictivity in relative clauses. But its functions also include referring to the past, counterfactual conditionals and so on. Sandler explains (p. 311):

> *It is associated with constituents whose status is negotiated between the interlocutors as retrievable, and is interpreted as an instruction to retrieve mutually accessible information that is not currently prominent in the discourse. The idea that intonation can signal shared knowledge between the speaker and the addressee is developed for English in Pierrehumbert and Hirschberg (1990).*

Dachkovsky & Sandler (2009) observe squint mostly in restrictive relative clauses in ISL as in (98). Relative clauses which are not marked by squint are generally accompanied by brow raise. According to their analyses of Facial Action Units (AUs) in relative clauses, the percentages are as follows: 50% Upper lip raise (AU 10), 85% Squint (AU 44) and 67% Head forward (AU 57). Sandler points out that there is a strong difference between appositive relative clauses and relative clauses, in line with Brunelli (2011).

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[32] Here, 'I' stands for intonational phrases which Nespor & Sandler (1999) define as *the constituent that dominates the phonological phrase in prosodic hierarchy* (p. 9).

(98) ISL:

                                             Squint

HOUSE INDEX I TOGETHER-WITH-YOU SEE   INDEX RENT

Finally we rented the apartment that I'd seen together with you.

                           (Dachkovsky & Sandler 2009, p. 305)

Dachkovsky & Sandler do not describe the syntactical properties in ISL and the examples in both (97) and (98) do not include a relative marker such as a complementizer or a relativizer. However, in (98), an IX after the sign HOUSE and an IX in the matrix clause occur. The first IX seems to take the determiner position. It is fairly parallel with the sample in LIS (82b). Furthermore, (97) seems to have EHRC properties, whereas (98) seems to be an IHRC. Since it has not been tested whether these examples are IHRCs or EHRCs, it is difficult to say which relativization strategy ISL prefers.

In his dissertation, Brunelli (2011) investigates relative clauses in Sign Language of the Netherlands (NGT), in addition to LIS. He has collected a data set of relative clauses in NGT, which is based on elicitations from a NGT signer who is translating Dutch relative clauses. NGT may exhibit EHRCs, as shown in (99a) and (99b), in line with DGS, because the temporal adverb YESTERDAY occurs after the head noun. Brunelli does not mention specific nonmanual markers for relative clauses other than topic markers, which are realized with raised eyebrows.

(99) NGT:

    a.   top   top

       MAN NIX_{LFT} YESTERDAY IX_1 $_1TALK_{LFT}$ $ENGAGED_{LFT}$ TWO_{RGT}

                                   SISTER IX_{RGT}

The man I talked to yesterday and (my) sister are engaged.[33]

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[33] Brunelli (2011) labels nominal index as NIX. He defines the nonmanual index as the index that is *used to assign a location to those nouns which cannot be articulated in the desired location* (p. 41).

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b.   <u>   </u> top

RED PEN YESTERDAY IX2 2GIVE1 TODAY FALL BREAK

The red pen you gave me yesterday today has fallen and broken.

(Brunelli 2011, pp. 241-242)

Brunelli uses NGT relative clause examples to show the differences in nonmanual markings in relative clauses in LIS and NGT. For instance, in the LIS sentence (100), which is semantically equivalent to (98b), a topic nonmanual marker is not exhibited, although LIS does have a specific marker for topics. Brunelli uses this cross-linguistic difference as evidence for distinguishing nonmanual markers for topics and relative clauses.

(100) LIS:

     <u>_ _ _ _   tense eyes/cheeks</u>

PEN RED YESTERDAY LOAN GIVE TODAY FALL BREAK [LIS]

The red pen I lent you yesterday today has fallen and broken.

(Brunelli 2011, p. 248)

3.3.5. Cross-Linguistic Variation of Relativization in Sign Languages

Relativization strategies in the 8 sign languages presented above may be unique. Cross-linguistic variation is a clue for understanding the relativization phenomenon in the sign modality (for a detailed comparison see Branchini 2014). In this section, the intent is to compare relative clauses in sign languages in terms of their (i) relativization strategy, (ii) relative elements, (iii) position of RCs and (iv) accompanying nonmanual markers. However, it should be noted that there are competing approaches to similar constructions; for instance LIS being correlative or extraposed internally headed, which has been discussed in detail in section 2.2.3. Therefore, some observations may overlap. Furthermore, some sign languages may also exhibit different strategies and/or various relative elements and so on. Besides this, the abbreviation 'n.d.' (not documented) is used for areas which have not been studied and documented yet. However, the methodologies of these

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studies vary and there have been few corpus-based studies on RCCs in signed languages, which is why these comparisons might differ after the possible realization of other relativization strategies in different sign languages.

Three relativization strategies have been observed so far: (i) EHRCs, (ii) IHRCs and (iii) correlatives. However, the strong similarity in formation between IHRCs and correlatives may lead to some perplexity. For instance, Branchini & Donati (2009) and Brunelli (2011) show that Cecchetto et al.'s (2006) (cor)relatives in LIS are indeed IHRCs. Therefore, in Table 3.5, a question mark is added to the correlative analysis for LIS relatives. Likewise, Galloway (2011) suggests ASL exhibits correlatives but she does not provide any clear evidence for distinguishing IHRC and correlative analyses. If we assume that these constructions are, in fact, internally-headed, there are two main strategies in sign language, so far: EHRCs and IHRCs. Interestingly, no samples of prenominal IHRCs have been noted. Rather, postnominal EHRCs are preferred, as in DGS, LIBRAS and NGT. However, Brunelli (2011) points out that some appositive LIS may have postnominal EHRC properties, if nonmanual markers are analyzed separately, i.e., brow raise refers to topicalization and tensed eyes/cheeks are related to restrictivity. Similarly, Sandler (2011) and Dachkovsky & Sandler (2009) indicate that brow raise does not necessarily have to mark restrictive relative clauses in ISL. The relationship between relativization strategies and (non)restricitivity should not be disregarded, i.e., appositive relative clauses prefer EHRC constructions whereas restrictive relative clauses are generally internally-headed. If the correlation between relative clause types and their semantic classifications is correct, we can see that postnominal RCs allow non-restrictive constructions (de Vries 2002). DGS does not seem to exhibit internally-headed relative clauses (see Pfau & Steinbach 2005b). This is not surprising because postnominals can have restrictive readings. However, the high incidence of IHRCs among the other listed sign languages gives a hint at the fact that DGS may exhibit a circumnominal strategy as well. Further research and a bigger data set is needed for such a decision.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
Postnominal	+	+	-/+	+	-	n.d.	+?	+
Prenominal	-	-	-	n.d.	-	n.d.	n.d.	n.d.
Circumnominal	+	-	+	+	+	+	+?	n.d.
Correlative	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.

Table 3.5 - Main relativization types and sign languages

Table 3.6 lists which relative elements in sign languages have been documented, up to now. In the list, relative particles (relative complementizers, relative markers and relative affixes) are not presented because relative clauses do not seem to exhibit such particles. According to Table 3.6, DGS, having postnominal EHRC constructions (Pfau & Steinbach 2005b), exhibits relative pronouns, which can vary in terms of human properties. Other documented postnominal EHRCs do not seem to have obligatory relative pronouns; however, Cecchetto et al. (2006), in their correlative analysis of LIS, suggest that (cor)relatives may include relative pronouns. However, Branchini (2006) and Branchini & Donati (2009) show that PE signs are obligatory determiner-like elements for relative clauses. Similarly, ASL exhibits relative conjunctions (Liddell 1978), which function as a determiner. Galloway (2011) also shows that there may be resumptive pronouns and special elements like SELF in ASL, as well. Mosella Sanz (2011) presents the special nominalizer MATEIX in LSC. Similarly, HKSL exhibits clause-initial IX and clause final IX (Tang et al. 2010). Except for DGS, all sign languages documented here can have the zero marking strategy.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
Relative pronouns	n.d.	+	-/+	n.d.	-	n.d.	n.d.	n.d.
Resumptive pronouns	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.
Zero strategy	+	-	+	+	+	n.d.	+	+
Special Signs	THAT	n.d.	PE	n.d.	MATEIX	IX	n.d.	n.d.

Table 3.6 - The use of relative elements in sign languages

The position of relative clauses may vary among sign languages, as well (Table 3.7). Postnominal EHRC constructions occasionally seem to be in situ, whereas, internally-headed RCs prefer to locate the relative clause and head noun before the matrix clause, as in LIS and LSC. However, Branchini et al. (2007) and Mosella Sanz (2011) indicate that LIS and LSC may exhibit post-posed relative clauses but not as a preferred option.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
In situ	EHRC	+	-/+	+	-	+	EHRC	+
Fronted	IHRC	+	+	n.d.	+	+	IHRC	n.d.
Extraposed /postposed	?	+	+	n.d.	+	n.d.	n.d.	n.d.

Table 3.7 - The positions of relative clauses in sign languages

Table 3.8 shows which nonmanual markers accompany relative clauses in various sign languages. LIBRAS is not included in the table because there is no documentation of nonmanual markers for relative clauses in this sign language. The incidence of eyebrow-raise seems to be high in relative clauses in sign

languages, but not in ISL. However, Dachkovsky & Sandler (2009) state that relative clauses without squint are accompanied by brow-raise. Brunelli (2011) shows that brow-raise in LIS may be used to mark topicalization; whereas tensed eyes/cheeks mark restrictivity. Apart from DGS, LSC, HKSL and NGT, tensed lips, tensed cheeks, tensed eyes, or else squint, are the most frequently observed nonmanuals in relative clauses. I think these four different nonmanual markers show a high similarity and all of them are strongly related to marking the status of familiarity of the referents (shared information, Dachkovsky & Sandler 2009). Body and head positions can also be important nonmanual markers, but they are not consistently used among sign languages. Besides, there seem to be different nonmanual markers for appositives and EHRC types (as in DGS or ISL).

	ASL	DGS	LIS	LSC	HKSL	ISL	NGT
Eyebrow raise	+	+	+	+	+	?	+
Tensed lips	+					+	
Tensed cheeks			+				
Tensed eyes / Squint			+	+		+	
Back head tilt	+						
Head forward					+	+	
Body lean		+		+			

Table 3.8 - Non-manual markers for (non)restrictive relative clauses[34]

3.4. Summary

The previous sections in this chapter show different relativization strategies, different semantic categories and different relative markers across a variety of spoken and sign languages. For example, Branchini (2014) observes that three factors regarding relativization in sign languages seem to be commonly present:

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[34] The empty slots in the table do not indicate that certain nonmanual elements referring to relative clauses has been disproven. The table only indicates the different types of nonmanual elements observable in RCCs in theory and marks those cases that have been mentioned in the literature thus far.

(i) existence and marking of nonmanuals in relative clauses, (ii) presence of (optional) nominalizer element and (iii) similarity between nonmanuals of topicalized constructions and relative clauses (pp. 172 - 173).

Each language surely shows unique sets of properties and some languages exhibit two strategies or even more. Sign languages are not well researched in the domain of relative clauses but the documentation of relative clauses up to now indicate that sign languages favor either postnominal EHRCs or IHRC (circumnominal) constructions. Relative clauses are always realized with special nonmanual markers; in addition, special relative elements can also occur.

Relative clauses in ASL, which are documented in detail by Liddell (1978), are accompanied by eyebrow raise, tensed lips and a slight head tilt. ASL favors IHRC constructions; however, ASL can also exhibit EHRC types. ASL has a special relative conjunction element, THAT, which optionally follows the relative clause and is realized in its scope.

DGS prefers EHRC types, including obligatory relative pronouns (Pfau & Steinbach 2005b; Branchini et al. 2007). Relative pronouns can vary in terms of human properties. The scope of the nonmanual marker raise 'eyebrow' seems to be only over the relative pronoun. However, in fronted relative clauses, where the head noun and the relative clause are in the topic position, the nonmanual can spread over the head noun, relative clause and relative pronoun. Pfau & Steinbach do not document any other type of relativization in DGS.

Cecchetto et al. (2006) suggest that LIS exhibits relative pronouns and typical correlative relative clauses with non-restrictive properties. These constructions are marked by eyebrow-raise. However, Branchini (2006) and Branchini & Donati (2009) show that such relative clauses are extraposed IHRCs which include an obligatory determiner-like element, the 'PE' sign; therefore they label such constructions as 'PE clauses'. In addition to brow-raise, tensed eyes/cheeks are realized in PE-clauses. The semantic interpretation of PE clauses is restrictive. Brunelli (2006; 2011) suggest further analyzing eyebrow-raise and

tensed eyes/cheeks and then deciding whether LIS may also exhibit postnominal EHRC.

Other sign languages are also suggested to have relative clause-like constructions. LIBRAS and ISL may exhibit both EHRCs and postnominal IHRCs (Nunes & Quadros 2004; Dachkovsky & Sandler 2009). Restrictive relative clauses in ISL are not predominantly accompanied by eyebrow-raise. Rather, squint plays a big role to indicate restrictiveness, as in Brunelli's (2011) suggestion for LIS relative clauses. On the other hand, relative clauses in LSC are circumnominal (IHRCs) and include an optional relative element MATEIX (Mosella Sanz 2011). Likewise, Tang et al. (2010) suggest that RCs in HKSL represent IHRC-like constructions with either clause-initial IX or clause-final IX or both. On the contrary, some relative clauses in NGT indicate that NGT may exhibit DGS-like constructions without any overt relative pronouns, i.e. postnominal EHRCs. In conclusion, various types of relative clauses in sign languages indicate that RCCs are language-specific, in spite of big commonalities between the properties.

CHAPTER 4: METHODOLOGY

The goal of this dissertation is to analyze relativization strategies in TİD in various discourse modes and the properties of relativization strategies. Therefore, I constructed a small set of corpora including potential relative clauses in discourse modes, e.g. narrative, descriptive, informative, argument and report (Smith 2003).

4.1. Data Collection

The data for the present thesis was collected in two ways: (i) data obtained via elicitation and (ii) videos shared publicly. The aim is here to obtain naturalistic, spontaneous data collected for the purpose of observing the nature of relativization in various discourse modes. Since I am bilingual, using both Turkish and TİD, I am able to discriminate as to the degree of reliability in data collected in naturalistic settings. In addition, three informants (one native and two near-native signers) were asked to watch the videos and judge the sign language competency of the signers in those videos. Consequently, I conducted a small-scale corpus study with these videos. The data sets were annotated.

Data elicitation was conducted with three TİD signers (one native, two near-native signers). Their ages range from 32 to 47 years. As Boudreault and Mayberry (2006) show, the age at which sign language was acquired is an essential factor for sign language competence. Therefore, this issue was taken into consideration and the participants had to satisfy three criteria provided by Mathur & Rathmann (2001, p. 7): (i) *exposure to a signed language by the age of three*, (ii) *capability to judge with ease whether or not a sentence is grammatical* and (iii) *daily contact with a signed language in the Deaf community for more than 10 years*. My informants used mostly the Ankara dialect of TİD. Note that the Ankara dialect may differ from the Istanbul dialect but that these distinctions are based mainly in the lexicon, rather than in the grammar (Kubus 2008). However, to date there has not been a detailed survey of the sociolinguistic variations in TİD. The participants were asked to tell stories from their own life, narrate an anecdote from their childhood, and retell the plots of their favorite series/movies, which include many potential referents. A Panasonic Handycam PV-GS9 MiniDV Digital

Camcorder was used as a recording device. The data collected using elicitation tasks/retelling stories provided nine potential relative clauses. The amount of relative clauses thus fell short of expectation. There was a clear need for more relative clause samples in order to collect a wider variety of relative clause strategies that would allow for acceptable generalizations. Therefore, in addition to data obtained via elicitation, 16 videos, covering a wider range of potential RCCs, were selected to be annotated. The links of these videos that are shared publicly can be seen in Appendix A. The video-clips are predominantly monologues signed by eleven participants (6 female and 5 male), who come from Ankara, Eskişehir, İstanbul and İzmir. Four of them are native signers, whose parents are deaf signers. Besides these individuals, 5 near-native and 2 nonnative (but fluent) signers are also included. Five of these participants did not satisfy one of the criteria defined above, i.e. the acquisition of sign language by the age of three. Therefore, three different informants watched the monologues of these participants and stated that their signing was acceptable. These video clips are the second and last part of the corpus. The videos were annotated for further linguistic analyses. The entire data collection comprises of a total of 21 video clips (see Appendix B). Subjects who participated in the data elicitation tasks are labeled as Participant A; whereas subjects whose narrations have been shared publicly are labeled as Participant B. In sum, the duration of the video clips is approximately 3 hours.

4.2. Data Annotation

As a literature review revealed, no resources such as corpus studies exist for Turkish Sign Language. Therefore, a corpus for answering the research questions in this thesis was constructed. The sign language corpus on Turkish Signs is annotated using iLex ('integrated Lexicon', Hanke 2002). iLex is a complex system which enables the user to transcribe words in the sign modality. The transcriptions are stored in a database and can be worked on at the same time by more than one transcriber. Data can be retrieved by SQL queries. One of the advantages of this software is the possibility of importing data to other programs

like ELAN[35] and Signstream™[36]. The reasons why iLex was chosen as annotation tool lie in its unique characteristics, as pointed out in the following.

iLex mainly differs from other annotation and transcription software in terms of the relation between types and tokens, because *iLex transcriptions do not consist of sequences of glosses typed in and time-aligned to the video* (Hanke & Storz 2008, p. 64); rather, it includes sequential tokens and types referring to similar tokens. This process is known also as the 'lemmatization process', which means grouping signs (i.e. tokens) with different modifications (i.e. inflections, phonological alternations) into a base sign (i.e. type), so that these signs can be investigated as a single group. (ibid.) In addition, the iLex software can also note information about the data such as what kinds of data elicitation were made, or background information about the participants. Time alignment can be viewed either vertically or horizontally. The advantage of the bottom-up view is that *each smallest interval of interest here occupies one row, irrespective of its length* (Hanke & Storz 2008, p. 64).

4.2.1. Tier Construction

Hanke & Storz (2008, p. 65) list different types of tiers. In the following, I present the three tiers which are most often used in this study: (i) token tier, (ii) structure tier, and (iii) text tier. First, the token tier includes tags for each sign or sign constellation. Subsequently, the structure tier includes a group of token tiers with relation to specific targets, i.e. in this dissertation possible relativizations. The last tier group, the text tier*,* covers simple text tags in which further built-in vocabularies can be joined, for instance, mouthing/mouth gestures or nonmanual expressions. iLex provides a function for constructing a hierarchical structure of tiers, i.e. it is possible to construct superordinate tiers (for details see Hanke & Storz 2008).

The small-scale corpus in this study includes thirteen tiers (Table 4.1).

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[35] The ELAN Annotation Software is a free software supplied by the MPI, Nijmegen (http://tla.mpi.nl/tools/tla-tools/elan/).
[36] SignStream software ™, Trustees of Dartmouth College & Trustees of Boston University & Rutgers the State University of New Jersey, has been developed by Carol Neidle, Dawn MacLaughlin, Benjamin Bahan, Otmar Foelsche, Judy Kegl, and David Greenfield (Neidle 2001, p. 1). It is downloadable at http://www.bu.edu/asllrp/signstream/downloads.html

Only one tier, labelled chunks, is a structure tier and the tier 'token' is a token tier. The other tokens are text tokens. The tiers connected to nonmanuals use a special feature called 'Mimiks' (mimics) and the mouthing tier uses the 'Mund' (mouth) feature. Such features include built-in elements so that users may select a property from among the elements. Only the chunk type tier is subordinated under the chunks tier.

	Label	Function
1	Chunks	ID of each chunk
2	MC	The boundaries of matrix clause
3	RC	The boundaries of relative clause
4	Token	Glosses of both main clause MC and subordinate clause RC
5	Index	Marking index or other relative elements
6	NMM-MC	Non-manual markers for matrix clause (general)
7	NMM-RC1	Non-manual markers for relative clause part 1 (head movements)
8	NMM-RC2	Non-manual markers for relative clause part 2 (eyebrow)
9	NMM-RC3	Non-manual markers for relative clause part 3 (squint)
10	Mouth	Mouthings/ Mouth gestures specifying RC
11	Chunk Type	List of sentence types (e.g. declarative, interrogative, etc.)
12	Tr	Turkish translation equivalents of relative clauses
13	Eng	English translation equivalents of relative clauses

Table 4.1 - Lists of the tiers in small scale corpus

4.2.2. The Process of Annotation and the Top-Down Approach

Corpus linguistics covers various approaches with various goals for linguistic and especially discourse analyses (Conrad 2002). Conrad summarizes four corpus linguistics approaches for discourse analyses in spoken languages: (i) *Investigating characteristics associated with the use of a language feature* (p. 78), (ii) *Examining the realization of a particular function of language* (p. 81), (iii) *Characterizing a variety of languages* (p. 83) and (iv) *Mapping the occurrence of a language feature through a text* (p. 84). In the next paragraphs, each approach is explained and an argument is made as to whether such an approach suits the current dissertation.

According to Conrad (2002), the first approach is much more focused on a language feature, for example a word or a phrase or else a grammatical structure. Conrad gives an example: investigation of the difference in the use of 'that' as a complementizer (e.g. omission or retention) between native English speakers and nonnative speakers, using this corpus linguistics approach. Indeed, in this study it is clear that it is sought for RCC. However, due to the difference in modality between written/spoken languages and sign languages, it is much more challenging to seek possible RCC in a specified corpus in this case since there is no previous research on this topic. Furthermore, there are no clear words or phrases that can specify such constructions. Rather, RCC seems to rely on prosodic constituents of the sign language (see Chapter 3).

The second approach focuses on the specific capabilities of language and how these are used within a text (Conrad 2002, p. 81). For example, Biber, Conrad & Reppen (1998) have investigated six characteristics: register, pronoun vs. noun forms, given vs. new information status, type of reference, type of expression for anaphoric reference and the distance relationships among the characteristics. One of the findings in this study was that the type of referring expression and given/new information status relied on each other (as cited in Conrad 2002). The present dissertation follows this approach more by investigating RCCs and their functions in TİD. However, the challenge regarding sign language corpora which

is mentioned in the previous paragraph persists. How this issue is resolved will be explained in the next sections with the steps that are followed in the study.

In the third approach, the primary focus is *the language variety* (ibid, p. 83). For instance, Biber (1988) has developed a methodology called 'multi-dimensional (MD) analysis' which includes a big scale of corpora with an automated analysis of linguistic features in more than two variables: for instance, various texts, text types, styles and/or registers (see also Biber 1993). In this approach, multivariate statistical techniques are essential. This dissertation investigates data comprised of four main discourse modes (Smith 2003), however, since the data is distributed quite unevenly over these modes – narrative passages were most frequent – it is difficult to conduct statistical analyses here. Rather, proportional (descriptive) and qualitative analysis are the most fitting tools for this set of data.

Another approach is tracking … *one or more features* [...] *through an entire text to determine how the features contribute to some aspect of the discourse development, such as its rhetorical organization…* (Conrad 2002, p. 84). This approach is quite close to the approach in this dissertation, with an exception: I am only focusing on RCC in TİD. Such an approach is often related to the 'top-down' approach. The two main methodologies in corpus linguistics: 'bottom-up' and 'top-down', are discussed in the next paragraphs.

Biber, Connor & Upton (2007) provide a valuable overview of 'discourse analysis' and 'corpus linguistics.' First introducing the various approaches, they list what is understood from 'discourse analysis.' They use the three general definitions of discourse provided by Schriffrin, Tannen & Hamilton (2001, p. 1, as cited in Biber et al. 2007, p. 1): (i) the study of language, (ii) the study of linguistic structures 'beyond the sentence' and (iii) the study of social practices and ideological assumptions associated with language and/or communication. The third, unrelated definition is not included in this dissertation. The study of language suits the purposes of this dissertation very well, because the dissertation aims to investigate the use of RCCs in TİD, i.e. why signers use RCCs in the text. The second definition relates more to the analysis of the series of sentences and how they are interrelated to construct a text. This definition is useful, but broader

than the focus of this dissertation, which seeks to clarify how RCCs are integrated into the text, looking at their usages and interrelations to other sentences if possible.

Biber et al. (2007) state that *Corpus linguistic studies are generally considered to be a type of discourse analysis because they describe the use of linguistic forms in context.* (p. 2). According to Biber et al, corpus studies have two perspectives: (i) looking at the distribution and functions of surface linguistic features and (ii) investigating the internal organization of texts. These researchers point out that corpus studies have surprisingly not been much focused on the combination of these two perspectives. The present dissertation is an attempt to combine these two perspectives notwithstanding the confronted difficulties (e.g. defining a small unit and relying on the semantics and prosodic properties to specify the RCC[37].)

Biber et al. also compare two major approaches to the construction of a corpus-based discourse analysis: top-down vs. bottom-up corpus-based approaches. Biber et al. (2007, p. 12) defines seven required analytical steps, as shown below:

1. Determining the types of discourse units ('Communicative Functional Categories')

2. Segmenting all texts in the corpus that can serve in these texts ('Segmentation')

3. Identifying and labeling the type (or category) of each discourse unit in each text of the corpus ('Classification')

4. Analyzing the linguistic characteristics of each discourse unit in each text of the corpus ('Linguistic analysis of each unit')

5. Describing the typical linguistic characteristics of each discourse unit type, by comparing all discourse units of a given type across the texts of the corpus. ('Linguistic description of discourse categories')

6. Describing the discourse structures of particular texts as sequences of discourse units, in terms of the general type or category of each of those units ('Text structure')

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[37] Biber et al. (2007) also discuss the challenges of defining analysis of spoken discourse (oral discourse) as for example, defining shifts of topic or specifying new topics in a text can be difficult. Spoken discourse is also comparable to sign language in the lack of a written form, thus far.

7. Describing general patterns of discourse organization that hold across all texts of the corpus ('Discourse organizational tendencies').

In both top-down and bottom-up approaches, it is desired that all seven steps be achieved. The underlying difference is the order of the steps. Table 4.2 indicates the differing orders of the steps for each approach. In the top-down approach, the primary focus is discourse analysis as a whole, and the discourse units are specified before defining corpus units. In the bottom-up analysis, corpus analysis comes first and then discourse analysis follows (Biber et al. 2007, p. 12).

	Top-down research approach	Bottom-up research approach
1	Communicative/Functional Categories	Segmentation
2	Segmentation	Linguistic analysis of each unit
3	Classification	Classification
4	Linguistic analysis of each unit	Linguistic description of discourse categories
5	Linguistic description of discourse categories	Communicative/Functional categories
6	Text structure	Text structure
7	Discourse organizational tendencies	Discourse organizational tendencies

Table 4.2 - The major differences between top-down and bottom-up corpus based research methodologies (Biber et al. 2007, pp. 13-14)

Here I will use the top-down approach outlined by Biber and his colleagues to explain each step. The first step is *to determine the set of the possible functional types* (p. 13) and then division into the discourse units (segmentation) follows. The third step, classification, is *to identify the functional type of each discourse unit in each text of the corpus* (ibid.). Then a linguistic analysis of each unit and linguistic description of discourse categories follow. Afterwards, the analysis of the whole

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text considering the units and interconnections between these units (text structure) is accomplished. The final step is *to describe the general patterns of discourse organization across all texts in the corpus* (ibid.).

The analysis and approach used in this study is inspired by the work of Biber and his colleagues. Even though there are some differences between the approach they define and the approach in this study, the core idea of the top-down approach is followed. It is essential to understand the structure of the RCCs in textual analysis.

In this study, not all of the signs were annotated. Rather, only the chunks that cover potential relative clauses are annotated in a detailed manner. Since this dissertation is based on empirical research on relativization strategies, it would be too time-consuming if each segment was transcribed in a similarly detailed manner. Therefore, it is more efficient to follow the top-down approach, i.e. to specify first the possible relative clauses in TİD and then to annotate each of them.

The corpus-based approach in this study includes seven steps. First, the boundaries of discourse chunks are defined. Second, the possible sentence types included in these chunks are listed and the chunks with potential relative clauses are flagged. Then, tokens/types are constructed for each chunk which includes possible relative clauses. Before the definition of the boundaries of each relative and matrix clause, the accompanying nonmanual markers are defined. The sixth step is to translate the chunks covering the relative clauses into English and Turkish. The final step is to determine the referents in the RCC and its familiarity status within the text (i.e. if the referents have already been introduced to the text or not.).

4.2.2.1. Step 1: The Determination of the Boundaries of Discourse Chunks

The majority of the studies comprising larger collections of sign language data, corpus studies and sign language transcription have to deal with many practical issues, one of which is: *how does one determine sentence boundaries in signed languages ?* (Crasborn 2007, p. 104). Hansen & Heßmann (2007) indicate that the form determining sentence boundaries can have one or a combination of these functions: *prosodic, semantic*, *textual*, or *pragmatic* (p. 157).

One of the ways to determine the boundaries is to explore prosodic components, i.e. dividing the utterances into 'intonational phrases' (IP) and much smaller units, namely 'phonological phrases' and so on (for a detailed prosodic hierarchy see Sandler & Lillo-Martin 2006, adapted from Nespor & Vogel 1986). However, Crasborn (2007) points out an important issue: the inconsistency of the nonmanual cues marking sentence boundaries. For instance, Hansen & Heßmann's (2007) investigation into sentence boundaries in German Sign Language (DGS) using the TPAC (topic, predications, adjuncts and conjuncts) analysis, raises the issue of the inconsistency in which (non)manual units mark the final (also internal) boundaries, which are specified by palm-up, head nod, hold, blink and change of direction. Ormel & Crasborn (2012) conclude that signers cannot determine sentence boundaries with the aid of a prosodic unit.

In the sense of Nespor & Sandler (1999) and Sandler & Lillo-Martin (2006), if we study IP boundaries, one can see that the boundaries can be marked by both manual and nonmanual units. The most frequent accompanying nonmanual units can be listed as follows: (i) eyebrows, (ii) blinks, (ii) head and body movements. On the other hand, prominence, palm-up, and hold can manually mark such boundaries, as well (see the detailed investigations of Ormel & Crasborn 2012 and Fenlon 2010).

Eyebrow movements can roughly be distinguished as (i) eyebrow raise (ii) neutral eyebrow and (iii) furrowed eyebrows (Wilbur 2000). Brow raise in ASL is known to mark syntactic constructions such as topics, left dislocations, conditionals, relative clauses, *wh*-clauses etc. However, brow raise is not used consistently in such constructions, i.e. brow raise can be applied to various linguistic structures which may bring out old information or new information (Wilbur & Patschke 1999). Wilbur (2000) aligns neutral eyebrows to assertions and furrowed eyebrows to *wh*-questions. Eyebrow movements seem to function as domain markers, rather than boundary markers. The beginning and end of the brow raise can identify the location of the IP boundaries (as for British Sign Language see Fenlon 2010).

Eye blinks seem to be strong boundary markers in ASL and ISL (Baker & Padden 1978; Wilbur 1994 and Nespor & Sandler 1999). Nespor & Sandler (p. 165) indicate that the striking similarity between breathing in spoken language and blinking in signed language, both of which function as marking boundaries, even though they are in fact a part of the autonomous biological system. Wilbur (1994a) discriminates between two types of eye blinks: (i) involuntary/periodic eye blinking and (ii) voluntary blinks (revised from Stern & Dunham 1990). Reflexive eye blinks are not included in Wilbur's work since they are not supposed to have any linguistic function, i.e. as boundary markers. Periodic blinking marks boundaries (i.e. *syntactic phrases*, *prosodic phrases*, *discourse units* and *narrative units*) while voluntary blinks are related to lexical signs (ibid, pp. 237-238). However, Sze (2008) argues that periodic blinks and voluntary blinks may occur at the same time, as it is hard to define which blinks may occur at the end of lexemes and which ones mark intonational boundaries. She proposes further categories: *(i) Type 1: Physiologically induced blinks, (ii) Type 2: Boundary-sensitive blinks, (iii) Type 3: Co-occurring with head movements and/or gaze change but not related to syntactic boundaries, (iv) Type 4: Voluntary/lexically related blinks/closures and (v) Hesitation and self-correction* (p. 95). Type 1, Type 3 and Type 5 blinks are irrelevant to marking boundaries. Rather, Type 2 blinks may mark grammatical boundaries in her HKSL data. For instance, 46.74% of eye blinks occurred at the end of sentence/signing/conversation and in sum 59,1% Type 2 of eye blinks were used as boundary markers in Sze's conversational data (p. 97). Herrmann (2009) provides similar results for DGS, where approximately 70% of blinks (i.e. intonational phrases, phonological phrases and sentence initials) reflect prosodic breaks. According to Herrmann (2010, p. 33), there is consistency in terms of the frequency of eye blinks among the signers who participated in her study, but the occurrence of eye blinks as a prosodic boundary marker in DGS is not obligatory but organized (Nespor & Sandler 1999). However, Herrmann states again that there is more than one marker indicating prosodic boundaries. Fenlon (2010) also states that 56% of the blinks collected in his data have the function of marking an IP boundary; however, he too comes to the conclusion that this result is not

enough to establish blinks as a sole boundary marker. In sum, it is inadequate to claim that blinks alone are marking those boundaries.

Head movements can be domain markers, for example a headshake can act as negation in ASL, (Wilbur 2009) and in DGS (Pfau & Quer 2010); and head tilt can do so in TİD (Zeshan 2003). However, head movements can also give a clue to boundaries in ISL (Nespor & Sandler 1999; Sandler & Lillo-Martin 2006). Wilbur (2009) lists possible functions of head nods in ASL: (i) *single head nod as boundary marker*, (ii) *repetitive head nod as a focus marker* and (iii) *head nod as assertion* (p. 254). Fenlon (2010) shows that head movements are also observed to be IP boundaries in BSL, i.e. single head movement (77%), repeated head movement (25%) and head nods (21%) (p. 102). Hansen & Heßmann (2007) imply that not every sentence boundary is marked by a head nod in particular but sometimes head nod occurrences in DGS accompany 'palm-up' gestures.

Furthermore, body leans can function as boundary markers (Nicodemus 2009). In addition, Fenlon (2010) found that torso movement can act as an IP boundary marker in BSL but leans can also signify a 'narrative function' (i.e. a role shift). According to Fenlon, if torso leans as narrative functions are left out, 36% of torso movements in his data mark IP boundaries. Fenlon (2010) notes a difference in the frequency of boundary markers occurring in different discourse modes (i.e. in his case, narratives).

On the other hand, Nespor & Sandler (1999) indicate the prominence of signs in ISL which are located at the end of phonological phrases. The manual elements (i) reduplication, (ii) hold, (iii) pause generally mark prominence. Wilbur (1999) shows also that prominence occurs on the signs at the boundaries. Hansen & Heßmann (2007) show that pauses do not have a significant role in determining sentence boundaries in DGS; however, they found that a hold can be one of the boundary markers.

In another study, Fenlon, Denmark, Campbell & Woll (2007) asked six BSL signers and six non-signers to determine the boundaries in both BSL and Swedish Sign Language (SSL) narratives. Their study reveals that the knowledge of signed language does not play a big role in determining those boundaries.

Similar nonmanual markers occur at 'strong' IP boundaries[38] in analyses in both sign languages (ibid, p. 195). For instance, the most frequently observed cues are pauses, drop hands and holds (ibid, p. 190).

Related to Turkish Sign Language, Arık (in progress) claims that there is a correspondence between sentence types and nonmanuals marking sentence boundaries in TİD. His data set includes 15 native TİD signers, who were asked to narrate their life stories. After analyzing the data, he investigated 96 declarative, 36 negative and 45 interrogative sentences. In Arık's data, eye blinks are mostly observed in declarative sentences. 22 tokens out of 96 tokens seem to be marked by eye blinks as a sentence boundary marker (final-boundary). The percentage is relatively low for accepting eye blinks as sentence boundary markers. He states also that blinks cannot be a nonmanual marker at the NP level in TİD. On the other hand, in the same data, head nod is rarely used in negative sentences; but many more head nods are realized at the final phrases compared to sentence-initial position and after the first element. Arık states that head nods may function as a boundary marker. When head-shake movements in this data are investigated, they sometimes occur at the end of negative and interrogative sentences. Another nonmanual marker, head tilt, is prominent at the end of negative sentences, which can be related to nonmanual expressions accompanied by the negation particle sign DEĞİL. Hand down seems to be the strongest boundary marker among the other nonmanuals: 44 tokens out of 96 declarative sentences, 27 tokens out of negative sentences and 21 out of interrogative sentences are hand down (Arik in progress, p. 16). He summarizes that strong candidates for sentence boundaries are hand down and blinks, and as for negative sentences, head tilt and hand down represent possible sentence boundaries; whereas, hand down and head-shake are most frequently observed in interrogatives.

In conclusion, it is fairly difficult to define clear 'sentence' boundaries in signed languages. There are many factors influencing the inconsistencies among sign languages (Table 4.3). For instance, Fenlon et al. (2007, p. 190) show the

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[38] Due to the non-isomorphism between syntactic and prosodic structures (Nespor & Vogel 1986), Fenlon and his colleagues only focused on prosodic structures and therefore only investigate intonational phrases (IP).

similarities in 'strong' cues between BSL and SSL. However, the boundaries have been defined by BSL native signers. Fenlon, et al. did not ask SSL native signers to examine the boundaries. If they had, would the results have been different? This is far from clear. Furthermore, Fenlon et al. indicate that discourse modes may have an influence, i.e. head rotation may be more frequently present in narratives. On the other hand, methodology and the size of data may have an influence as well. For example, Hansen & Heßmann (2007, p. 168) present the occurrence of the prosodic cues at the final phrases (the occurrences are converted into ratios in Table 4.3). They analyze only 20 sentences in DGS. Another example is shown by Arık, in which he shows that sentence types may influence the preferences of boundary markers occurring at sentence final position in TİD (the occurrences are shown in ratios in Table 4.3).

		BSL	SSL	DGS	TİD
Head	Head Rotation	25%	12%		
	Head Nod	45%	36%	5%	16%
	Head Movement	6%	40%		9%*
	Head Back				18%
Eye	Blinks	28%	16%	**45%**	12%
	Eye-gaze	9%	11%	**70%**	
	Eyebrows	33%	29%		
Manual	Hold	**88%**	**44%**	10%	6%
	Pauses	**50%**	**57%**		
	Drop Hands	**100%**	**100%**		49%**
	Palm-up			30%	
	Long transition			30%	

Table 4.3 - Comparison of 'strong' IP boundaries in BSL and SSL (Fenlon et al. 2007, p. 190) and final phrase boundaries in DGS (Hansen & Heßmann 2007, p. 168 – occurrences are converted into percentages) as well as in TİD (Arik in progress).*headshake **hand down

Since the "sentence" boundaries in sign languages remain relatively vague as mentioned above, further research is needed to understand how the "parts of speech" come together. It will also be necessary to include contributions from the areas psycholinguistics (including statistical learning**)** **a**nd neurolinguistics. For example, conducting a thorough analysis on how children who grow up signing acquire sign order, the structures of higher-order embedded sentences and prosodic elements in, for example, relative clause constructions could also enable us to better understand IP/sentence boundaries. Unfortunately, there have not been such attempts regarding the acquisition, production or processing of TİD. Studies on

statistical cues, such as the transitional probability (TP)[39] between syllables and words (Gómez & Gerken 1999, Saffran & Wilson 2003 as cited in Lany & Saffran 2013, p. 237) revealed that hearing 12-month-old children are sensitive to the differnce between grammatical and ungrammatical phrases, which might be a piece of evidence that they learned the probabilistic co-occurrence relationships between words (i.e. implicit language learning). Psycholinguistic studies in sign language processing have also been seeking to understand how sign language is acquired, perceived and processed (for a good summary on processing in sign languages, see Dye 2012). Dye summarizes that there has been intensive focus on formal structures of sign language, mental representations and iconicity, however,

> [...] understanding sign language requires much more than the comprehension of individual signs. The ways in which those signs are combined to form sentence-like or phrase-like blocks of meaning is also important, as is the way in which these blocks of meaning combine to provide an understanding at the level of a whole discourse. Studies of such higher-level sign processing are few (Morgan 2002, 2006) and represent a clear need for future study. (Dye 2012, p. 705)

As more research happens in sign language acquisition, processing and production as well as implicit language learning in particular, we may gain new information on how sign languages are structured and how the boundaries between phrases and clauses can be determined.

This dissertation deals with the abovementioned challenges by narrowing down discourse units into smaller units, i.e. possible intonational phrases (Nespor & Vogel 1999, Sandler & Lillo-Martin 2006), based on various nonmanual and manual cues. Besides the prosodic cues, the meaningful smaller units are also

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[39] The transitional probability (TP) of a co-occurrence relationship between two elements, X and Y, is computed by dividing the frequency of XY by the frequency of X. This yields the probability that if X occurs, Y will also occur (see Lany & Saffran 2013, p. 235).

based on semantic intuitions. Whether they are realized as sentences or not, is beyond the scope of the dissertation. Therefore, it is preferred to label these smaller units as discourse chunks. The next step is to mark those chunks covering possible RCCs in order to investigate them deeper.

4.2.2.2. Step 2: Selecting the Chunks Which Include Potential Relative Clauses

After dividing the text into smaller parts, into a total of 2449 tokens, each token is annotated in terms of sentence types (i.e. negation, interrogative, *wh*-clause, etc.). Tokens including potential relative clauses are marked. Before deciding whether they are relative clauses or not, the tokens are selected in accordance with the following four criteria: (i) the token includes two clauses, (ii) one clause is dependent on another clause, in the selected token (iii) it is realized with some specific nonmanual markers and (iv) the token includes possible relative elements.

The working definition for RCs, which was introduced in Chapter 3, is given again in (1). According to Branchini's definition, RCCs are composed of two (or more) clauses and one (or more) clause/s is/are dependent on the other clause and there is a pivotal connection between RCs and matrix clause. Therefore, tokens including more than one clause and with a pivotal element between the specified clauses are flagged to be further annotated.

(1)

a. *A relative clause is a dependent clause.*

b. *A relative clause is connected to the matrix clause by a syntactically and semantically shared pivotal element. Such pivot can be overtly realized in either one of the two clauses, in both of them or in neither one of them.*

(Branchini 2006, p. 57)

The first two criteria may not be enough to mark them as potential relative clauses. In Chapter 3, it was already mentioned that the shared pivotal element in signed languages can be either a relative pronoun as in DGS (Pfau & Steinbach

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2005b), or a special sign, i.e. obligatory PE signs as in LIS (Branchini & Donati 2009), optional MATEIX in LSC (Mosella Sanz 2011) or else pointing (index) as in clause-final IX in HKSL (Tang et al. 2010). Except for relative pronouns in DGS and relative element in LIS, all relative elements seem to be optional and there are some RC examples exhibiting zero morpheme strategies (gap or movement strategies). Therefore, the tokens including potential relative elements are also marked.

In addition to relative elements, RCs in signed language are also realized with specific nonmanual markers such as raised eyebrows, tensed eyes and cheeks, some head movements and body lean (for details about how these nonmanual markers are realized in different sign languages, please see Section 3.3.5). Similar nonmanual expressions may be present in TİD, as well. Thus, tokens with a special nonmanual marker which may indicate RCs are also added to the list. To be specific, the three criteria together: (i) the token includes two clauses, (ii) one clause is dependent on another clause, in the selected token (iii) it is realized with some specific nonmanual markers, are regarded as the working definition of RCs in TİD.

After selection of the tokens that suit at least the three criteria defined above, 111 tokens in sum were counted (see Appendix C). The next step is to make a detailed annotation for each token.

4.2.2.3. Step 3: Glosses and Token/Type Constructions

The entries for tokens and types for this dissertation are adapted from the transcription process used in Technical Sign Lexicon Projects (Konrad 2010a), in the Institute of German Sign Language and Communication of the Deaf (Institut für Deutsche Gebärdensprache und Kommunikation Gehörloser, IDGS). According to Konrad (2010a, pp. 28-29), their transcription is based on the distinction between tokens and types, i.e. each token refers to a distinctive type, in other words, *types should be uniquely or consistently identified*.

Konrad (2010b) provides the typological conventions on the glosses and transcription processes. Table 4.4 lists how the entries are labeled in this dissertation, in which the glosses for sign entries are primarily based on Konrad's

conventions. However, I do not intend to make any deeper lexical analyses for each gloss since the lexical entries are only derived from the tags (utterances) marked as potential relative clauses.

König et al. (2003) define the conventional lexical entries. Each gloss is written in capital letters in Turkish for this dissertation. The basic citation form is GLOSS1. The numbers stand for the lexical variations, for instance AYNI1 and AYNI2 ('ı) have the same meaning but are lexical variants. If there is an additional phonologic variation, a letter is added at the end of the gloss, for instance GÖRMEK1A and GÖRMEK1B have the same handshapes but vary in terms of orientation. In addition, signs can vary in terms of inflectional properties, i.e. agreeing verbs can be inflected in terms of person and number. The inflected forms have an additional number after each gloss. For example, the dual form of pointings can be glossed as $INDEX11A whose basic form is $INDEX1. Special names, fingerspelling and numbers are symbolized as $NAME, $ALPHA and $NUM. Idiomatic expressions are denoted as $SPE, e.g. $SPE-EPEY stands for an adverbial quantifier having the meaning 'extremely.' Classifier predicates are grouped within $MAN, likewise gestural elements can be found in $GEST. Hyphens between glosses may indicate sequential and/or simultaneous combinations of signs, for instance $NUM-LIST indicates buoys, $NUM-WEEK is an example of various numerical incorporations. All example glosses are indicated in Table 4.4. Note that the lexical entries are not the same as the glosses used for description in this dissertation; therefore, I have added an additional column which shows basic conventional glosses used in this dissertation. So far, 443 lexical entries (types) have been collected, which can be seen in Appendix E. Each type may have several tokens. There are 1290 tokens in total.

	Lexical Entries in iLEX	Example	Glosses used for description in this dissertation
Citation form	GLOSS1	ANNE1	ANNE 'mother'
Phonological variants	GLOSS1A, GLOSS1B	GÖRMEK1A, GÖRMEK1B	GÖRMEK 'see'
Lexical variants	GLOSS1, GLOSS2	AYNI1, AYNI2	AYNI 'same'
Modification	GLOSS11A	$INDEX11A	INDEX (dual)
Special names	$NAME-...	$NAME: İBRAHİM	İBRAHİM
Idiomatic expressions	$SPE-...	$SPE-EPEY	EPEY
Productive signs	$MAN...	$MAN-GİDİPGELMEK	CL-GİDİPGELMEK 'go regularly'
INDEX	$INDEX1	$INDEX1	IX
Fingeralphabet	$ALPHA	$ALPHA:din	D-İ-N 'religion'
Numbers	$NUM	$NUM:1	BİR 'one'
Buoys (List)	$NUM-LIST	$NUM-LIST:3	ÜÇÜNCÜ 'third'
Numerical Incorporations	$NUM-DAY, $NUM-WEEK...	$NUM-WEEK-BEFORE:3	3-HAFTA-ÖNCE 'three weeks ago'
Gestures	$GEST	$GEST	'palm-up'

Table 4.4 - Examples of lexical entries used in iLex and glosses used in this dissertation.

4.2.2.4. Step 4: Defining Non-manual Markers

The next step after annotating the tokens is to annotate nonmanual markers for both relative clauses and matrix clauses. The focus is here on nonmanual domain markers, which may indicate relativization. Eyebrow movements seem to function as domain markers, rather than boundary markers. The beginning and end of the brow raise can identify the location of the IP boundaries (see also, Fenlon 2010). As pointed out in Chapter 3, cross-linguistic analyses of relative clauses in signed languages indicate that nonmanual markers in relative clauses are generally accompanied by brow raise, tensed eyes/squint, and head movements if needed. Therefore, three tiers are constructed for annotating nonmanual markers: (i) eyebrow movements, (ii) tensed eyes/cheeks and (iii) head/body movements.

The common categorization for eyebrow movements is (i) brow raise, (ii) neutral brow and (iii) furrowed brows (Wilbur 2000). Both brow raise and furrowed eyebrow raise are indicated by 'br' and 'fb' respectively and any other eyebrow movement assumes a neutral eyebrow code. On the other hand, there exist some other nonmanual markers like tensed lips (i.e. ASL, Liddell 1978), tensed eyes (i.e. LSC, Mosella Sanz 2010), tensed cheeks (i.e. LIS, Branchini & Donati 2009) and squint (i.e. Dachkovsky & Sandler 2009). I assume these four facial expressions resemble each other and categorize them as squint which is coded as 'sq.' In addition, some head and torso movements may accompany relative clauses, even though they are not strong indicators. In order to mark these indicators, the third tier represents head and torso movements which include head tilt (back) 'ht', head nod (forward) 'hn', headshake 'hs', and body lean 'bl' (Wilbur 2000).

Non-manual expressions are not restricted to relative clauses. Different nonmanual markers in matrix clauses may be observed as well. These markers may give a clue about sharp boundaries between relative clauses and matrix clauses (Dachkovsky & Sandler 2009). Also, these nonmanual markers occurring in matrix clauses can be independent from the indication of relative clauses (e.g. negation, question). Therefore another tier is constructed for investigating facial,

head and torso movements in matrix clauses. These markers are explained in more detail in Chapters 5 and 6.

Furthermore, lower face movements may be significant for realization of relative clauses. For instance, in TİD the mouthings 'o' and 'bu' are frequently observed. They are also coded separately.

4.2.2.5. Step 5: Defining Boundaries of RCs

After specifying the nonmanual markers, the boundaries of relative and matrix clauses need to be specified as well. The boundaries are primarily based on nonmanual markers such as brow raise and squint. Appendix C (in English) shows the list of potential relative clauses and squared brackets indicate where RCs begin and end.

4.2.2.6. Step 6: Translation Equivalents of Potential RCs

Turkish translation equivalents and Turkish glosses of Turkish Sign Language are provided in Appendix D. The readers who prefer English glosses and English translation equivalents may look at Appendix C. Translation equivalents of some RCs may not represent potential TİD RCCs exactly because of possible cross-language/cross-modal differences in syntactic constructions. The reader is referred to the links in Appendix A where the sample videos can be found.

4.2.2.7. Textual Analysis of RCCs

The referents that are used in RCCs are determined and interconnections between the referents are checked. This helps to understand the function of RCCs. This procedure is described in more detail in Chapter 6.

4.2.2.8. Advantages and Disadvantages of the Top-down Approach

The annotation process in this dissertation embraces the top-down approach. This process has both advantageous and disadvantageous sides. The first advantage is that the top-down approach is primarily based on a specific research question and can focus on the findings and annotations which are related to this goal. The second advantage of this approach is the fact that it does not tokenize the data which may not be related to the specific goal. The third advantage is that this

approach allows deduction, i.e. from wider linguistic units to narrower units. For instance, this dissertation looks at the discourse text first and divides it into possible discourse chunks and phonological utterances (Sandler & Lillo-Martin 2006). It also goes further into intonational phrases, phonological phrases and even prosodic words (i.e. here tokens). In addition, after deduction, it allows an inductive approach as well, e.g. in this dissertation tokens may give a clue about the syntactic constructions. However, this approach has disadvantages as well. If all discourse chunks are not treated equally, there is a danger of missing potential samples. For instance, in this dissertation not all discourse chunks are glossed in terms of tokens/types and therefore other possible relative clauses may potentially be overlooked. In order to avoid such loss, each discourse type has been labeled with respect to their sentence types, as far as possible. This strategy may make up for the first disadvantage. The second drawback is that there is a need for a native signer with meta-linguistic awareness so that s/he may decide which chunks may include potential data related to the specific research aim. This could be considered as an intuitive and subjective empirical research method. In order to minimize subjectivity in this dissertation, three deaf consultants, who are the same people described in the data collection, were asked to check whether they observed similar nonmanual movements and linguistic elements in the data. In this dissertation some potential relative clauses may not be indeed considered as RCCs. Chapter 5 will define which potential chunks with RCCs are accepted as RCCs.

4.3. Research Questions

In this dissertation the following two general and various specific research questions are asked:

1. Do RCCs in TİD exhibit different relativization strategies? (Chapter 5)
    a. How is the position of head nouns realized?
    b. What kind of nonmanual elements are observed in RCs in TİD?
        i. Is there a connection between different groups of nonmanual elements and relativization strategies in TİD?

c. What kind of relative elements occur in RCs in TİD?

d. Do the positions of RCs in TİD vary?

e. Is there a relationship between relativization strategies and animacy of the head noun?

f. Are there semantic categories in RCs in TİD?

2. How are RCCs realized in TİD in discourse? (Chapter 6)

a. What kind of functions do RCs have in the passages?

b. How are expressions including RCs referred to?

4.4. Summary

This section explained how the data was collected and annotated. This dissertation covers 21 videoclips of 14 TİD signers in the form of monologues in different discourse modes. As for data annotation, iLex (Hanke 2002) software is used. Eleven tiers are constructed with this software.

Not each sign is glossed, rather a 'top-down' approach is followed, i.e. starting from broad discourse units and narrowing down the annotation to smaller units. The top-down process of data annotation includes seven steps. First, the discourse text is divided into discourse chunks primarily based on nonmanual boundary cues and semantic completeness. Second, each discourse chunk is defined in terms of its sentence type. Third, some chunks are selected as potential relative clauses. Fourth, the selected chunks are annotated in detail. Here the concept of token and type is used, following the process used in Technical Sign Projects (Konrad 2010). Fifth, nonmanual domain markers are defined and the boundaries of relative clauses are labeled. Sixth, the potential relative clauses are translated into Turkish and English. In the last step, the referents that are used in relative clauses are marked throughout the text.

CHAPTER 5: CORPUS FINDINGS and INTERPRETATIONS

The dual focuses of this chapter will be: corpus findings constructed for this dissertation; and the interpretation of those findings. As mentioned in Chapter 3 and 4, this dissertation concentrates on four main areas: the position of the head noun; the behaviors of nonmanual elements in RCC (Relative Clause Constructions); the existence of relative elements; and the possible sentence positions of relative clauses (RC) in Turkish Sign Language (TİD). Section 5.1 focuses on the outcomes from the data in corpus, whereas Section 5.2 endeavors to explain the findings from Section 5.1. Finally, Section 5.3 compares RCCs in TİD with RCCs in other sign languages.

5.1. Corpus Findings

This section looks at annotated discourse chunks, including potential RCCs. In Section 5.1.1, the quantitative results of various incidences of head noun position in RCC are provided. Section 5.1.2 seeks to answer what kind of accompanying nonmanual expressions in RCs are exhibited. Section 5.1.3 outlines the possible relative elements realized in corpus. Section 5.1.4 figures the possible positions of RCs. Section 5.1.5 investigates subject and object relativization types and looks at whether there is a correspondence between relativization types and the animacy of head noun. Section 5.1.6 attempts to categorize RC in terms of semantic properties. Finally, Section 5.1.7 summarizes the findings in corpus.

5.1.1. Position of the Head Noun (HN)

This section analyzes the position of the head noun (HN), which are nouns or phrases that are relativized. Table 5.1 provides a list of various positions of HN. A full list can be found in Appendix F. The most frequent occurrence is HN realized within RCs (n= 69), which is equivalent to IHRC constructions. However, this was not the only strategy. HN is realized outside the scope of RCs in 14 samples. Additionally, 10 samples exhibit two HNs, one of which is realized within RCs. Nineteen samples seem to lack overt HN. Five RCCs are the

constructions, labeled as AS-YOU-KNOW constructions. Two cleft constructions are present. The next sections include explanations of each category.

Category	Position of HN	Occurrences
HN in RC	HN in RC	69
HN outside of RCs	after RC	3
	before RC	10
	before and after RC	1
HN both outside of RC and in RC	in RC and after RC	2
	before RC and in RC	8
HN not overt	Free	19
AS-YOU-KNOW constructions	HN in RC	3
	Free	2
Cleft-like constructions	Cleft	2

Table 5.1 - Position of head nouns (HN) in 119 samples

5.1.1.1. HN in RCs

TİD seems to favor RC constructions in which the HN occurs within the scope of RCs. The HN generally occurs at the beginning of the sentence, which makes analysis difficult. For instance, the HN in (1)[40] occurs at the beginning of the clause. The criterion for determining if HN occurs within RC is whether or not HN occurs within the scope of the domain nonmanual markers. In the case of (1), this is represented by a squint, glossed as 'sq.'

---

[40] Examples are presented in English glosses from here on. Find Turkish versions of all glossed examples in Appendix D.

(1) $(010010)^{41}$:

		br
		'o'
	sq	hf

[BUOY:1$_i$ BUOY:2$_j$ MARRIED MARRIED IX(2) SAME(2h) IX(2h)$_{(i,j)}$] VISIT$_{rec(i,j)}$

CHAT

The second and third (person), both of whom are married, visited each other and chatted.

5.1.1.2. HN Outside of RCs

In certain cases, the HN of a RC does not exhibit within the scope of the specified nonmanual markers. In thirteen samples, the HN occurred either before or after the RC.

5.1.1.2.1. HN After RCs

In regards to TİD, prenominal-like cases are very rare. An example of this type of sentence can be seen in (2). While the nonmanual element squint scopes over the RC, the HN is accompanied by a brow raise, as in (2). Additionally, it is open to discussion whether or not this action is still within the domain of RC, since the HN was already introduced in the previous sentence. Further prenominal-like cases can be observed in (010049) and (120159) both found in Appendix C.

---

[41] The numbers indicate the discourse chunk IDs. Each ID is unique and a full list of all IDs is given in the appendix.

(2) (010100):

| hn | hs |
| br | sq | br |

HOUSE ARRIVE   [MOTHER SAME] HOUSE GO

(She) arrived home. She went to the house that belongs to her mother too.

The brow raise over the HN in (2) indicates topicalization. Another example of this can be found in the discourse chunk (010049). These prenominal-like examples will further be considered as circumnominal RCs.

5.1.1.2.2. HN Before RCs

In ten different examples, HN was shown to immediately precede RC. (3) shows one example. However, a pause between the antecedent (HN) and RC may indicate that they represent different clauses. It may therefore be misleading to analyze these examples as postnominal RCs. A similar occurrence is also observed in (160054). In the movie, the signer nods his heads immediately after the HN, then introduces the RCs. I classify these two examples as exceptional and rare, however, and I will regard them as free relatives.

(3) (08b0207):

| hn | br |

hn

KING$_i$ OKAY $_i$ORDER$_j$ BOY$_j$ PERSON$_j$ [WOOD WORK PERSON$_j$ IX$_j$] WOOD

PREPARE COLLECT

The king ordered a man who worked as a woodcutter to prepare and collect some wood.

The HN in (4), seems to occur outside of the scope of the RC. However, the brow raise over HN, a similar phenomenon that was presented in connection with

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prenominal-like RCs, may indicate topicalization. Therefore, I would suggest that this sentence be also regarded as circumnominal. In this case, there is one other possible interpretation: the emphasis on the head noun OTHER may also indicate contrastive focus with the signer wanting to direct focus on somebody else (for the discussion on contrastive topic and contrastive focus see Wilbur 2012 and Herrmann 2013). In that case, this RC could have to be interpreted as head internal.

(4) (010028):

<div align="center">

br

br   sq   'o'   br

</div>

OTHER$_i$ [FRIEND$_j$ SAME   IX$_j$] WALK $_i$SEE$_j$ SHUT-UP

Another (woman) walked and saw (a woman) who is a friend (of hers) and shut up.

Some postnominal-like RCs, such as HN examples in (010052), (070019) and (140006), are not exhibited within RC. Despite that, I will regard them as HN within a RC. I will expand on this issue in a later section, which contains a discussion of the spreading behaviors of nonmanuals (see Section 5.2.2.).

The examples displayed in (030052), (070118), (120120), and (170005) exhibit postnominal-like relative clauses. Such examples indicate non-restrictive RCs and a postnominal strategy that allows TİD signers to exhibit non-restrictive RCs. This issue will be discussed in a later section on non-restrictive RCs (Section 5.1.6.).

5.1.1.2.3. HN Both Before RCs and After RCs

There is one possible scenario during which HN may occur both before and after RC. An example of this can be observed in (5). The HN is signed with two hands. The signer first introduces the sign MONEYBAG, then points to the non-dominant hand. After pointing, he introduces RC while the non-dominant hand remains in a hold. Finally, he goes back to the HN. In this example it is obvious

that HN occurs outside of RC, but it is difficult to label it as either prenominal or postnominal.

(5) (070106):

$$\overline{\hspace{3cm}}^{sq}$$

(rh) AFTER MONEY-BAG$_i$ [IX$_i$ IX$_1$ SORRY] MONEY-BAG$_i$ GIVE

(lh)   MONEY-BAG$_i$------------------------------ MONEY-BAG$_i$

Afterwards, I gave back the moneybag, which I was sorry about.

5.1.1.3. HN Both Outside of RC and In RC

Additionally, HN is observable within both the relative and matrix clauses in ten different chunks. These chunks will be analyzed according to two categories: (i) HN in and after RC and (ii) HN before and in RC.

5.1.1.3.1. HN In RC and After RC

An example of two occurrences of such RC, in which HN occurs twice (first in, and then after RC), is shown in (6), GLASSES is introduced in RC at the beginning of the sentence, then repeated at the end of the matrix clause. The repetition of HN may occur due to the long distance between RC and the end of the matrix clause, possibly to emphasize the HN. This may also be the case for a similar example in (010102). I will consider this RC as circumnominal since the repeated HN occurs far away from the RC.

(6) (120259):

	bl
	br
	sq

[EYE OPTICIAN GLASSES DROP] AGAIN DOOR HIT BREAK

	hn

GLASSES

(He) broke his glasses, which he had dropped at the optician's office earlier, again by hitting the door.

5.1.1.3.2. HN Before RC and In RC

As stated earlier, through eight examples, we see that HN can occur before introduction of RC. Additionally, it has the option of being repeated during RC. An example is given in (7). In this example, headnoun SCHOOL appears to occur twice outside of sentence boundaries, and then is repeated within RC. A similar phenomenon occurs in (08a0037), too. I will regard both examples as circumnominal.

(7) (070012a):

	hn		hn

IX$_1$ OLD   SCHOOL HAVE   IN SCHOOL WORK CLOSE

	hn
	sq

[3-MONTH SCHOOL OFF]

I was going to school. The school, which has a 3-month vacation, was closed.

I hypothesize that certain incidences have appositive readings. These include examples from (08b0196), (08b0289), (08c0326) and (180011). A detailed explanation of non-restrictive readings can be found in Section 5.1.6..

Additionally, two examples, related to spreading movements, can be found in the corpus collection. During chunks from (130038) and (190107), the signers do not spread nonmanual facial expressions over the relative clauses. Additional information on this phenomenon will be discussed in Section 5.1.2..

5.1.1.4. RCs Without HNs

Nineteen passages in the corpus seem to lack overt HN. HN is realized either through sign space, or the addressee can derive it from discourse/pragmatic interpretations. For instance, (8) makes mention of a place where İbrahim's wife is located. This place is realized through gestural elements within the signing space. The pointing movement at the end of RC identifies this place as anaphoric.

(8) (08b0295):

<div style="text-align:center">'o'</div>

<div style="text-align:center">sq   br   hn</div>

…. İBRAHİM GO_{loc} [FIRST WIFE GO_{loc} IX_{loc}]

He went to (the place) where his first wife was.

My second example is very different in nature. Presented in (9), it lacks overt HN. The HN can, however, be derived from context (in this case 'the child'), even though the signer did not sign CHILD.

(9) (08c0344):

<div style="text-align:center">'o'</div>

<div style="text-align:center">sq   br</div>

[BUOY:2 GIVE.BIRTH IX_i] GROW-UP IX_i

(The child), who the second (wife) had given birth to, grew up.

5.1.1.5. AS-YOU-KNOW Constructions

Some signers use the verb KNOW in RCCs, as evident in in (010026), (020065), (020078), (08a0182) and (08b0199). Three of these clips seem to exhibit HN overtly, while the other two do not. An illustration is shown in (10).

(10) (020065)

<div style="margin-left:3em">
<u>   hs   </u>
<u>   </u> sq
</div>

[IX$_{you}$ …   CARD KNOW BANK] BIG

The card, which was for banks…, was a big one.

5.1.1.6. Cleft-like Constructions

Cleft constructions have also been observed in our clips, including an example in (010101) and (160074), the latter of which is shown in (11).

(11) (160074):

<div style="margin-left:3em">
                          <u>   </u> sq <u> ht </u>   <u> ht </u>
</div>

[BEFORE BOY$_{i\ j}$SHOOT$_i$ IX$_i$] NOT   MILLIONAIRE NOT

He was not the boy that I shot. He was not the millionaire.

5.1.1.7. Distribution of Relative Strategies

Regarding the positions of HN, and investigating each token, Table 5.2 provides possible relativization strategies in TİD (see also Appendix G). The table does not include AS-YOU-KNOW constructions and clefts (in sum seven samples are excluded). TİD seems to favor circumnominal relative strategies; however there are several cases in which HN is duplicated or occurs outside of the scope of RCs. That being said, TİD does not tend to use prenominal strategies.

Relative Strategies	Occurences
Circumnominal	77
Postnominal	5
Double HN	9
Free	21

Table 5.2 - Distribution of RCs (in 112 samples)

5.1.2. Non-manual Elements in RCs in TİD

Non-manual markers play an important role in the realization of RCs in TİD. Table 5.3 represents the frequencies observed in data of nonmanual markers. Squint has the most frequent occurrence amongst these elements, followed by headshake and brow raise (see also Appendix H). Even though they occur at a comparatively low rate, head nod and body lean both seem to serve main functions for RC in TİD. Though body lean was less commonly observed than head nod, it should be noted that the signers in the video clips had relatively small signing spaces compared to a natural environment. It is possible that this encouraged the signers to choose head nod over body lean. Additionally, furrowed brow will not be analyzed here since it occurred only once and is related to emotional indication of a given situation (see (010011) in Appendix C).

Non-manuals Realized in RCs	Occurences
Squint 'sq'	103
Headshake 'hs'	27
Brow raise 'br'	21
Head nod 'hn'	15
Body lean 'bl'	2
Furrowed brows 'fb'	1

Table 5.3 - Distribution of nonmanual elements

However, it is important to note that these nonmanual markers may occur either simultaneously or in a combined fashion. Therefore Table 5.4 lists all possible combinations. Squint (n=61) and squint with headshake (n=20) seem to be the two most frequently occurring nonmanual elements in the data.

Combinations of Non-manual Elements	Occurrences
Squint	61
Squint + headshake	20
Squint + head nod	10
Brow raise	6
Brow raise + squint	5
No nonmanual specified	4
Brow raise + headshake	3
Brow raise + head nod	3
Brow raise + squint + headshake	2
Brow raise + squint + head nod	1
Brow raise + squint + body lean	1
Squint + headshake + head nod	1
Squint + headshake + body lean	1
Furrowed brows + squint	1

Table 5.4 - The distribution of nonmanual markers with combinations

5.1.2.1. Squint

In TİD, the most prominent nonmanual domain marker of RC seems to be squint. It should be noted that tensions of the eyes/cheeks are categorized as squint. When the spreading behaviors of squint are analyzed, 87 tokens out of 103 tokens (approximately 85% of data) indicate that squint is fully spread over the scope of RC (see Table 5.5). It is important to note, however, that squint does not necessarily require full scope over RC (16 cases).

Spreading (squint)	Occurrences
Over RCs	87
Not fully over RCs	16

Table 5.5 - Scope of nonmanual marker squint

In four separate examples, squint is not observed during the first word or word constellations of RC((010052), (070022), (08a0110) and (170020)). One of these illustrations, shown in (12a), indicates that spreading of squint is optional. In eight different examples, squint does not even occur close to the beginning of the boundary of RC. In other words, squint is not fully spread, as observed in at least one example sentence, shown in (12b). Mosella Sanz (2011) makes an observation about RCC in LSC: that the spreading of nonmanual markers is optional if a relative element is also present, (i.e. MATEIX, in the case of LSC). Potential relative elements occur in both examples, and are also valid for 10 additional cases. The remaining 4 cases do not include fully spread squint. In two of these cases, the signer (ParticipantA3) drops squint while he is fingerspelling within RC. The final two cases are AS-YOU-KNOW constructions.

(12)

a. (070022):

<u> br </u> _ _   <u>   sq </u>   <u> hn </u>

[IX_i OUT FACTORY$_i$ OPEN IX_i]   FACTORY$_i$ INSURANCE READY

A factory, which had been established out of town, provided insurance, meals, and a bus (for workers).

b. (08a0182):

$$\overline{\quad\quad\quad\quad\quad\quad\quad\text{hn}\quad}$$
$$\overline{\quad\quad\quad\quad\quad\quad\quad\quad\text{sq}\quad}$$

AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME$_{loc1}$]

CL-GATHER$_{loc1}$

Afterwards, in the morning, the people gathered at the same (place) that they used to adore the cult figures.

5.1.2.2. Brow Raise

The third most prominent nonmanual marker for RC is brow raise. Similar to squint, the spreading movement of brow raise prefers to be scoped to RC. Two of 13 occurrences of brow raise is illustrated in (13ab). Certain external head nouns may also be marked with brow raise, as in (13a). The marked external noun by brow raise also has the option to scope over RC (13b). The distribution of brow raise in the data is listed in Table 5.6.

(13)

a. (030087)

$$\overline{\quad\quad\quad\quad\quad\quad\quad\quad\text{hn}\quad}$$
$$\overline{\quad\quad\quad\quad\quad\quad\quad\quad\quad\text{br}\quad}$$

[FATHER^MOTHER JOB BECAUSE GERMANY$_{loc1\ loc2}$MOVE$_{loc1}$] ...

$$\overline{\text{'o'}\quad}$$
$$\overline{\text{hn}\quad}$$
$$\overline{\text{br}\quad}$$

IX$_{loc1}$ IN SCHOOL LIFE START

His school life has begun in Germany, where his parents moved because of their employment.

b. (010028):

```
                                    br
    _____br_____sq___'o'_____br____
OTHERᵢ [FRIENDⱼ SAME    IXⱼ] WALK ᵢSEEⱼ SHUT-UP
```

Another (woman) walked and saw (a woman) who is a friend (of hers) and shut up.

c. (120204):

```
                                                           br
_____
ESRAᵢ [IXᵢ COMPUTER USE BEFORE COMPUTER USE IXᵢ] ESRAᵢ
```

```
                    hn
                 _____
COMPUTER   PRESS
```

Esra pressed on (the keys of) the computer that she used earlier.

Spreading (Brow Raise)	Occurrences
Over RCs	13
Over RCs and external head nouns	2
Over only external head nouns	1
At the beginning of RCs	2
At the middle of RCs	1
At the end of RCs	2

Table 5.6 - Scope of nonmanual marker brow raise

5.1.2.3. Headshake

After squint, the most prominent nonmanual marker is headshake. Unlike squint, headshake on its own cannot be a nonmanual marker for RC. Rather, it requires a combination with squint, brow raise, or both (see also Table 5.4). The position of headshake within RC does not seem to be systematic (Table 5.7).

Spreading (Headshake)	Occurrences
Over RCs	3
Over only HN	6
At the beginning of RCs (but not HN)	2
At the middle of RCs	4
At the end of RCs	11
Over the sign BEFORE	1

Table 5.7 - Spreading of headshake in the data.

Most often, headshake either takes a position over HN (14a), or at the end of RC (14b). If RC includes less than four words, headshake can also scope over RC, as in (14c).

(14)

a. (160168):

<u>   hs   </u>

<u>   </u> sq <u>   </u>br<u>   </u>

[MAN POOR FACE LITTLE] CLOTH CHANGE FACE GOOD

The man, who was poor and looked ugly, changed his clothes and now looks great.

b. (130053):

<u>   hs   </u>

<u>   </u> sq <u>   </u>br<u>   </u>

[IX$_i$ SON$_i$ BEFORE HUG KISS] NOW BRIDE CUT

The son, who had regularly hugged and kissed the bride, didn't do this anymore.

c. (060034):

$$\overline{}^{\text{hs}}$$

$$\overline{}^{\text{sq}}$$

[IX GRANDMOTER EAT] IN CUT-OFF… IN REMOVE-OUT

They cut open (the wolf), who had eaten grandma, and took her out from inside (the wolf).

5.1.2.4. Head Nod and Body Lean

Head nod and body lean seem to occur within RC as well. The two appear to be similar in function. In the video clips, many signers seem to prefer head nod over body lean, although this may be due to the fact that the clips allow the addressee to see more of the signer's upper chest, rather than the whole torso. Because of this, many signers chose to replace body lean with head nod. In the data, two occurrences of body lean are observed. In both occurrences, the body lean is spread over RC, as in (15), which is repeated in (6).

(15) (120259):

$$\overline{}^{\text{bl}}$$

$$\overline{}^{\text{br}}$$

$$\overline{}^{\text{sq}}$$

[EYE OPTICIAN GLASSES DROP] AGAIN DOOR HIT BREAK

$$\overline{}^{\text{hn}}$$

GLASSES

(He) broke his glasses, which he had dropped at the optician's office earlier, again by hitting the door.

In addition to body lean, head nod, which can be described as a slight forward movement of the head (without repetition), is observed in 15 RCs. The distribution of head nod movements is provided in Table 5.8.

Spreading (Head nod)	Occurrences
Over RCs	1
Over only HN	2
At the beginning of RCs (but not HN)	2
At the middle of RCs	3
At the end of RCs	7

Table 5.8 - Spreading of head nod in the data.

The spreading movements indicate that head nod tends to occur at the end of the sentences. It also suggests that head nod may be related to marking IP boundaries, and not used as a domain nonmanual marker. Body lean, spread in a similar fashion to head nod, has also been observed, as shown in (16).

(16) (010016):

$$\begin{array}{ccc}
 & \underline{\text{br}} & \\
\underline{} \text{hn} & \underline{\text{hn}} & \\
\text{sq} & \text{`o'} & \underline{} \text{sq}
\end{array}$$

[BUOY:1   MARRY FINISH IX_i] $SINGLE_j$ CL-MEET$_{(i,j)}$

The first (woman), who was already married, met (the woman), who was single.

5.1.2.5. Summary on Non-manual Markers of RCs in TİD

Relative clause constructions in the TİD database indicate that five nonmanual markers can be observed: squint 'sq', brow raise 'br', headshake 'hs', head nod 'hn' and body lean 'bl'. According to Dachkovsky & Sandler (2009), the nonmanual marker of squint is related to the retrieval of shared information in the discourse. Squint can be observed equally in each relativization strategy. In contrast, brow raise occurs predominantly in circumnominal relativization strategies. As Brunelli (2011) proposed, brow raise indicates topic position of RCs.

The head and body movements specific to brow raise, which are mostly seen in circumnominal strategy, corroborate the emphasis on HN or RC. The distribution of each nonmanual marker on various relativization strategies is shown in Table 5.9 (see also Appendix G).

	Brow Raise	Squint	Head-shake	Head Nod	Body Lean
Circumnominal (n=77)	13	69	17	11	1
Postnominal (n=5)	1	5	3	1	0
Double HN (n=9)	2	9	4	0	1
Free (n=21)	4	15	3	2	0

Table 5.9 - Distribution of nonmanual markers in each relativization strategy (in 112 samples)

5.1.3. Relative Elements

The next analysis presented will address whether TİD exhibits relative elements specifying RCs, and if so, what types of relative elements can be observed. Table 5.10 lists the occurrences of potential relative elements in the corpus (see also Appendix I). According to the list, 41 occurrences do not exhibit any overt potential relative elements. The list indicates that the use of relative elements tends to be optional for RCs in TİD. The prevalent relative elements are IX ('index') and AYNI 'same'. In rare occurrences, POINTER buoys can function as relative elements. Each potential element will be separately analyzed in the following sections.

Potential Relative Elements and Combinations	Occurrences
No potential relative element	41
Clause-final IX	35
Clause-initial IX	13
Clause-initial IX + Clause-final IX	9
AYNI	6
Within-clause IX	5
Clause-final IX + AYNI	5
POINTER buoy	3
Within-clause IX + Clause-final IX	1
Clause-initial IX + Within-clause IX + Clause-final IX + AYNI	1

Table 5.10 - Occurrences of potential relative elements in the data (in 119 samples)

5.1.3.1. INDEX (IX) as a Potential Relative Element

Within corpus RCCs, 69 exhibited IX, to at least a certain extent. IX as a potential relative element will be divided into three categories: (i) clause-initial IX, (ii) within-clause IX and (iii) clause-final IX. Among these categories, clause-final IX is featured most prominently, with 51 occurrences. The next most common was clause-initial IX (23 occurrences), while within-clause IX had only 7 occurrences. Additionally, a number of specific nonmanual elements may be accompanied by these potential relative elements.

The forms of IX as a potential relative element may vary according to phonetics or inflection of index. These possible variations are: flat hand (1 occurrence), dual (1 occurrence), plural (1 occurrence) (Figure 5.1) and 2-handshape (TWO-OF-YOU/US) (3 occurrences).

Figure 5.1 - The variations of relative element 'IX'

5.1.3.1.1. Clause-initial IX

In the chart below, the sole clause-initial IX can be observed 13 times. The nonmanual distribution of clause-initial IX, shown in Table 5.11, indicates that clause-initial IX tends to accompany the nonmanual marker squint. Except for 2 occurrences, these nonmanual elements are not on a lexical level. The nonmanual markers observed in (14), for example, are on the clausal level. These 11 occurrences do not mark specific relative clauses, however. Rather, they exhibit demonstrative pronouns.

Non-manual Elements (Clause-initial IX)	Occurrences
Squint (on clausal level)	7
Brow raise with mouthing 'o' (on *lexical* level)	2
Brow raise (on clausal level)	2
Squint + brow raise (on clausal level)	1
Squint + headshake (on clausal level)	1

Table 5.11 - Distribution of nonmanual elements on clause-initial IX

Two observed occurrences contained nonmanual elements not previously observed. These two elements were labeled as brow raise, accompanied by an 'o' mouth, as in (17). Both exhibit demonstrative function as well as potential relative elements.

(17) (030062)

    'o'
    _____
    br   _____ sq

[IX$_i$ MAN$_i$ PERSON $_1$SWEAR$_i$ ALL] $_i$IX$_1$ GOOD

The man, whom I had sworn at, was good to me.

5.1.3.1.2. Within-clause IX

Five occurrences exhibit only within-clause IX. Table 5.12 shows which nonmanual elements accompany their respective within-clause IX. Similar to clause-initial IX, some within-clause IX function as demonstrative pronouns. There are 3 occurrences, however, which use special nonmanual markers, such as a brow raise accompanied by 'o' mouthing.

Non-manual Elements (Within-clause IX)	Occurrences
Squint (on clausal level)	1
Brow raise with 'o' mouthing (on *lexical* level)	3
Squint + headshake (on clausal level)	1

Table 5.12 - Distribution of nonmanual elements on within-clause IX

One example is demonstrated in (18). In reality, this example resembles prenominal relative strategy; however, squint is also observed over the HN. I still define this as an example of circumnominal relative strategy, even though a potential relative element occurs within RC and before HN. Such phenomenon is relatively rare to final IX as a potential relative element, and will be investigated more in depth in the next section.

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(18) (010049):

$$\underline{\qquad\qquad\qquad \underset{\text{sq}}{\qquad} \underset{\text{'o'}}{\overset{\text{br}}{\qquad}} \underset{\text{sq}}{\qquad}}$$

[HOUSE ARRIVE   IX$_i$ GIRL$_i$] THINK

The girl who arrived home was thinking.

5.1.3.1.3. Clause-final IX

IX located at the end of RCs features more prominently than clause-initial IX and within-clause IX. There are two different clause-final IX occurrences: (i) clause-final IX marked with either 'o' mouthing, brow raise, or both, and (ii) clause-final IX realized within the nonmanual markers of RCs. For instance, in (19a), a clear distinction is made between the nonmanual markers for RC and nonmanual markers for clause-final IX. The signer first introduces the RC with squint, and points to HN with brow raise and 'o' mouthing. Conversely, however, the nonmanual markers observed solely during clause-final IX are not always present. As seen in (19b), clause-final IX can be realized within the nonmanual markers indicating RCs, namely squint.

(19)

    a. (08a0175)

$$\underline{\qquad\qquad\qquad\qquad \underset{\text{sq}}{\qquad} \underset{\text{br}}{\overset{\text{'o'}}{\qquad}}}$$

… [TWO AXE$_i$ MODEL HAND IX$_i$] İBRAHİM FIND GET

İbrahim took two axes, which were in the hands of the cult figure.

b. (090102):

sq	br

[SOMETIMES EXIST ONE WORD$_i$ IX$_i$] ONE PROBLEM BIG D-İ-L-S-İ-Z

The word 'dilsiz', which is used sometimes, is fairly problematic.

Table 5.13 presents the distribution of the nonmanual elements realized within clause-final IX. According to this table, 'o' mouthing is observed in 23 out of 35 occurrences. This feature is more prominent in clause-final IX but not necessarily. In eight cases, clause-final IX is realized within the nonmanual markers for RCs.

Non-manual Elements (Clause-final IX)	Occurrences
'O' mouthing + brow raise (on *lexical* level)	14
'O' mouthing + brow raise + head nod (on *lexical* level)	7
Squint (on clausal level)	4
Squint + brow raise (on *lexical* level)	2
Brow raise (on clausal level)	2
Head nod (on *lexical* level)	2
'O' mouthing + squint + brow raise + head nod (on *lexical* level)	1
'O' mouthing + squint + brow raise + headshake (on *lexical* level)	1
Squint + headshake (on clausal level)	1
Brow raise + head nod (on clausal level)	1

Table 5.13 - Distribution of nonmanual elements on clause-final IX

5.1.3.1.4. Double IX Occurrences in RCs

So far, clause-initial IX, within-clause IX and clause-final IX have been analyzed separately. In the corpus, double IX occurrences have also been (Table

5.10). Nine occurrences have both clause-initial and clause-final IX, whereas within-clause and clause-final IX are realized in a token. The clause-initial and clause-final IX is shown in (20).

(20) (140041):

<div align="center">

‘bu’   ‘bu’

 br   sq   br

</div>

IX$_1$ $_1$TELL$_i$ [IX$_j$ GRANDMA$_j$ BAD BACK GOSSIP IXj] SICK VERY DIE

I told (her) that the old woman, who was bad and gossiped about her, had been extremely ill and was now dead.

The example shown above indicates a typical pronoun copy (i.e. ASL: Padden 1981, 1988; NGT: Bos 1995). Padden (1988), defines the Subject Pronoun Copy (p. 87) in (22). The sentence (20) includes RC as a syntactic island with pronoun copy (for further discussion, see Section 5.2.3.). It claims that TİD has a subordinate (or a dependent), clause. In the previous section, however, clause-final IX appears to feature much more prominently than clause-initial IX. Therefore, I argue that the relative element at the end of RC is copied back to clause-initial.

(21) *Subject Pronoun Copy: A pronoun copy of subject i appears at the end of the clause of which i is subject.*

<div align="right">

Padden (1988, p. 87)

</div>

5.1.3.1.5. INDEX with Relationals İÇ ‘in’ and Conjunctions İÇİN ‘for’

Adjunct relative clauses in TİD can also exhibit a relational (Arık 2009), i.e. the antecedent is an argument, and the associate with the matrix clause is an adjunct as in (22a). A relational comes after a clause-final IX. Relationals are also known as prepositions (Emmorey 2002), or ‘relational lexemes’ (Arık & Wilbur

2008). Özyürek et al. (2010, p. 1118), define relational lexemes as used *to indicate the spatial relation of entities with respect to each other*. A relational with index therefore seems to function as a pivot between matrix clause and relative clause. On the other hand, the same sign can also have a different meaning İÇİN 'for' which is a conjunction. (22b) also presents a similar construction: combination of final-clause IX and İÇİN 'for'. Coordination conjunction can be added to the final-clause IX, keeping its function of a syntactic pivot between RC and matrix clause.

(22)

    a. (090149)

<div style="margin-left:2em">

                                           <u>hn</u>
                                           <u>'o'</u>

        <u>hn</u>   <u>sq</u>   <u>br</u>

</div>

BOOK WRITE   [IX$_i$ BOOK$_i$ PRESS BEFORE PRESS IX$_i$ IN] MANY

TALK D-E-A-F

The books, which have been recently published, mostly discuss Deaf people.

b. (08b0242)

                                 'o'

                        hs   hn

                             br   br   sq

IX_i 3 $ANGEL_i$ 3 REASON FOR [IX_j $WOMAN_j$ BUOY:1 PREGNANT

              'o'

                 hn   hn

          sq   br

BE^NOT OLD IX_j FOR] PREGNANT BE MIRACLE M-I-R-A-C-L-E

FOR $_i$INFORM$_j$ WAIT COME

The reason that the three angels waited was to give a miracle to the woman, who was the first (wife), could not get pregnant, and was getting old.

5.1.3.1.6. Summary of INDEX as a Potential Relative Element

In this section, we discussed the frequencies of IX that occur at the beginning, middle, and end of clauses. In comparison to other IX, TİD signers use the clause-final IX most frequently. The brow raise and 'o' mouthing accompany certain clause-final IX. The third singular person (she, he, it) or demonstrative pronoun (it) , is indicated in spoken Turkish by adding the letter 'o'. The 'o' mouthing observed in TİD is most likely derived thorough language contact with spoken Turkish, and grammaticized into a relative element in TİD.

5.1.3.2. AYNI as a Potential Relative Element

TİD signers have the option of using a relative element beyond IX: the sign AYNI 'same.' According to Table 5.10, this sign is present in twelve occurrences. The sign can be used alone or with IX as a clause-final relative element. There are also four different potential relative elements, i.e. clause-initial IX, within clause

IX, clause-final IX and the sign AYNI. The next section describes these three occurrences.

5.1.3.2.1. Using AYNI

The sign AYNI can occur at the end of RCs. No specific lexical domain nonmanual markers related to this specific sign are observed. For instance, the sign for AYNI in (23) can interact with the signing space, in this case indicating the location of the HN 'FIGURE' (an object to be worshipped). AYNI can therefore be considered a potential relative element that is an overt syntactic pivot between the RC and matrix clause.

(23) (08a0182):

$$\text{AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME}_{loc1}]$$

with glosses marked *hn* and *sq* nonmanual lines above

CL-GATHER$_{loc1}$
Afterwards, in the morning, the people gathered <u>at the same</u> (place) that they used to adore the cult figures.

5.1.3.2.2. The Combination of AYNI and Clause-final IX

AYNI sign can be followed with a clause-final IX as in (24). This example shows the possibility of using two potential relative elements. While squint occurs with the sign AYNI, clausal-final IX uses two different nonmanual elements: brow raise and 'o' mouthing.

(24) (010028):

```
                                  br
        br                  sq   'o'         br
```
OTHER_i [FRIEND_j SAME   IX_j] WALK _iSEE_j SHUT-UP

Another (woman) walked and saw (a woman) who is a friend (of hers) and shut up.

Example (25) shows the similar possibility of an occurrence of both relative elements clause-final IX and AYNI sign. Both the sign AYNI and clause-final IX refer to the HN.

(25) (010064):

```
              hn
                                                          sq
```
[IX(2)_{i,j} FRIEND MUST EACH-OTHER FRIEND OTHER FRIEND IX(2)_{i,j}

```
              br
        sq   'o'
```
SAME_{i,j}   IX_{i,j}] MEVLUT   GO FINISH.

Two friends who had to be friends with each other, went to her mevlut.

5.1.3.3. POINTER Buoys as a Potential Relative Element

Liddell (2003) defines the POINTER buoy as *a weak hand configuration maintained while the strong hand produces one or other signs* (p.250). Through RC, the POINTER buoy can also function as a relative element, as denoted in (26). The signer first points to the referent with his left hand while forming the 'o' mouthform. Then, he introduces RC while producing a hold with his left hand. When RC is over, foreground information is initiated.

(26) (160083)

      <u>br</u>

      <u>'o'</u>

                  <u>   </u>sq

(rh)   [$_i$SHOOT$_j$ DIE] THINK DOUBLE

(lh) IX$_j$---------------------

(He) was thinking about (the man) that I killed.

5.1.3.4. Summary of Potential Relative Elements in TİD

The descriptive analysis of potential relative elements indicates that there are two potential relative elements in TİD: clause-final IX and the AYNI sign. Clause-FINAL IX may be accompanied by brow raise and 'o' mouthing, and in certain cases by head nod. Clause-final IX can sometimes occur in the middle (i.e. before HN), or at the beginning of RCs, or else copied (i.e. double IX occurrences referring to the same antecedent, pronoun copy). The AYNI sign does not contain a specific nonmanual marker, however, and both potential elements do not necessarily occur in all RCs in TİD.

5.1.4. Position of RCs

This section investigates which positions RCs take in TİD. In Section 3.2, different possible positions are introduced. For instance, DGS postnominal RCs allow center embedding, while PE clauses cannot be in situ (Branchini et al. 2007). Table 5.14 provides the positions of RCs in the corpus. According to this table, in 86 occurrences, RCs in TİD came before MCs, indicating a clear preference. Locating RCs within MCs or after MCs is also possible, but does not occur as often.

Orders	Occurrences
RC+MC	86
MC+RC+MC	23
MC+RC	8

Table 5.14 - Position of RCs in the data

The next question we must address is whether the relativizing subject or object has an affect on word order. Since TİD has a SOV order, it would be expected that RC is located before MCs in subject relativization, while RCs in object relativization remain in situ. Table 5.15 gives some counter examples (see also Appendix K). In subject relativization, no postposition of RCs is observed; however, four occurrences are within-matrix-clause. These four examples are postnominal, which is not unexpected, since postnominal RCs allow in situ constructions. When examples of object relativization are examined, one can see that fronted RCs are favored in comparison to other positions. From this we can conclude that RCs in TİD tend to be preposed.

	RC+MC	MC+RC+MC	MC+RC
Subject Relativization	49	4	0
Object Relativization	39	19	7

Table 5.15 - The order of RCs and its relation to relativization types

5.1.5. Relativization Types and Their Relationships to Animacy of Head Noun

The subject or object of the matrix clause can be relativized. Four different RCs types are listed in (27): SS, OS, SO and OO. The first letter shows which element (subject or object), is relativized, while the second letter indicates the position of the head noun within the relative clause.

(27)

Subject Relativization

SS: The man who wears red glasses loves the woman.

SO: The woman, who(m) the man loves, wears red glasses.

Object Relativization

OS: The man loves the woman who wears red glasses.

OO: The man loves the man who(m) the children love.

TİD also permits both subject relativization and object relativization. The data in this study includes TİD examples for each category listed in (28).

(28)

a. SS: (010016)

```
                                        br
                                 hn     hn
                                 sq     'o'      sq
```
[BUOY:1   MARRY FINISH   IX$_i$] SINGLE$_j$ CL-MEET$_{(i,j)}$

The first (woman), who was already married, met (the woman), who was single.

b. SO: (08b0298):

```
                                                     sq
```
…   [WATER BEFORE İBRAHİM BRING **WATER**] OVER 'palm-up'

The water that İbrahim had brought earlier was gone.

c. OS: (08b0207)

                              hn   br   hn

KING$_i$ OKAY $_i$ORDER$_j$ BOY$_j$ PERSON … [WOOD WORK PERSON IX$_j$]

WOOD PREPARE COLLECT

The king ordered a man who worked as a woodcutter to prepare and collect some wood.

d. OO: (030009)

                         'bu'

                      sq   br   hs

[SON$_i$ MONEY $_t$GIVE$_i$ IX$_i$] MONEY WHAT-DO …

The son did not save the money that he got (from his parents).

The HN used in relative clauses in English (Roland, Dick & Elman 2007; Gennari & MacDonald 2008), German and Dutch (Mak, Vonk & Schriefers 2002), and Chinese (Pu 2007) are shown to be influenced by the animacy properties of head nouns. In English, German, and Dutch, the subject-gapped relative clauses prefer animate heads. Conversely, object-gapped relative clauses usually have an inanimate head. However, Loui & Gennari (2008) indicate that the production of relative clauses in Greek are not controlled by animate/inanimate properties, showing that this tendency appears to be language specific. This section investigates whether the same rule also applies to TİD.

The data reveals that subject relativization is more accessible than object relativization in TİD. A head with animate entities predominantly favors subject relativization (82%), while a head with inanimate entities usually co-occurs with object relativization (81%). Further analysis of the data reveals two preferences: (a) SS relative clause constructions with animate Head Noun and (b) OO relative clause constructions with inanimate Head Noun, as seen in Table 5.16 (see also Appendix K).

	SS	OS	SO	OO	Total
Animate	38	16	5	8	67
Inanimate	2	15	8	26	51

Table 5.16 - Relationship between animacy of head noun and subject / object relativization

5.1.6. Semantic Categorization of RCs and Their Relationship to the Properties

The main properties of restrictive RCs, which are different from non-restrictive RCs, have been identified in Section 3.1.2.1. Decisions as to which sentences are restrictive and which are not, are primarily based on (29), which denotes the underlying differences adapted from Branchini (2006, pp. 88-90). In the data, nineteen non-restrictive and 93 restrictive RCs have been identified (AS-YOU-KNOW constructions and cleft sentences are excluded).

(29)

a. Restrictive RCs require a non-specific antecedent.
b. Restrictive RCs form a constituent with their antecedent.
c. Restrictive RCs are transparent for binding.

The antecedent in (30a), GIRL is nonspecific compared to the head noun in (30b), HANGMAN. It is therefore clear that there is a semantic distinction based on the non-specificity of the head noun. The list of restrictive and non-restrictive relative clauses and their head nouns and properties can be found in Appendix J.

(30)

    a. (130005):

                                                _____ sq

[GIRL FAR VILLAGE IN]   BOY$_i$ IX$_i$ LOVE

The girl, who was from a village far away, loved the boy.

    b. (120120)

                                   _____ hs

                                       _____ sq

                                              br   _____ ht

IX$_1$ HANGMAN [COMPETITION A-B-C] NOT-WANT

I did not like hangman, a game which uses letters.

This section inquires after the possible distinctions between non-restrictive and restrictive RCs in data in terms of (i) position of HN, (ii) use of potential relative elements, (iii) accompanying nonmanual markers of RCs, and (iv) position of RCs. The comparisons will enable us to better understand the linguistic difference between non-restrictive and restrictive relative clauses.

    The preferential position of HN in restrictive RCs in TİD data is circumnominal, with 69 occurrences (Table 5.17). Non-restrictive relative clauses, however, prefer to have double HN or postnominal RC strategies. Table 5.17 clearly shows that correspondence exists between restrictivity and circumnominal RC samples.

(Occurrences)	Non-restrictive	Restrictive
Circumnominal (n=77)	8	69
Postnominal (n=5)	3	2
Double HN (n=9)	5	4
Free (n=21)	3	18

Table 5.17 - Position of HN in non-restrictive and restrictive RCs

The distribution of potential relative elements in non-restrictive RCs does not show strong preferences when compared to restrictive RCs (Table 5.18). There is only one underlying difference between the two: the use of the AYNI sign, which seems to be unique to restrictive RCs.

Potential Relative Elements and Combinations (Occurrences)	Non-restrictive	Restrictive
No potential relative element (n=40)	7	33
Clause-final IX (n=33)	8	25
Clause-initial IX (n=12)	2	10
Clause-initial IX + Clause-final IX (n=9)	1	8
AYNI (n=6)	0	6
Within-clause IX (n=5)	1	4
Clause-final IX + AYNI (n=3)	0	3
POINTER buoy (n=3)	0	3
Within-clause IX + Clause-final IX (n=0)	0	0
Clause-initial IX + Within-clause IX + Clause-final IX + AYNI (n=1)	0	1

Table 5.18 - Distributions of potential relative elements in non-restrictive and restrictive RCs (in 112 samples)

The nonmanual marker squint is featured most prominently in both restrictive and non-restrictive RCs. According to Table 5.19, other nonmanual markers do not show significant difference between the two categories; however, the percentage of brow raise in non-restrictive RCs is marginally higher than in restrictive RCs. This may suggest a correspondence between the use of the brow raise nonmanual marker and non-restrictive RCs.

Non-manuals Realized in RCs (percentages)	Non-restrictive	Restrictive
Squint 'sq'	73.68 %	95.60 %
Headshake 'hs'	21.05 %	23.08 %
Brow raise 'br'	31.58 %	16.48 %
Head nod 'hn'	15.79 %	14.29 %
Body Lean 'bl'	0 %	2.20 %

Table 5.19 - Distributions of nonmanual markers in non-restrictive and restrictive RCs

The last comparison (Table 5.20), the position of RCs, shows that restrictive RCs occur most often before matrix clauses (MC). In a small quantity, restrictive RCs seem to be allowed to come after MCs. This suggests that restrictive RCs are generally fronted but can be postposed. On the other hand, no examples of non-restrictive RC occurring after MC have been discovered. In one half of the samples, RCs occur before MC, while in the other half, RCs are located within MC. This implies that non-restrictive RCs allow an in situ position.

	Non-restrictive	Restrictive
RC+MC	47.37 %	83.52 %
MC+RC+MC	52.63 %	14.29 %
MC+RC	0	8.79 %

Table 5.20 - Distribution of RC/MC order in non-restrictive and restrictive RCs

In summary, restrictive RCs are generally fronted, circumnominal relative clauses. The AYNI sign occurs exclusively in restrictive RCs. On the other hand, non-restrictive RCs may have various relativization strategies: circumnominal,

postnominal and double HN, with a preference for the nonmanual marker brow raise. The position of non-restrictive RCs seems to be in situ.

5.1.7. Summary of the Findings

The above patterns, when examined together, show that RCs in TİD have three possible main relativization strategies: circumnominal, postnominal and free relative clauses. In some cases, it is possible to have two HNs within a sentence. The accompanying nonmanual marker in RCs in TİD is mainly squint (with tensed eyes/cheeks). However, brow raise, headshake, head nod and body lean have also been shown to conjoin with squint. Even though it is possible to have RC without any overt relative marker, there are two optional potential relative markers: clause-final IX, and the AYNI 'same' sign. RCs in TİD have a high preference for fronted positions, but does allow postposed positions.

RCs in TİD can also be categorized as non-restrictive and restrictive relative clauses. Taking this categorization into consideration, the properties for each category can also differ. Because restrictive RCs can be circumnominal or free relative clauses, non-restrictive RCs can have three different relativization strategies: circumnominal, postnominal and free. There is not a prominent difference between the two categories in terms of accompanying nonmanual markers, however, brow raise occurs more often in non-restrictive RCs. While clause-final IX can be observed in both categories, the AYNI potential relative element seems to occur only in restrictive RCs. Restrictive RCs show a high preference to being fronted, while non-restrictive RCs allow in situ positions.

5.2. Interpretations of the Findings

As discussed in Section 5.1, the findings suggest that TİD exhibits somewhat potential RCs. In this section, I introduce how and why these constructions are labeled as RCs. I would like to present four pieces of evidence showing that these constructions have subordinate clausal relationships: (i) the use of nonmanual markers, (ii) the pronoun copy phenomenon, (iii) the insertion of a relative element and (iv) use of POINTER buoys.

The previous sections have shown that relative clauses are accompanied by specific nonmanual markers, predominantly squint (including tensed eyes/cheeks). The use of these markers shows that the clause is dependent on the matrix clauses (31a). If the nonmanual elements were extracted, the sentence would have a different meaning and become two different clauses, as seen in (31b). When the matrix clause is removed (31c), the word constellation is nominalized and needs to be completed with foreground information.

(31)

    a. (010016) (repeated from 28a)

<div align="center">

___br___

_____hn_____ ___hn___

_____sq___ __'o'___ _____sq___

</div>

[**BUOY:1**   MARRY FINISH   IX$_i$] SINGLE$_j$ CL-MEET$_{(i,j)}$

The first (woman), who was already married, met (the woman), who was single.

    b.

<div align="center">

_____hn_____

</div>

BUOY:1   MARRY FINISH   IX$_i$ SINGLE$_j$ CL-MEET$_{(i,j)}$

The first (woman) was married. She met a single (woman).

    c.

<div align="center">

___br___

_____hn___ ___hn___

_____sq___ __'o'___

</div>

[BUOY:1   MARRY FINISH   IX$_i$]

The first (woman) who was already married …

Padden (1988) first suggested that a pronoun copy of the subject in a complex sentence could denote the relationship between a subordinate and main clause (see also Liddell 1980). The MC that is positioned between INDEXes is dislocated to the right, as in (32a). Similar phenomenon has been shown to occur in RCs in TİD, such as the example shown in (32b).

(32)

a. $_1$INDEX DECIDE $_i$INDEX SHOULD $_i$DRIVE$_j$ SEE CHILDREN $_1$INDEX.
I decided he ought to drive over to see his children, as I did.

(ASL, Padden 1988, p. 88)

b. $_1$HIT$_i$ $_1$INDEX, $_i$INDEX TATTLE MOTHER $_i$INDEX.
I hit him, (I did) and he told his mother, (he did).

(ibid.)

c. (08b0255):

	sq	hn

[IX$_i$ WOMAN$_i$ FIRST BUOY:1 MARRY FIRST IX$_i$] HEAR   SURPRISE
The woman who was the first wife heard and was surprised.

The findings from the data suggest that TİD may exhibit a potential relative element, which is discussed in details in Section 5.2.3. If we assume that the clause-final IX is an optional relative marker in TİD, inserting this element would be a test for RCs without an overt relative element. For instance, if we insert a final-clause IX into (33a), which does not have any overt relative element, we can check that the sentence is a relative clause (33b).

214

(33)

    a. (130038):

<pre>
          _ _ _ _ _ _ _ _ _ _ _____sq _ _ _
</pre>

    … [NURSING-HOME OLD ALL GROUP HOME] WORK CL-GO-COME

    ... (She) regularly visits the nursing home where mostly grandmothers live.

    b.

<pre>
                                               br
          _ _ _ _ _ _ _ _ _ _ _____sq _ _   'o'
</pre>

    [NURSING-HOME OLD ALL GROUP HOME IX] WORK CL-GO-COME

The last piece of evidence showing that TİD exhibits a subordinate clause, or at least a restrictive RC, is the use of POINTER buoys (Liddell 2003). POINTER buoys are one type of locative and/or discursive elements in signed languages (see for a summary Perniss 2007). Liddell (2003) states that rather than being pronouns, they are instead *gestural pointing in order to direct attention toward some entity* (p. 260). Such pointing gestures have been observed in three examples (see Section 5.1.3.3). One example is shown in (34), and repeated in (26), suggesting that the RC in (34a) is nominal and refers to the antecedent. (34b) shows that this gesture is replaceable with the subject, MAN.

(34)

    a. (160083)

<pre>
          br
          'o'

                        sq
                   _____
     (rh)   [iSHOOTj DIE] THINK DOUBLE
     (lh)   IXj----------------------
</pre>

    (He) was thinking about (the man) that I killed.

b.

(rh)   MAN THINK DOUBLE

(lh) IX$_j$---------

(He) was thinking about that man.

In summary, the evidence provided asserts that RCs are subordinated and remain somewhat at the nominal level. The strongest piece of evidence supporting this is the existence of the specific accompanying nonmanual elements. After clarifying the issue of whether RCs are subordinate clauses or not, we now turn to the four main topics: (i) syntactic properties of RCs in TİD, (ii) nonmanual markers in RCs in TİD, (iii) existence of relative elements in RCs in TİD and (iv) positions of RCs in TİD. The next sections provide linguistic evidence to support each statement.

5.2.1. Syntactic Category

Chapter 3 explained that relative clauses in spoken languages have two main syntactic categories to show whether the RC is subordinated to the head noun: embedded and adjoined RCs. Embedded RC can be further classified based on the structural relationship between relative clause and HN: (i) external RCs, (ii) internal RCs and (iii) free relatives. External RCs can be subcategorized into (a) postnominal and (b) prenominal.

Previous sections have shown that RCs in TİD are subordinated, leading me to therefore assume RCs in TİD are not adjoined. Further analysis of RCs as correlatives will not be made, though the adjoined RCs are circumnominals (de Vries 2002). The findings in Section 5.1.1 indicated that TİD exhibits three possible syntactic constructions: circumnominal, postnominal and free relatives. The next section analyzes each occurrence.

5.2.1.1. Circumnominals as Restrictive RCs in TİD

Section 5.1.1.1 shows that HN occurs within RC approximately 70 percent of the time. It has been asserted that TİD favors circumnominal-like constructions. However, the occurrence of head nouns at the beginning of RC suggests some

doubt about whether they are really circumnominal or not. There are two underlying evidences for the existence of circumnominal constructions (at least IHRC): (i) The spreading behaviors of the nonmanual marker cover HN, and (ii) temporal adverbs, which are a part of RC rather than MC, and occur before the HN, which modifies the RC (see also Liddell 1980, Branchini et al. 2007). Two examples are provided, supporting (ii) in (35). The first sentence shows that time adverbials may come before the head noun. The second sentence shows that head noun in an object relativization may occur within RC. These two examples are strong indicators of circumnominal RCs in TİD.

(35)

    a. (020058):

                                                                    ht
    _____ sq
    (rh)   [BEFORE FILM$_i$ TELL^NOT CL-PART$_i$] STOP IX
    (lh)   IX---
    Later, let it tell the storyline that I did not tell (intentionally).

    b. (030006):

                                                            br   hn
    _____
    …[IX$_i$ HEARING ONE FRIEND$_i$ FILM $_i$GIVE$_1$]   IX$_1$ CHANGE SIGN
    … I changed the story, which a hearing friend told me …

Section 5.1.6. implies that the majority of circumnominal RCs have restrictive reading. For instance, consider the examples given above, in which the head nouns are nonspecific and additional explanation is needed in order to clarify which referents the signers discussed. In the first sentence, the signer reveals part of the plot, without actually stating that he is discussing a section of the plot. Similarly, in the second sentence the narrator remarks on a story mentioned earlier by one of his hearing friends. In line with these ideas, I suggest that restrictive RCs in TİD are internally headed RCs.

However, in some cases HN may occur out of the scope of the nonmanual markers or can be repeated before RC or after RC. This suggests that TİD may contain more than simply a relativization strategy. The next section will explain these occurrences in the data.

5.2.1.2. Postnominals (or double HN) as Non-restrictive RCs in TİD

Non-restrictive RCs are known to have specific antecedents, i.e. proper names. What changes occur in a TİD sentence if the head noun has specific information? The sentence below provides the answer to this question. While the scope of brow raise covers both head noun and RC, squint is not spread over the head noun. As described in Brunelli's (2011) proposal, in some cases the head noun can occur immediately before the RC.

(36) (120120) (repeated from 30b)

<div align="center">

```
                              hs
          _____
                                    sq
          _____
                                   br         ht
          _____   _____
```

IX₁ HANGMAN [COMPETITION A-B-C] NOT-WANT

I did not like hangman, a game which uses letters.

</div>

However, Section 5.1.6. shows that postnominal-like constructions may have non-restrictive readings. It should be noted that while postnominal RCs can have either appositive or restrictive readings, circumnominals can only contain restrictive readings (de Vries 2002). There is a thin line between the examples of circumnominal and postnominal. The head noun, which is the subject of RC and MC, tends to occur at the beginning of a clause, which may lead to some confusion about whether the examples can be classified as circumnominal or postnominal. Sentence (37a) shows the grammatical incorrectness of the use of a specific antecedent within RC. There are two ways to make similar grammatical judgments: (i) replacing the specific antecedent with a nonspecific one (37b), or (ii) putting the head noun out of the scope of the RC (37c).

(37)

    a.

<div style="margin-left:2em;">

                                                                        sq

</div>

$*$ [YESTERDAY AHMET$_i$ $_i$VISIT$_1$] UNIVERSITY STUDY

Ahmet, who visited us yesterday, is a university student.

    b. inserting a nonspecific antecedent (restrictive circumnominal strategy)

<div style="text-align:center;">

              br

            sq   'o'

</div>

AHMET [YESTERDAY MAN$_i$ $_i$VISIT$_1$ IX] UNIVERSITY STUDY

    c. locating head noun out of RC (non-restrictive postnominal strategy)

<div>

        br   sq

</div>

AHMET$_i$ [YESTERDAY $_i$VISIT$_1$] UNIVERSITY STUDY

5.2.1.3. Free RCs

The use of free relatives is the third prominent relativization strategy in TİD. Approximately 17 % of examples do not exhibit overt HN. There are two possible explanations for these occurrences: (i) pro-drop in TİD and (ii) realization of head noun through sign space.

A text in TİD may consist of several sentences without any overt subject, as long as the referent of a subject is first introduced. If we assume that TİD is a prodrop language, the covert head noun in a subject relivization may also be omitted. For instance, in (38) the signer discusses a couple in a TV-series. Since referents had already been introduced into the discourse, there was no need for the signer to establish the reference to the antecedent. This suggests the possibility of free relatives in TİD, in which the referents are realized pragmatically.

(38) (070138)

                                                               sq

[IX FILM NOT-REAL] NOW REALLY MARRIED

(The couple) who were married in the film are married in real life.

For many free RCs in TİD, however, the locative expressions and the use of the signing space may assist the addressee to realize (or disambiguate) the referents. For instance, the signer in (39) is referring to a place where people gathered together to adore cult figures. Since the AYNI sign may be realized through agreement in space, the co-referentiality between RC and matrix clause can be recognizable through the location establishment that is glossed as 'loc1' in (39). It is unclear whether these RCs are free or not, but it is obvious that they do not contain any overt NP, which establishes co-reference to the matrix clause.

(39) (08a0182) (repeated from 12b)

                                                              hn

                        – – – – – – – – –   sq

AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME$_{loc1}$] CL-GATHER$_{loc1}$

Afterwards, in the morning, the people gathered at the same (place) that they used to adore the cult figures.

In principle, it is possible to construct free relatives in TİD. However, it should be noted that TİD, like any other signed language, is strongly based on discourse and locations in sign space. The head nouns can be derived pragmatically (or semantically), even though they are not overtly stated.

5.2.2. Non-manual Markers in RCs in TİD

Section 5.1.2. has introduced possible RC nonmanual markers in TİD: squint (with tensed eyes and/or cheeks), brow raise, headshake, head nod, and body lean. The most prominent domain nonmanual marker for RC in TİD is squint,

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though it does not necessarily require relativization to be marked. In this section, each nonmanual marker will be analyzed more in depth.

5.2.2.1. Squint

Dachkovsky & Sandler (2009) define the primary meaning of squint, commonly observed in ISL, as follows:

> *… by using squint, a signer points out to the addressee that the information so marked is not automatically or immediately accessible and is to be retrieved from his/her background knowledge…. The squint alone (without brow raise) can be associated with less accessible topics, relative clauses and temporal clauses with reference to the remote past* (pp. 302-303).

Similar to ISL, TİD frequently uses squint to focus on potential referents already introduced into discourse. As stated by the authors, squint in RCs is a strong nonmanual marker for restrictivity. Table 5.19 indicates that squint in TİD is used more frequently with restrictive RCs than non-restrictive RCs.

5.2.2.2. Brow Raise

As mentioned in Chapter 2, brow raise, at least in ASL, marks various syntactic constructions like topics, conditionals, wh-clauses etc. Such constructions are not consistent, however, meaning that brow raise can be applied to various linguistic structures to bring out both old and new information (Wilbur & Patschke 1999). Dachkovsky & Sandler (2009) suggests that brow raise in ISL, parallel to *high tone* in spoken languages, marks *signaling the continuation or forward reference* (p. 309).

Section 5.1.2.2 reveals that systematic distribution does not occur for brow raise in RCs in TİD. In other words, the scope of brow raise occurs either during head noun, or through RCs. Additionally, Table 5.4 indicates that it is also possible to use squint and brow raise at the same time. The previous section indicated that squint is relevant to 'shared information' (Dachkovsky & Sandler 2009). Brow raise can occur when the head noun wants to be topicalized. (40) shows two distinct spreading behaviors of brow raise. If the head noun is already

out of the scope of RC, namely postnominal EHRC as denoted in (40a), brow raise occurs only on the head noun. However, the behavior of brow raise is different during IHRCs, i.e. the scope is spread over RCs covering head noun, as in (40b).

(40)

    a. (010028) (repeated from (13b))

<pre>
                                          br
          br   sq   'o'   br
OTHER_i [FRIEND_j SAME   IX_j] WALK _iSEE_j SHUT-UP
</pre>

Another (woman) walked and saw (a woman) who is a friend (of hers) and shut up.

    b. (120259) (repeated from (15))

<pre>
                                          bl
                                          br
                                          sq
   hn
[EYE OPTICIAN GLASSES DROP] AGAIN DOOR HIT BREAK
</pre>

GLASSES

(He) broke his glasses, which he had dropped at the optician's office earlier, again by hitting the door.

In addition, according to Table 5.19, brow raise is slightly more common in non-restrictive RCs than in restrictive RCs. However, my analysis of brow raise in RCs in TİD indicates that they mark topicalization rather than apposity, in the vein of Brunelli (2006, 2011).

5.2.2.3. Headshake

Headshake is a nonmanual marking indicating negation in TİD (Zeshan 2003, 2004, 2006; Gökgöz 2009). However, such nonmanual markings can also be observed in RCCs in TİD that are not related to negation. It should be noted that in TİD, head tilt is a more prominent nonmanual marker for negations than headshake. Additionally, the instances of headshake observed in TİD in the context of negated utterances appear to be slightly different from those that occur in RCCs. Specifically, the density of headshake varies. Instances of headshake during negation sequences in RC are denser than those observed in TİD. It is important to note that headshake is not only observed during sequences of negation, however; they have also been found in interrogative questions (see Chapter 2). It is my belief that headshake in RCCs is comparable to instances observed in content questions.

5.2.2.4. Head Nod and Body Lean

Though head nod (a single head nod rather than repetitive as in affirmation), and body lean occur much less frequently than other nonmanual markers, they are nonetheless an important part of TİD's nonmanual markers in RCs. I claim, in agreement with Dachkovsky & Sandler, that head nod is one of the specific nonmanual occurrences at IP boundaries. As we saw previously in Table 5.8, head nod occurs at the end of RCs 40 % of the time.

5.2.3 Relative Elements in RCs in TİD

According to Section 5.1.3, there are two underlying potential relative elements: clause-final IX and the special AYNI sign. Clause-final IX may occur in both non-restrictive and restrictive RCs, as shown in Table 5.18, whereas AYNI strongly favors restrictive RCs. This indicates that AYNI is an optional relative marker in restrictive RCs.

I would like to focus on which functions clause-final IX exhibits in RCs in TİD. The next sections outline the five possible categories for clause-final IX, first introduced by de Vries (2002), that will be tested in this dissertation: a. Clause-final IX is a relative pronouns; b. Clause-final IX is a complementizer; c. Clause-

final IX is a relative marker; d. Clause-final IX is a relative affix; and e. Clause-final IX is simply a (resumptive) indexical sign.

Vries (2002) states that relative pronouns can be found in the sentence-initial position, filling the gaps and agreeing with the head noun. Relative pronouns are restricted with postnominal and correlatives, and generally found to possess a core form, i.e. demonstrative (as in German relative pronouns), or interrogative cores (as in English relative pronouns).

Pivotal index generally occurs either at the end of RCs, or between relative and matrix clauses. They cannot be found at the sentence initial position (compared to English, German and even DGS examples.), however, they seem to have a demonstrative core (i.e. pointing), and head noun agreement (i.e. clause-final IX may have dual and plural forms). They occur within circumnominal relatives. Therefore, I suggest that it is impossible for only "clause-final IX" to take the position of a relative pronoun, although the two share some similar properties.

If we were to assume that clause-final IX is not a relative pronoun, could it be categorized instead as a complementizer? According to Vries' revised typology of relative particles, relative complementizers are distinguished from other relative particles in three ways: *(i) a lack of case changes and/or agreement with head noun, (ii) an inability to fill in gaps and (iii) no movement* (p. 174). The analysis on final-clause IX passes only the second criterion, for two reasons. First, in rare cases a relative element may show number agreement with head noun (Section 5.1.3) and second, RC can be either fronted or postposed (see Section 5.1.4). Therefore, I claim that clause-final IX are not complementizers.

Relative markers are located at the beginning of the clause. Additionally, they agree with the head noun, and in that way differ from complementizers (de Vries 2002). In spite of the possibility of locating clause-final IX at the beginning of the clause, they strongly prefer to occupy the final position of the clause. So far, relative markers are realized only in postnominal EHRC constructions (ibid). The findings from the data have already proven that final-clause IX may also occur in circumnominal. Therefore, final-clause IX is not regarded as a relative marker.

Relative affixes are relative elements that are added to the verb stem, which is to be relativized. Since clause-final IX is not attached to a verb, or occurs immediately after a verb, it does not fit this category either.

Does clause-final IX belong in the final category, resumptive pronouns? Resumptive pronouns have often been found to be personal pronouns, or to have demonstrative functions (see also de Vries 2002). Vries distinguishes between personal pronouns and resumptive pronouns in that resumptive pronouns are always in situ. If clause-final IX can be considered a resumptive pronoun, it should be in situ in object relatives, which may be considered ungrammatical, as in (41b). Even in object relatives, final-clause IX comes immediately after RC, which is fronted, as in (41a). Again, it would be hard to define final-clause IX as a resumptive pronoun.

(41)

a. (08a0175) (Repeated from (20a))

‘o’

<u>   sq   br</u>

[TWO AXE$_i$ MODEL HAND IX$_i$] İBRAHİM FIND GET
İbrahim took two axes, which were in the hands of the cult figure.

b.

‘o’

<u>   sq   br</u>

*?[TWO AXE$_i$ MODEL HAND] İBRAHİM FIND IX$_i$ GET

As a result, clause-final IX is fairly different from the relative elements defined in de Vries' (2002) fine-grained typology of relative elements. It shows unique characteristics as compared to the typical categories. In the next section, final-clause IX will be compared to the relative elements in the other sign languages that were previously defined.

5.2.3.1. Comparison of Relative Elements Observed in Other Sign Languages.

Section 3.3.5. lists relative elements in the sign languages that have been documented so far, i.e. DGS, LIS, ASL, HKSL and LSC. According to the list, DGS exhibits relative pronouns in postnominals (Pfau & Steinbach 2005b). Branchini & Donati (2009) claim that PE signs are obligatory determiner-like elements for circumnominal RCs in LIS. Unlike DGS and LIS, ASL exhibits relative conjunctions (THATa, Liddell 1978), which function as determiners. Mosella Sanz (2011) presents a special nominalizer MATEIX in circumnominal RCs in LSC, which resembles PE signs in LIS. HKSL exhibits clause initial IX and clause final IX (Tang et al. 2010).

Relative pronouns (for nonhuman referents) in DGS are the same as clause final IX (Pfau & Steinbach 2005b). However, as explained in Section 3.3.2, DGS relative pronouns are obligatory and precede the head nouns, as in (42). The authors indicate that it is impossible for RPROs to occupy a final-clause position. It is obvious that final-clause IX in TİD is not the same as RPROs in DGS.

(42)

$$\overline{\qquad \text{re} \qquad}$$
[BOY [RPRO-H$_3$ CAT STROKE]] POSS$_1$ BROTHER

The boy who is stroking the cat is my brother.

(DGS**,** Branchini et al. 2007, p. 7)

While IX and RPRO can co-occur in human referents, this is not possible in nonhuman referents because they are phonetically the same (Branchini et al. 2007). According to the Obligatory Contour Principle (OCP), adjacent identical tones are disallowed at a certain level of grammar (Goldsmith 1976, p. 36), which is why IX and RPRO (nonhuman) cannot co-occur.

In regards to relative elements in ASL, Liddell (1978, 1980) has described three different versions of the sign THAT, hereafter referred to as THATa, THATb and THATc (Section 3.3.1). Because it is usually located at the end of the

sentences, THATc is equivalent to final-clause IX in RCs in TİD, as in final-clause IX. However, Liddell does not believe that THATc is within the scope of RC, as in (43). Surprisingly, final-clause IX does not always occur within the scope of nonmanual markers for RCs. It is also possible for final-clause IX to have the same properties. Vries (2002) states that within fine-grained relative element typology, the potential relative element cannot always be clearly categorized.

(43) ASL THATc (Repeated from Chapter 3 (64))

<div align="center">

_____ i

_____ r

'ME' FEED [[DOG BITE CAT THATb]$_S$ THATc]$_{NP}$

I fed the dog that bit the cat/ I fed the cat that the dog bit.

</div>

PE signs, which are obligatory for RCs in LIS, have a nominalizing function (Branchini 2006; Branchini et al. 2007; Branchini & Donati 2009). For instance, (44ab) shows that PE can occur after nouns or adjectives constructing nominal phrases. PE can also function as a determiner, as in (44c). The strong evidence for nominalizing status of PE can be found in (44d): according to Branchini et al. (2007), *PE the ordinals can be modified by ordinals* (p.4). PE signs can interact with the signing space, as well as indicate instances of co-referentiality between head noun and matrix clause. The matrix clause can include an optional IX co-occurring with a PE sign, as shown in (44e).

(44) PE sign in LIS

    a. FIRST PE

       the first one

    b. SMALL PE

       the small one

c.   rb

HOUSE PE ANNA BUY WANT

It is a house that Anna wants to buy.

d.   rel

FIRST WOMAN KISS PE NOW BANK WORK

The first woman I kissed now works in a bank.

e.   rel

[TODAY MAN PIE BRING PE_i] YESTERDAY ($INDEX_i$) DANCE

The man that brought the pie today danced yesterday.

(Branchini et al. 2007, pp. 3-4)

Clause-final IX in RCs in TİD strongly resembles the LIS PE sign. Clause-final IX can occur in nominal contexts, as shown in (45ab). It even has the option of acting as a determiner, as in (45c). The RC can also be modified through the use of ordinals (45d). It cannot, however, co-occur with an IX, because final-clause IX already has this determiner function. As can be observed in the DGS nonhuman RPROS, clause-final IX and IX can combine. However, due to OCP, IX most likely cannot be repeated, as we observe in (45e). Because of the phonetic similarity between final-clause IX and pointing (aka IX), there is also an alternative explanation: rather than having a nominalizing function, final-clause IX is indeed IX. This point is, however, open to further discussion.

(45)

a.   'o'

     sq   br

FIRST IX

the first one

228

b.   'o'

       sq   br

SMALL IX

the small one

c.   'o'

    br   br

CAR IX SINAN BUY FINISH

That is the car that Sinan has bought.

d. (08b0295) (repeated from (8)):

                                         'o'

                              sq   br   hn

…. İBRAHİM GO$_{loc}$ [FIRST WIFE GO$_{loc}$ IX$_{loc}$]

He went to (the place) where his first wife was.

e.   'o'

                 br   br

*? [TODAY MAN PIE BRING IX$_i$]   **IX$_i$** YESTERDAY DANCE

The man that brought the pie today danced yesterday.

The LSC sign MATEIX, which means 'the same', can also be used as a nominalizer (Mosella Sanz 2011). Mosella Sanz goes on to suggest that MATEIX has been grammaticized into a relative element. While PE signs are strictly obligatory in LIS' RCs, the similar relative morpheme MATEIX found in LSC is optional. Mosella Sanz explains that if MATEIX occurs at the end of sentence, nonmanual markings for RC may only be weakly spread over RC. The clause-final IX is also very similar to MATEIX, for three reasons: (i) optionality of relative element, (ii) possible grammaticization from a lexeme or pronoun, (iii)

nominalization function. If clause-final IX is indeed a relative morpheme, it should therefore be categorized together with MATEIX.

Tang et al. (2010) indicates two possible IXs in IHRC in HKSL: (i) clause initial IX and (ii) clause final IX. The underlying distinction between the two categories are nonmanual markers. They relate the first IX to definiteness, and claim that clause-final IX is a determiner/relativizer. However, its use is not a requirement, since nonmanual markers on their own clearly indicate that they are relativized. As a result, the potential relative elements are identical to those in HKSL. Tang et al. use the term relativizer, though unfortunately it is still not clear what kind of relativizer can be found in both HKSL and TİD.

These comparisons suggest a new category for relative elements used in signed languages, because of the remarkable corresponding similarities between PE in LIS, THAT in ASL, MATEIX in LIS and clause-final IX in both HKSL and TİD. Each is a relativizer/nominalizer occurring in IHRCs. The resulting list of the main functions of final-clause IX in TİD is as follows:

(46)
    a. Phonetically identical to indexical signs.
    b. Possible agreement with the signing space and containing
      demonstrative/determiner attributions.
    c. Demonstration of overt pivot between RC and matrix clause.
    d. Use of subordinating functions (the Section 5.2).
    e. Nominalization properties.
    f. No variation in terms of animacy (unlike DGS relative pronouns).
    g. Pronoun copy phenomenon can occur in RCs in TİD.
    h. May be embedded within RCs in a position close to head nouns.

5.2.4 Positions in RCs in TİD

After clarifying the relative element issue in TİD, this section will focus on the possible resulting positions of RC. According to the findings presented in Section 5.1.4, TİD strongly favors fronted RCs, as seen in (47a). The RC itself is

the object of the matrix clause, but is introduced before RC. Conversely, RC also has the option of remaining in situ. (47b) provides an example of an in situ RC. In this example, the subject IX_1 comes before the object HANGMAN. However, it should be noted that the relativization strategies of these two examples vary. (47a) and (47bc), for example, are circumnominal and postnominal, respectively. Since TİD allows both strategies, it is no surprise that both preposed and in situ positions are possible. The corpus reveals some postposed examples, though they are infrequently used. For instance, the verb of a matrix clause comes before RC in (47c), constituting SVO order instead of typical SOV word order normally seen in TİD.

(47)   a. (08b0222):

          hs
    _____
              sq
    _____

    BUT [MAN RUN-AWAY] GOD ALL CATCH   FIRE SPREAD
    But the god caught them and fire spread over all of the men who were running away.

    b. (120120) (Repeated from (31b) and (37)):

              hs
    _____
                sq
    _____
                        br   ht
    _____ _____

    IX_1 HANGMAN [COMPETITION A-B-C]   CL-NOT-WANT
    I did not like hangman, a game which uses letters.

    c. (08b0295) (Repeated from (8)):

                    'o'
                _____
                    sq   br   hn
    _____ _____ ____

    …   İBRAHİM GO_{loc} [FIRST WIFE GO_{loc} IX_{loc}]
    Ibrahim went to (the place) where his first wife was.

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Chapter 3 introduced the possible positions of RCs in various sign languages. In regards to DGS, postnominal constructions allow in situ occupation of RC (Pfau & Steinbach 2005b). On the other hand, circumnominal constructions, such as those found in LIS and LSC, prefer to position a sentence's relative clause and head noun before matrix clauses (LIS: Branchini et al. 2007, LSC: Mosella Sanz 2011). However, LIS and LSC also exhibit postposed relative clauses. Compared to RCs positions in TİD, postnominal RCs behave like RCs in DGS. Additionally, circumnominal RCs have been observed to be parallel to PE-clauses in LIS, and to RCs in LSC.

5.3. General Summary

Circumnominal, postnominal and correlative relativization strategies can all be found in signed languages. As the research presented in this paper shows, TİD favors the circumnominal strategy, also used in LIS, LSC and HKSL (for similar comparison see also Branchini 2014). However, like DGS, some TİD sentences were also found to use postnominal-like constructions, though these occurrences were found to be rare. TİD does not use prenominal or correlative relativization strategies, however (see Table 5.21).

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT	TİD
Postnominal	+	+	-/+	+	-	n.d.	+?	+	+
Prenominal	-	-	-	n.d.	-	n.d.	n.d.	n.d.	-?
Circumnominal	+	-	+	+	+	+	+?	n.d.	+
Correlative	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.	-?

Table 5.21 - Main relativization types and sign languages

Table 5.22 lists the nonmanual markers accompanying RCs. Usage of these markers in TİD does not differ strongly from usage in other sign languages. Squint (including tensed eye and cheeks) occurs most often in TİD. Instances of brow raise (preferably in postnominal constructions), single slight head nod (resembling

a head forward movement), body lean and headshake have also been found to occur. According to the data presented in Table 5.22, headshake seems to be unique to RCs in TİD.

	ASL	DGS	LIS	LSC	HKSL	ISL	NGT	**TİD**
Eyebrow raise	+	+	+	+	+	?	+	**(+)**
Tensed lips	+					+		+
Tensed cheeks			+					+
Tensed eyes/squint			+	+		+		+
Back head tilt	+							
Head forward					+	+		+
Body lean		+		+				+
(Headshake)								+

Table 5.22 - Non-manual markers for RCs in sign languages

Next, I will compare RC's relative elements in different signed languages. Table 5.23 compares the relative elements observed so far. Unlike DGS, relative elements in TİD can be covert (zero strategy). TİD has also been observed to exhibit a basic relativizer: final-clause IX accompanied with brow raise and mouthing 'o'. Section 5.2.3 suggested that those signed languages using a circumnominal strategy may prefer to use an optional nominalizing determiner, such as a relativizer with the exception of the PE sign in LIS because of its obligatory nature. This section indicates that signed languages exhibit a new kind of relative element, grammaticized from a lexeme, as in LSC's MATEIX or any pronominal like sign found in HKSL and TİD.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT	**TİD**
Relative pronouns	n.d.	+	-/+	n.d.	-	n.d.	n.d.	n.d.	**-?**
Resump. pronouns	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.	**-?**
Zero strategy	+	-	+	+	+	n.d.	+	+	**+**
Special signs	THAT	n.d.	PE	n.d.	MATE IX	IX	n.d.	n.d.	**IX**

Table 5.23 - The use of relative elements in sign languages

The position of RCs in TİD depends on relativization strategies. For instance, EHRC constructions in TİD may be in situ, whereas IHRC constructions prefer fronted positions but may occasionally use postposed as well.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT	**TİD**
In situ	EHRC	+	-/+	+	-	+	EHRC	+	**EHRC**
Fronted	IHRC	+	+	n.d.	+	+	IHRC	n.d.	**IHRC**
Extraposed /postposed	?	+	+	n.d.	+	n.d.	n.d.	n.d.	**IHRC**

Table 5.24 - The positions of relative clauses in sign languages

As a result, TİD exhibits two basic relativization strategies: circumnominal and postnominal. Such constructions do not necessarily include a relative element, but do require use of the nonmanual marker squint. Depending on context, other nonmanual markers, such as brow raise, headshake, head forward, and body lean, may also be used. This does not mean, however, that TİD displays no relative elements. Similar to HKSL (Tang et al. 2010), a clause-final IX can function as a

nominalizing determiner, such as a relativizer. Circumnominal strategy in TİD strongly favors a fronted position, whereas postnominal strategy prefers in situ RC.

CHAPTER 6: DISCOURSE BASED ANALYSIS of RCCs in TİD

This chapter focuses on the function of relative clause constructions in various discourse modes from a linguistic point of view, in the framework of the Segmented Discourse Representation Theory (SDRT: Asher & Lascarides 2003). Discourse passages cover smaller linguistic units, i.e. sentences and clauses. SDRT is an approach that makes it possible to analyze the relations between discourse units. According to Smith (2003), these discourse units may exhibit five main, varying discourse modes: narrative, description, report, information and argument. Each discourse mode includes specific linguistic characteristic properties. Smith suggests that there are two important features underlying the distinction between the discourse modes: types of situation, and principles of progression.

Section 6.1. defines each discourse mode provided by Smith (2003) along with their underlying principles. Section 6.2. explains the dynamic semantics and discourse structure of the Segmented Discourse Representation Theory. Section 6.3. outlines the referred expressions in the discourse and familiarity of status of referring expressions. Section 6.4. provides an analysis of RCCs in TİD within the three main discourse modes (narrative, information and description), represented by Segmented Discourse Representation Structures (SDRS). Section 6.5. summarizes these findings and their implications.

6.1. Discourse Modes (Smith 2003)

Sentences require context. Those sentences which lack context do not contain sufficient information to analyze their nature and meaning. Smith (2003) believes that contextual information gives us possible explanations about why a certain sentence construction is preferred, or why certain grammatical terms are used. As a general rule, sentences are realized within the dynamics of discourse. A new sentence, when introduced into discourse, contains specific representation rules, adapting it to previous sentences and contextual information. Smith's (2003) work was inspired by the contextual representation of discourse units: Discourse Representation Theory (DRT Kamp 1981 and Kamp & Reyle 1993).

Smith recognizes five main discourse modes, all of which occur in text: narrative, description, report, information and argument. She identifies each discourse mode via their differing linguistic features. However, texts are not automatically paired up with a single discourse mode. A text may cover various units with different discourse modes. For instance, narrative passages may include some description units.

Smith uses two main linguistic features: situation types, such as event or state, and grammatical terms, such as tense or pronouns. Various discourse modes may rely on different types of situations. Specifically, the use of particular types and depiction of situations can give a clue about the discourse mode of the text passages. The second piece analyzes the grammatical terms within a specific context. The use of pronouns, for instance, may differ in discourse modes. The next sections will briefly explain each discourse mode and describe which characteristic traits each mode exploits.

6.1.1. Narrative

Discourse passages in the narrative mode consist of *episodes, events and states* in sequences, which are *temporally related to each other* (Smith 2001, p. 186). Entities are generally realized in events or states. The temporality of sentences is located in a specified time. Narrative passages include *narrative advancement*, namely the sequence of events, which are related to each other in that specific time (ibid.).

The corpus of TİD includes many narrative passages. One example is shown in (1). The narrator tells an anecdote about the prophet Ibrahim's first wife. The passage discusses Ibrahim's second marriage, which took place because he wanted children and his first wife was infertile. The unit (1) discusses three angels informing Ibrahim and his first wife that the first wife will get pregnant soon.

(1)

(08b0242)

```
                                        ‘o’
                             ___hs___ ___hn___
_____ br ___ br _____ sq
IXᵢ 3 ANGELᵢ 3 REASON FOR [IXⱼ WOMANⱼ BUOY:1 PREGNANT
```

```
                  ‘o’
               ___hn___                                    ___hn___
_____ sq ___ br ___
BE^NOT OLD IXⱼ FOR] PREGNANT BE MIRACLE M-I-R-A-C-L-E
```

FOR ᵢINFORMⱼ WAIT COME

The reason that the three angels waited was to give a miracle to the woman,
who was the first (wife), could not get pregnant, and was getting old.

The passage units from (0240) to (0244) include a series of events, comprised of a sequence of narrative advancements (see sequence (2)). The story's timeline goes through the years of Ibrahim's adolescence and his marriages. Therefore, the unit (1) is considered an element to be realized in a narrative mode. Smith (2003) analyzes various passages in English. The sample of TİD analyzed here uses her notation techniques. Events and states, for example, are marked with E (bounded event) and S, respectively. Segments indicated by arrows signify the narrative advancement (pp. 14-15).

(2)

    Context: three angels inform Ibrahim and his first wife that the wife will soon become pregnant.

    narrative (08b):

    Sequences from (0240) to (0244):

    …

    (0239)$_E$➡: Three angels in human form appear in front of Ibrahim's house.

    (0240)$_E$➡: Ibrahim greets them, offers to host them in his house.

    (0241)$_S$: Ibrahim and his first wife were not aware that the guests were actually angels.

    (0242)$_S$: The three angels arrived in order to inform Ibrahim and his first wife that the first wife would soon be pregnant.

    (0243)$_E$➡: The guests want to enter Ibrahim's house.

    (0244)$_E$➡: Ibrahim welcomes them.

    (0245)$_E$➡: The guests ask for a meal after their long journey.

    …

The arrows following each event indicate narrative advancement, as in (239), (240), (243), (244) and (245). However, two units, (241) and (242), are realized instead as states, and do not advance the narrative time.

In sum, the discourse units which suit three important criteria (listed below) are considered to be situated within the narrative mode: (i) events and states (ii) locality of time, and (iii) events occurring within a narrative advancement. The relative clause construction in (1), for example, when analyzed within its context, demonstrates the typical characteristics of the narrative mode.

6.1.2. Description

The text passages in the mode of description also introduce *states* and *events* (as well as *ongoing events*) into the universe of discourse. Different from the mode of narrative, during the mode of description, temporality is observed as *static* (not dynamic), and *located in time*. Descriptive mode has generally been observed to have *spatial advancement through scene or object* (Smith 2003, p. 20).

A few text passages have also been realized in the descriptive mode. Such examples are observed within narrative modes. A narrator may switch between two or more different discourse modes. One instance is shown in (3). In the passage, Ibrahim wants to remove cult figures that are found in a temple. The signer describes this temple, full of cult figures, from (0174) to (0175a). After (0175b), the signer adds an event, within which part of the narrative advancement occurred, before (0174). The segments from (0174) and (0175a) can generally be described as states, and are expressed in static time referring to the time during which the events occurred.

(3)

Context: Ibrahim wants to destroy sculptures that are adored by the native people. He enters the temple and starts to destroy cult figures.

Description and narrative (08a):

Sequences from (0173) to (0178):

…

(0174a)$_S$ The room, identified as the temple, is full of numerous stone sculptures, located side by side.

(0174b)$_S$ There is enough space for the people in the room to adore the sculptures, but there are no people.

(0175a)$_S$ There is a big cult figure and an axe.

(0175b)$_E$➔ İbrahim takes two axes, which were in the hands of a cult figure.

(0176)$_S$ The axes are big enough to easily destroy any stone objects.

(0177)$_S$ There are numerous sculptures.

(0178)$_E$ ➔ Ibrahim destroys all the sculptures with the axes.

…

An example of RCCs in TİD, shown in (4), offers a more narrative mode. There are no samples of RCCs in the corpus of TİD. This dissertation does not include analysis on RCCs in the description mode.

(4) (08a0175):

$$\text{‘o’}$$

$$\underline{\text{hn}} \quad \underline{} \quad \underline{\text{sq}} \quad \underline{\text{br}}$$

FIGURE PERSON CL-_{BIG} AXE EXIST [TWO AXE_i MODEL HAND IX_i]

İBRAHİM FIND GET

There was a big cult figure and two axes. İbrahim took two axes, which were in the hands of a cult figure.

6.1.3. Report

Passages in the mode of report, such as the narrative mode, include *events and states*, however *Speech Time determines the temporal advancement* (Smith 2003, p. 30). In other words, time is linked to the actual time of the narrator. Report mode is unique, due to its *deictic advancement* characteristics (ibid.). NOW in (5), for example, refers to the time during which the speaker is talking (speech time).

(5) (070138):

$$\underline{} \quad \underline{\text{sq}}$$

[IX FILM NOT-REAL] NOW REALLY MARRIED

(The couple) who were married in the film are married in real life.

TİD's corpus includes a few passages in report mode. An example sequence is shown in (6). In it, the signer discusses the protagonists (a couple) in a television series. There are various clues that the narrator is now in speech time. For instance, in the sequences (0135) and (0136), he explains that the most recent season of the series has ended, and a new season will begin in winter. The addressee realizes pragmatically that the time has now changed to speaker time.

(6)

    Context: The signer mentions the couple in the series. The protagonists are going to be married in the series. The season is over. The signer then reports that the couple in the series is married in real life.

    Report (07):

    Sequences from (0135) to (0141):

    …

    $(0135)_S$: It is summer and the season is over.

    $(0136)_E$: As the winter approaches, the series will continue from where it left off.

    $(0137)_E$: They will be married.

    $(0138)_E$: The couple, who were married in the series, are really getting married.

    $(0139)_S$: It is surprising that the couple in the series has fallen in love with each other in real life.

    $(0140)_S$: They are happily married, and they love each other.

    $(0141)_E$: They started to love each other while they were on set.

    ….

Two important criteria for realization of the mode of report are (i) deictic progression referring to speech time and (ii) dynamic progression of time (Smith 2003). In such a mode, four samples of RCCs are observed in the corpus. One of them is indicated in (5), and regarded within the context, with the typical characteristics of report mode.

6.1.4. Information

Information mode differs from the modes listed above. Passages that introduce *propositions* and *generalizing statives*, which are realized in an *atemporal mode* can be considered part of the information mode (Smith 2003, p. 17). The progression of time cannot be realized in either a temporal and spatial location. Smith refers to *metaphorical motion* as the generalized progression of time, and states that spatial location generally occurs in this mode (p. 31).

The TİD corpus covers several modes of information passages. In the sample passage (7), the signer explains how to remove wallpaper. The signer usually makes reference to the generalizing time of the situation. Smith uses the term *primary referent* to refer to the centering of time in a general manner, in which states and events are linked to a central referent of generalizing states and entities. (p. 31). *The idea of a semantically central referent is based on our intuition of what is salient and most significant in a situation* (ibid., p. 124). In a series of sequences, any specified time is usually atemporal. The sequences shown in (7) includes four generalizing events, notated as 'Ge.'

(7) *Context*: The signer wants to give tips on removing old wallpaper.
Information (17):
Sequences from (0019) to (0021):

…

(0019)$_{Ge}$ If you want to remove wallpaper, what should you do?
(0020a)$_{Ge}$ First, you fill a bucket with hot water (it may also be warm), then put dishwashing detergent inside.
(0020b)$_{Ge}$ You have to buy a soft sponge, with a hard substance on the top and a soft

substance under.
(0021)$_{Ge}$ After submerging the sponge in the water, so that wallpaper is removed easily, apply the sponge gently to the wallpaper.

…

The mode of information differs from the other discourse modes in terms of (i) atemporality and (ii) metaphorical progression of time (Smith 2003). These properties also apply to the next discourse mode, argument. The underlying difference between the information and argument modes are analyzed in the next section. Six samples of RCCs are observed in the TİD corpus. The RCCs, which are exhibited in passage (8), pass the criteria mentioned above and may be analyzed in this group.

(8) (170019):

	hn			hn	hs
		br			br

[HOME SOME **WALL-PAPER**$_i$ EXIST IX$_i$ IN] REMOVE WANT WHAT-DO

If you want to remove wallpaper, which some houses have, what should (you) do?

6.1.5. Argument

According to Smith (2003), an argument passage will include claims, comments, arguments, or support a specified idea, which occurs in the form of generic sentences. Although both argument and information appear similar, argument mode passages include facts, propositions and contrastive ideas (ibid).

The series of sequences denoted in (9) presents a typical passage in argument mode. The signer discusses which term accurately represents the Deaf community in Turkey. Instead of using the term işitme engelli (Hearing disabled/impaired), he states that sağır, or 'Deaf' should be used instead. The sequence from (0146) and (0150) covers claims, comments, facts and generalizing comments.

(9)

> *Context*: The signer explains why the term 'Deaf' should be used, instead of 'hearing impaired'.
>
> Argument (09):
>
> Sequences from (0146) to (0150):
>
> …
>
> (0146) Truly, it does not mean that we are regarded as radicals if we use the term 'Deaf'.
>
> (0147) Many people are indecisive about which term should be selected.
>
> (0148) I have met several Deaf people around the world and have read books related to Deafness.
>
> (0149) The books, which were recently published, mostly discuss Deaf people.
>
> (0150) I would rather use the word 'Deaf', because we have to specify our Deaf identities.
>
> …

In the data, several RCCs have been realized within the argument mode. In addition to the criteria expressed in the information mode, the decision as to whether or not passages are realized in argument mode is based on whether the core message of the passage includes claims, comments, facts and arguments. A sample RCC derived from a passage in argument mode is shown in (10). This unit displays a generalizing event.

(10) (090149):

$$\text{hn}$$
$$\text{'o'}$$
$$\text{hn} \qquad\qquad \text{sq} \qquad \text{br}$$

BOOK WRITE   [IX$_i$ BOOK$_i$ PRESS BEFORE PRESS IX$_i$ IN] MANY TALK D-E-A-F

The books, which have been recently published, mostly discuss Deaf people.

6.1.6. Analysis of Discourse Modes in Corpus

The four modes of discourse, narrative, information, report and argument, have underlying RCCs in the database. The aim here is to analyze the functions of RCCs in discourse. Table 6.1 shows how many RCCs are realized for each discourse mode (see also Appendix L). Table 6.1 shows a much higher frequency of RCCs in the narrative passages, however, as has been stated before, the database was too imbalanced to draw reliable conclusions from this fact.

Discourse modes	RCC occurrence
Narrative	105
Information	6
Report	4
Argument	3

Table 6.1 - Occurrences of RCCs in various discourse modes

Many RCCs serve to consciously maintain the referent in terms of its previous role in the discourse, by: (i) co-relating the previously introduced referent, and (ii) anaphoric expression. Section 6.4. discusses which functions RCCs have in the specified discourse modes. Before analyzing the functions of RCCs, the next section introduces Segmented Discourse Representation Theory (SDRT) (Asher & Lascarides 2003).

6.2. Segmented Discourse Representation Theory (Asher & Lascarides 2003)

Segmented Discourse Representation Theory is the framework for analyzing examples involving anaphora or other kinds of semantic ambiguities. It is developed from Discourse Representation Theory- DRT (Kamp & Reyle 1993). Text passages are analyzed within rhetorical structure (Mann & Thompson 1988).

Although Discourse Representation Structures (DRSs) are used in SDRT, there is a realization of dynamic notion of meaning in the interpretation of

246

discourse. In DRSs, entities and the relation between entities are represented. A simple DRS is represented in (11). The variables x and y symbolize the referents mentioned in the sentence: two women. In the clause, two different variables have entered into the discourse: t and z. The RCC referents are connected to the referents in the matrix clause.

(11) Representation of RCC in DRS:

Context: (in a village) There are three women. One of them is single while two of them are married. The single woman is jealous of the married women because they are visiting each other.

a. (010010):

	br
	'o'
sq	hn

[BUOY:1$_i$ BUOY:2$_j$ MARRIED MARRIED IX(2) SAME(2h) IX(2h)$_{(i,j)}$]

VISIT$_{rec(i,j)}$ CHAT

The second and third (person), both of whom are married, visited each other and chatted.

b.

$$
\begin{array}{|l|}
\hline
\quad\quad\quad\quad\quad \text{x, y} \\
\overline{\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad} \\
\text{x} \in \text{X} \\
\text{y} \in \text{Y} \\
\text{second (x)} \\
\text{third (y)} \\
\begin{array}{|l|}
\hline
\quad\quad\quad \text{t, z} \\
\overline{\quad\quad\quad\quad\quad\quad\quad} \\
\text{t} \in \text{X} \\
\text{z} \in \text{Y} \\
\text{second (t)} \\
\text{third (z)} \\
\text{married (t)} \\
\text{married (z)} \\
\hline
\end{array} \quad \Rightarrow \begin{array}{l} \text{x=t,} \\ \text{y=z} \end{array} \\
\text{chat (x,y)} \\
\hline
\end{array}
$$
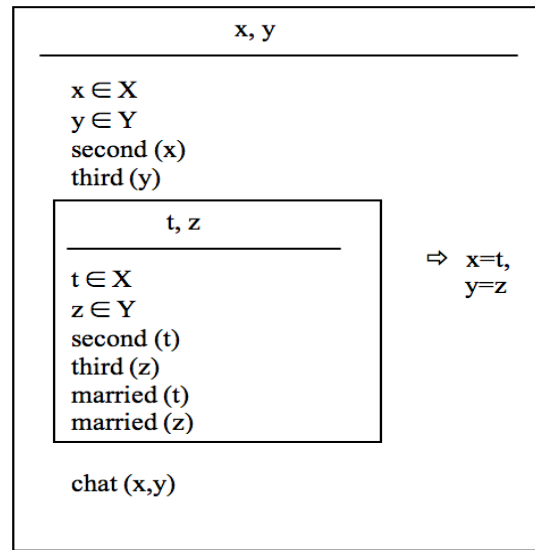
Within this framework, discourse referents are also involved. However, these referents are involved only when we can interrelate the labels $(\pi_1 ... \pi_k)$, which indicate that for each segment or discourse chunk, the referents are also connected. The Rhetorical Structure Theory investigates the meaningful relations between discourse units within a passage. Because of this, the previous segments are included in the analysis. For instance, the segments from π_3 (0003) to π_6 (0006) are denoted in (12). If the previous segments are analyzed carefully, it is apparent that three referents have already been introduced into the discourse. A relationship should therefore exist between π_4 and π_{10}, as well as π_5 and π_{10}.

(12) Indication of the previous segments

(01):

....

π_3 (0003): There were three women who had known each other for years.

π_4 (0004): One woman was married.

π_5 (0005): Another woman married thereafter.

π_6 (0006): The third woman was still single.

....

π_{10} (0010): The second and third women, both of whom are married, visited each other.

SDRT provides a theoretical framework for analyzing the connection between the referents, (such as the second and third women in π_{10}). SDRS are interconnected through rhetorical relations (narration, elaboration, parallel, contrast, explanation, background, etc.), and keeps entities, referents and segments modular. SDRT is therefore unique in that it is able to represent each segment within a module and shows the interrelations between modules using logic information packaging.

Rhetorical relations may occur in various forms, including narration and elaboration (Mann & Thompson 1988, see also Taboada & Mann 2006). Narration's function is to introduce new information into the sense of continuation of the sequence. Elaboration's role is to provide new information that refers to the information already introduced in the discourse. (13) provides a scheme showing rhetorical relations between the segments that are presented in (12).

(13) Exemplifies each discourse chunk in rhetorical structure (Mann & Thompson 1988)

$$\pi_3$$

elaboration

$$\pi_4 \quad \underline{\text{narration}} \quad \pi_5 \quad \underline{\text{narration}} \quad \pi_6$$

elaboration

$$\pi_{10}$$
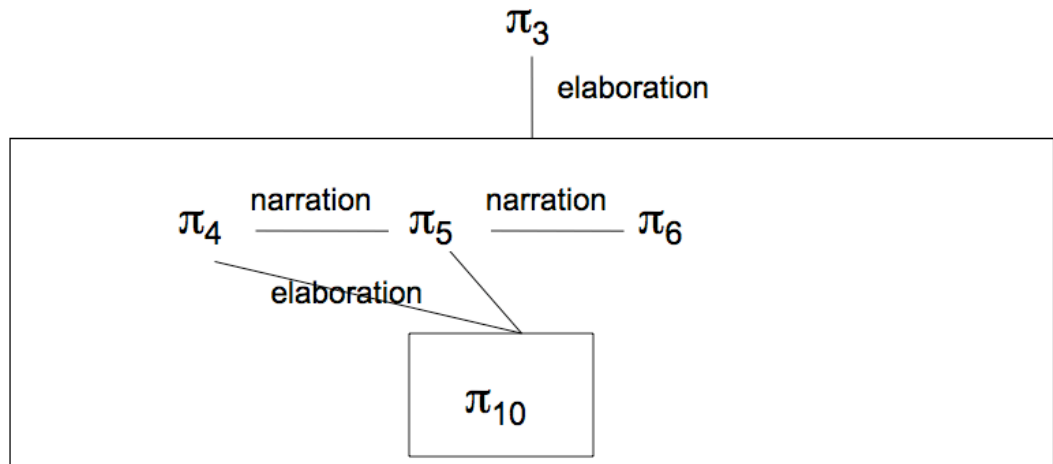
SDRS is composed of various DRSs, interconnected through rhetorical relations in order to realize the dynamic notion of the discourse. As represented in (13), π_3 introduces three different referents into the discourse. The labels π_4 through π_6 refer to the information mentioned in π_3 (elaboration). In that instance, the box representations of π_4 through π_6 are represented within the box representation (DRS) π_3. In contrast, the sequences π_4 through π_6 are presented in the form of an introduction of information in the sense of continuation of the sequence (narration). Such DRSs are represented side by side. As a result, the discourse referents in that passage are kept within a module without changing the logic of each segment.

(14) Representation in Segmented Discourse Representation Theory
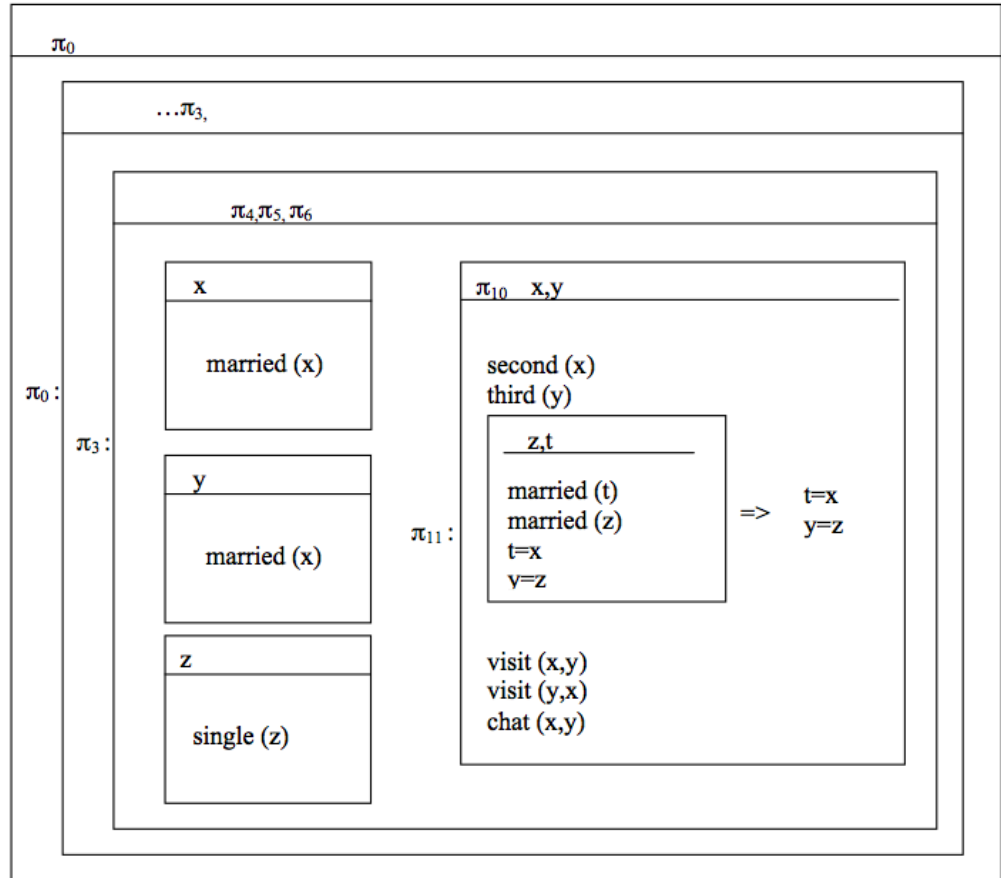
Extending DRSs to include referents introduced into the discourse with a sense of rhetorical relations enables us to analyze the passage within a framework. The continuation of discourse also makes it possible to add a DRS into SDRS. SDRT therefore provides a dynamic reading of discourse entities. In the next sections, each segment will be regarded according to the criteria of SDRT.

The main topic of this dissertation is RCCs in TİD. Therefore, RCCs are analyzed in SDRT. Before analysis, the next chapter explains how the linguistic form of RCC as a referring expression may be realized.

6.3. Referring to the Expressions and Their Familiarity Status

This section discusses the role of expressions used to refer to discourse. Smith (2003) indicates that the linguistic form of such expressions hold a clue to

the type of reference being made. Referents also alter their form depending on the familiarity of a status.

In Section 6.3.1, the degree of familiarity status and its relation to linguistic forms is discussed. Section 6.3.2. analyzes the information status of two different references expressing (i) head and (ii) modifying clause.

6.3.1. The Familiarity Status of Referring Expressions

A speaker selects a specified linguistic form when they make reference to an entity or a referent. The linguistic form depends on the familiarity status of these references (Smith 2003). The selection of a linguistic form is decided based on Gricean maxims (1975). References may either introduce new referents into discourse (new), or introduce referents that already exist in the discourse (familiar). These two statuses may be further categorized in terms of the familiarity status taxonomy from Prince (1981; see also Chafe 1980; 1987), which divides between new, unused, inferrable, textually and situationally evoked entities (15).

(15) Prince's categories of familiarity status (1981; 1992 cited from Smith 2003, p. 142):

Brand new: create a new discourse referent for a previously unknown object;

Unused: create a new discourse referent for a known object;

Inferable: create a new discourse referent for an inferable object;

Evoked: (textually or situationally) access an available discourse referent.

According to Prince's taxonomy, new information is realized as either brand new or unused. The underlying distinction between these terms is that brand new refers to entities, unknown to the addressee, introduced into the discourse, while unused information refers to entities, known to the addressee, that are not active. Familiar information can also be divided into two different categories. Inferable status refers to an entity triggered by another, earlier-introduced, entity. Evoked status is the reintroduction of the entities that have already been introduced into the discourse.

The correlation between linguistic form and information (Gundel et al. 1993) can be seen in the form of ranking referring expressions according to the 'cognitive status' of the receiver. There are six degrees of status. Reference types may occur through either closed systems (i.e. noun phrases) or pronouns (i.e. reflexives, null pronouns) (Smith 2003). The spectrum demonstrating the relationship between the linguistic form in English and cognitive status is denoted in (16).

(16) Cognitive status:

6	5	4	3	2	1
in focus >	activated >	familiar >	uniquely> identifiable	referential> indefinite	type identifiable
it	that, this, this N	that N	the N	this N	a N

<div align="right">(Gundel et al. 1993, p. 284)</div>

Gundel et al. (1993) state that nominal forms (e.g. determiners and pronouns) convey clues that enable the addressee to make conceivable readings based on the linguistic form. The linguistic form depends on the addressee's memory in relation to the referent. The authors suggest six different, varying levels of linguistic forms. English examples are denoted in (16).

Relative clauses, either restrictive or nonrestrictive, depend on the shared heads of sentences. Relative clauses have two important resources to convey information: (i) head and (ii) modifying information. Both constituents have specific functions in the discourse. The next section provides an analysis of the familiarity status of entities.

6.3.2. Referring to the Expressions as Relative Clauses

Aksu-Koç & Erguvanlı-Taylan (1998, p. 277, inspired by Fox & Thompson 1990) specify two different references to the expressions (i) head and (ii) modifying clause. According to them, head can either be introduced into

discourse for the first time, or else introduced again (See (17)) in the sense of the familiarity status of information.

(17) The status of information Head

Introduction: Bringing out a new head.

Reintroduction: A referent brought into focal consciousness.

(Aksu-Koç & Erguvanlı-Taylan 1998)

The information in a modifying clause can be realized in three different forms (See (18)). If the modifying clause is made for clarifying the ambiguous content of the head, the clause has an identification function. If the content of the modifying clause has already been introduced earlier and is once again introduced into the discourse, it has been re-identified. Conversely, some modifying clauses may function as tools to express supplementary information about the head. Such clauses are regarded as characterizing modifying clauses.

(18) Modifying clause:

Identification: Establishing the referent

Reidentification: Given referents are reintroduced with provided information

Characterization: Expressing additional descriptive information about the head

The next section aims to analyze and identify the functions of RCs in four main discourse modes (narrative, report, information and argument) by taking into consideration the semantic properties of the head and modifying clauses.

6.4. The Functions of RCs in Four Discourse Modes

Section 6.1. has indicated that RCCs in the TİD corpus have been realized in four modes of discourse: Narrative, Information, Report and Argument. Since no RCC is observed in descriptive mode, it is not included in the analysis. In order to investigate the characteristics of RCCs in the defined modes of discourse, each

RCC is studied with the main referring expressions in the form of relative clauses, explained in details in Section 6.3. It is hypothesized that RCCs in various modes of discourse have different functions.

6.4.1. Distribution of RCCs in Relation to the Functions of RCs Including Head and Modifying Clause

The information status of the head and the modifying clause of RCC within the context of the data is listed in Appendix K. In the data, one hundred and five RCCs occur in narrative mode. This is due to the high density of data composed of narrative passages. However, 11 RCCs are realized in other discourse modes. Table 6.2 presents a summary of the findings (see also Appendix L).

	Head		Modifying Clause		
	Introduced	Reintroduced	Identified	Re-identified	Characterized
Narrative	22	83	13	77	15
Report	2	2	2	-	2
Information	6	-	-	-	6
Argument	2	1	1	-	2

Table 6.2 - Distribution of RCCs in four discourse modes in terms of the functions in discourse

According to Table 6.2, RCCs in narrative mode exhibit mostly evoked (reintroduced) head and re-identified modifying clauses. RCCs in the report mode seem to favor both new and identifying head. RCCs in information mode, however, appeared to have only introduced head with characterizing modifying clauses. In spite of the low number of occurrences in the data, the functions of RCCs in argument mode seem to be similar to RCCs in information mode.

In the next section, RCCs will be described in terms of four different categories: (i) introduced head with identified modifying clauses, (ii) introduced head with characterizing modifying clauses, (iii) re-introduced head with re-

identified modifying clauses, and (iv) re-introduced head with characterizıng modifying clauses.

6.4.1.1. Introduced Head with Identified Modifying Clauses

This category is comprised of sentences in which the head and its identifying clauses are introduced into discourse without being mentioned in the previous text passages. Such occurrences generally develop at the beginning of a discourse. These kinds of RCCs have been observed in three discourse modes: narrative, report and argument (Table 6.3).

Introduced Head with Identified Modifying Clauses	
Narrative	11 out of 105
Report	2 out of 4
Information	-
Argument	1 out of 3

Table 6.3 - Occurences of RCCs with introduced head with identified modifying clauses in various discourse modes

An RCC in narrative mode is denoted in (19). The head and modifying clause in the example have been introduced into the discourse for the first time. The sequences before (0005) are listed in (20).

(19) (130005):

$$\overline{\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad\quad}^{sq}$$

[GIRL FAR VILLAGE IN]   BOY$_i$ IX$_i$ LOVE

The girl, who was from a village far away, loved the boy.

According to (20), the previous sequences neither mention the head 'girl', nor that she is in a village far away. The function of RCC in (19) is to set a referent up with its properties, in order to disambiguate other possible referents introduced

in the next steps. Here, the identified modifying clause seems to define the underlying property of the head.

(20) *Context*: A mother seeks a girl that her son can marry.

> Narrative (13):
>
> Sequences from (0001) to (0006):
>
> …
>
> (0001)$_S$: A woman and her son live in a house in a village.
>
> (0002)$_S$: The son wants to marry.
>
> (0003)$_S$: Indeed, the mother is very bad person.
>
> (0004)$_S$: She has complained about the girlfriends that he has had so far.
>
> **(0005)$_S$: The girl, who is from a village far away, loves the boy.**
>
> (0006)$_S$: She is very poor but beautiful and good-hearted.
>
> …

Another example of an RCC in report mode is shown in (21). It also exhibits similar properties to (19). The narrator wants to explain how she came to know the story, and her feelings about the story. The head 'film' and the modifying clause 'is one of the religious series' are introduced for the first time in the discourse. The previous sequence is shown in (22).

(21) (010002):

```
                                                               br
                                                               'o'
                                         sq    hf
[MOVIE_i SAME S-E-R-I-E-S MUSLIM SAME   IX_i] IX_1 _1SEE_i WATCH
SAD
```

```
         br
         'o'
          hf
UPSET TELL IX_i
```

I watched the film that is a religious series. I got upset and I will tell you
about this film.

First, the signer explains that she was watching TV. While she would like
to expound the film that she has just watched, before she can do this, she must
inform her audience that the film was part of a religious series. Even though the
modifying clause was not introduced earlier, she wants the addressee to understand
what this religious series is, and that the movie she watched was part of it. Even
though the passage is in monologue form, she assumes that her target group has
previous knowledge of these types of religious films. This is an example of 'shared
information' (Dachkovsky & Sandler 2009). In addition, the previous sequence 'I
was watching TV' signals that the next sequence will be about an entity related to
TV. Therefore, 'film' can have a function of inferred information (Prince 1981).

(22) *Context*: The narrator explains the source of the story that she is about to tell.

Narrative (01):

Sequences from (0001) to (0002):

…

(0001)$_E$:   I was watching TV.

(0002)$_S$:   I watched a film that is one in a series of religious films.

(0002b)$_E$:   I got upset and I will tell you about this film.

…

Two different forms of RCCs with introduced head and identified modifying clause have been presented. While the first example was about new information (both head and modifying clause), the latter indicates that it is possible for new information to evoke other information that an addressee may know. The next section analyzes RCCs with introduced head and characterizing modifying clause.

6.4.1.2. Introduced Head with Characterizing Modifying Clauses

This category is comprised of heads and their identifying clauses that have been entered into a discourse without being discussed in previous passages. However, characterization function differs from identification function: characterization function has an expression property with additional information for the head. Aksu-Koc & Erguvanli-Taylan (1998, p. 277) suggest a way to differentiate between these two functions: returning to the question 'which' generally typifies the identification function, while answering the question 'how' defines the characterizing function of modifying clause for the head.

RCCs with introduced head and characterizing clauses have been observed in three different discourse modes: narrative, information and argument. Table 6.4 lists the occurrences of these types of RCCs in discourse modes.

Introduced Head with Characterizing Modifying Clauses	
Narrative	11 out of 105
Report	-
Information	6 out of 6
Argument	1 out of 3

Table 6.4 - Occurrences of RCCs with introduced head and characterized modifying clauses in various discourse modes

RCCs in information mode seem to favor these kinds of occurrences. The head and modifying clause in the example above have been introduced into the discourse for the first time. The modifying clause in (23) contains additional information for the head. The sequences before and after the RCC are provided in (24).

(23) (170005):

$$\text{‘o’}$$
$$\text{hn}$$
$$\text{sq} \quad \text{br}$$
— ⎯⎯⎯⎯⎯⎯⎯
[FOOT HEEL$_i$ HARD AND ELBOW EDGE$_j$ HARD EXIST IX$_{i,j}$] LEMON

$$\text{hn}$$
CUT CL-CLEAM IX$_i$ FOOT HAND SOFT BECOME
Use lemon rind to soften heels and elbows, which have hard surfaces.

As seen in (24), neither head nor modifying clause was introduced at an earlier point in the discourse. The modifying clause has a characterization function because it carries additional information. The passage suggests that heels and elbows have hard surfaces.

(24)

Context: The signer wants to inform his/her audience of the best way to soften dry heels and elbows.

Information (movie 17):

Sequences from (0004) to (0006):

…

(0004)$_{Ge}$ There are various solutions for things disturbing our lives.

(0005)$_{Ge}$ Use lemon rind to soften heels and elbows, which have hard surfaces

(0006)$_{Ge}$ Your elbows and heels will now be very soft.

…

Such findings suggest that these types of RCCs have a relationship with the discourse mode. RCCs with identification head and characterizing modifying clauses tend to occur more often in the information mode.

6.4.1.3. Re-introduced Head with Re-identified Modifying Clauses

Referents that have already been introduced into the discourse may now be repeated. RCs with head and modifying clause already included in the discourse can be found in this category. These kinds of RCs are observed in the corpus only in narrative mode (see Table 6.5).

Re-introduced Head with Re-identified Modifying Clauses	
Narrative	77 out of 105
Report	-
Information	-
Argument	-

Table 6.5 - Occurrences of RCCs with re-introduced head and re-identified modifying clauses in various discourse modes

For instance, in (25) both the head and modifying clause are introduced into the discourse for a second time. When interrelations between the sequences in (26) are investigated, the link between (0004) and (0016) can be observed.

(25) (010016):

<pre>
                          br
                   hn   hn
                   sq   'o'   sq
[BUOY:1   MARRY FINISH   IX$_i$] SINGLE$_j$ CL-MEET$_{(i,j)}$
</pre>

The first (woman), who was already married, met (the woman), who was single.

According to (26), three animate referents are established in the discourse. The head 'woman' and the modifying clause 'already married' in (0016) is repetition of the referent and underlying property that was already determined in (0004). The underlying reason for the occurrence of this RCC seems to be the fact that the signer wants to clarify or disambiguate the referents. If the quantity of occurrences (i.e. 77 out of 105 occurrences in native mode) is regarded, it can be said that the primary function of RCC in signed discourse is to clarify these referents.

(26)

> Context: (in a village) there are three women. One of them is single while two of them are married. The single woman is jealous of the married women because they are visiting each other.
>
> (01):
>
> ....
>
> (0003):There were three women, who had known each other for years.
>
> (0004): One woman was married.
>
> (0005): Another woman married soon after.
>
> (0006): The other woman was still single.
>
> ....
>
> (0016): The first (woman), who was already married, met the single woman.
>
> ....

6.4.1.4. Re-introduced Head with Characterizıng Modifying Clauses

The final category deals with RCCs with re-introduced head and characterizing modifying clauses. Compared to the first three categories, occurrences of these types of instances is relatively low (Table 6.6). There is no indication of preference of this category over discourse mode.

Re-introduced Head with Characterizing Modifying Clauses	
Narrative	4 out of 105
Report	2 out of 4
Information	-
Argument	1 out of 3

Table 6.6 - Occurrences of RCCs with re-introduced head and characterizing modifying clauses in various discourse modes

One example (27) occurs in report mode. The head 'film' is mentioned in discourse earlier, however the modifying clause provides additional background information about the head.

(27) (030006)

<pre>
    ____hn____   ____hn____
GERMANY IX IN   ONE YOUNG PERSON E-V-E-N-T GOOD WATCH
</pre>

<pre>
_____ _br_ __hn__
[IX_i HEARING ONE FRIEND_i **FILM** _iGIVE_1]   IX_1 CHANGE SIGN FILM
</pre>

$_1$TELL$_{you}$

I heard a good and thrilling story about a young boy in Germany. I changed the story, which a hearing friend told me, and will tell the story to you all.

According to the sequences in (28), the narrator localizes the time to speaker time, then switched to narrative mode after (0007). The head of RCC in (0006b) 'film' (storyline) was already introduced earlier, in (0005). The signer then stated that the story had been relayed to him by a hearing friend, background information that served as a modifying clause.

(28)

> *Context*: The signer wants to retell the adventures and experiences of a boy in Germany who is converting to Islam.
>
> Report (03):
>
> Sequences from (0001) to (0007):
>
> (0001): Up until a year ago, I told you several stories in sign language.
>
> (0002): When I got a job a year ago I could not find time to tell stories.
>
> (0003): Now I have time to tell you a brilliant story.
>
> (0004): I will begin now.
>
> (0005): Now I will tell you about a film (storyline).
>
> (0006a): I heard a good and thrilling story about a young boy in Germany.
>
> **(0006b): I changed the story, which a hearing friend told me, and will tell the story to you all.**
>
> (0007): It is about the boy in Germany.
>
> ….

6.4.2. Interpretation of the Findings

In the previous sections, I analyzed four different categories, with regards to the functions of RCCs in TİD. In sum, the functions of RCCs in TİD that have been observed so far are listed in (29).

(29) Functions of RCCs in TİD:

> (a) Introducing a referent with its identifiable information within a modifying clause (new information).

> (b) Introducing a referent with its identifiable information within a modifying clause, so that the addressee understands the information about the referent (shared information).

> (c) Introducing a referent with additional (characterizing) information within a modifying clause.

> (d) Reintroducing a referent with its re-identified modifying clause to disambiguate the referents.

> (e) Reintroducing the referent with new, additional information within the modifying clause.

6.5. Summary

This chapter demonstrated that RCCs in the narrative mode generally refer to entities introduced earlier (reintroduction, re-identified). Conversely, RCCs in TİD in the descriptive and information modes tend to disambiguate and clarify the content of the head. The head is generally introduced for the first time in these modes (identification or characterization). The findings in Section 6.4. corroborate the work of Clark & Haviland (1977, p. 9):

(30)

> Given–New Contract: Try to construct the given and new information of each utterance in context (a) so that the addressee is able to compute from memory the unique antecedent that was intended for the given information, and (b) so that he will not already have the new information attached to that antecedent.

Hedberg (1990), (also see Gundel's 1985, 1988) proposes a rule about regulating order for topics with a cognitive status:

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(31)

> Given Before New Principle: state what is given before what is new in
> relation to it.
>
> First Things First Principle: provide the most important information first.

A paragraph about pragmatic presupposition from Lambrecht (1994) suggests that imbuing the relative clause with given information is considered to carry both the logical and pragmatic presupposition. Thus, in (32) it is both logically and pragmatically presupposed that someone who exists committed the murder, and the value for this underspecified entity is John.

(32)

> It was John who committed the murder.
> Presupposition: 'there is some x who committed the murder.'

Lambrecht (1986, 1994): Approaching the information structure of sentences involves two significant relationships between the cognitive status of discourse referents and the pragmatic affiliation established between the referents, and the propositions in which they play the role of predicates or arguments. Lambrecht presents the cognitive status of referents:

(33) Coding of referents in terms of possible functions (Van Valin & LaPolla 1997, p. 205)

Markedness of occurence as focus

←————————————————

| Zero | Clitic/bound Pronoun | Pronoun [-stress] | Pronoun [+stress] | Definite NP | Indefinite NP |

————————————————→

Markedness of occurrence as topic
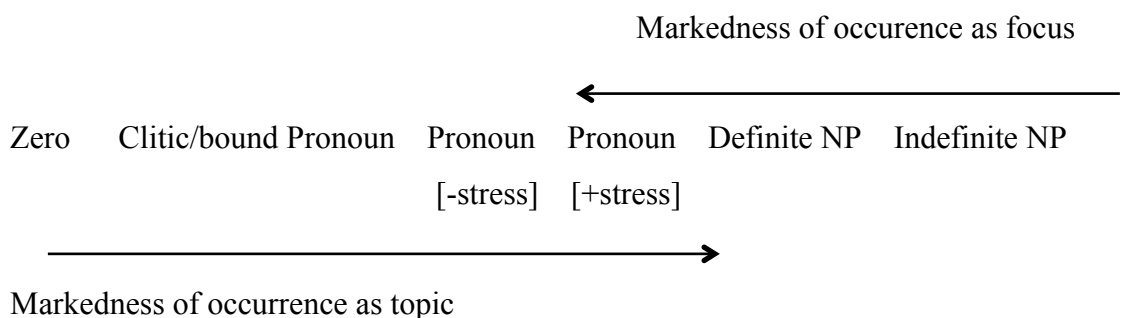
According to Lambrecht (1994), discourse modes have an important role in RCCs. [...] *the relative clause helps the hearer determine the referent of the phrase the woman, by relating this referent to some already given piece of knowledge, which the hearer happens not to be thinking of at the time I utter the sentence* (p. 51-52).

CHAPTER 7: SUMMARY, CONCLUSION and FUTURE WORK

RCCs in TİD have been investigated in this thesis. There have been some remarkable findings about distribution of strategies of relativization and their functions in discourse. In this chapter, some crucial points regarding the findings in this dissertation are discussed in Section 7.1.

One has to ask oneself why TİD exhibits different RCC strategies. The answer to this question may lie within the process of grammaticizing the RCCs in TİD, which is exemplified in Section 7.2. However, the findings from the small size corpus do not picture out the usage of RCCs in general. Section 7.3 will discuss the limitations of this dissertation and what further research on this topic would be desirable.

7.1. Main Findings

The distribution of relativization strategies in TİD based on corpus study has been represented in Chapter 4. The distributions on the position of head noun, the positions of relative clause and matrix clauses, the accompanying nonmanual elements, and the relative elements indicated that three strategies: circumnominal; postnominal and correlative, might exhibit. However, the findings show that restrictive RCs strongly favor circumnominal, whereas nonrestrictive RCs in TİD show a variety of strategies. Even though the way that relative clauses in TİD are marked also show a great distribution, the two strategies that were observed the most frequently are (i) no overt relative marker and (ii) clause-final IX (nominalizer). The results show that TİD strongly favors nonrestrictive circumnominal fronted RCs with an optional relative element clause-final IX. These RCs are mostly accompanied by squint. Surprisingly, there are also plentiful free RCs.

The occurrence of RCCs is explained by context. Since sentences require context, RCCs that lack context do not contain sufficient information to analyze their nature and meaning.. The familiarity status of the head-noun and the accompanying modifying clause (inspired by Fox & Thompson 1990 and Aksu-Koç & Erguvanlı-Taylan 1998) of RCCs in the corpus are investigated. According

to the findings, four different functions of RCCs are realized. A referent as headnoun can be introduced into the discourse with identifiable information as a modifying clause. In these cases, the referent with its characteristics can be considered a new entity, as a whole second function of RCCs can also be introducing the head noun with an identifiable modifying clause that has not been introduced into discourse earlier, given that the addressee can infer the identity of the referent using this information (shared information). Or else, formulating a new referent with a new modifying clause to characterize the referent can also be one of the functions of RCCs in TİD. However, the favored function of RCC is to reintroduce both head noun and modifying clause to either disambiguate the referents or to help the addressee to determine the referent. The last function of RCCs in TİD observed in this study is reintroducing the referent with new, additional information within the modifying clause.

In Chapter 6, the occurrence and function of RCC is explained by the principle of 'Given-New Contract' by Clark-Haviland (1977) which is given again below:

(1)   Given–New Contract: Try to construct the given and new information of each utterance in context (a) so that the addressee is able to compute from memory the unique antecedent that was intended for the given information, and (b) so that he will not already have the new information attached to that antecedent.

I strongly argue that the occurrence of RCC is bounded to the cognitive status of discourse referents and the pragmatic affiliation established between the referents, and the propositions in which they play the role of predicates or arguments (Lambrecht 1994).

7.2. Grammaticalization and RCs in TİD

The issue of grammaticalization in sign language is considered to be new due to a lack of historical documents (Janzen 2012). Janzen uses the working definition of grammaticalization:

> *Grammaticalization is the change whereby in certain linguistic contexts speakers use parts of a construction with a grammatical function. Over time the resulting grammatical item may become more grammatical by acquiring more grammatical functions and expanding its host-classes* (Brinton & Traugott 2005, p. 99; as cited in Janzen 2012, p. 819)

In Chapter 2, some examples of grammaticalization have been introduced, for instance grammaticalization in modals (Shaffer 2000). In addition, Janzen (2012) and Pfau & Steinbach (2006) give examples from several different sign languages, two of which are discussed here: negative headshakes in DGS and topic constructions in ASL.

Negative headshake in three different sign languages (DGS, ASL and LSC) might have different behaviors (Pfau & Quer 2002). The negative headshake is claimed to accompany verb and negation particles (2a); however, in only the verb without the negation particle, as in (2b), is it accompanied by negative headshake (Pfau 2002, 2003). However, Pfau & Steinbach (2006) compare it with the case for ASL (2c and 2d). Similarly to the example from LSC, the nonmanual element for negation accompanies the negation marker (2e), but if the negation marker drops, it is also possible that the verb is accompanied by this marker (2f) (Pfau & Quer 2002).

(2)

    a. <u>   neg </u>

        MUTTER BLUME KAUF NICHT

        MOTHER FLOWER BUY NOT

<div align="right">(Pfau 2002, p. 273)</div>

b.   neg
   MUTTER BLUME KAUF

                                                        (ibid.)

c.   neg
   JOHN NOT BUY HOUSE

                                          (Neidle et al. 2000, p. 44)

d.   neg
   * JOHN BUY HOUSE

                                          (Neidle et al. 2000, p. 45)

e.   neg
   SANTI MEAT EAT NOT

                                          (Pfau & Quer 2002, p. 75)

f.   neg
   SANTI MEAT EAT

                                                        (ibid.)

Pfau & Steinbach (2006) argue that the examples above show that headshake has grammatical function in these sign languages and therefore indicates that negative headshake is probably grammaticized from its gestural roots, that is, the headshake in spoken languages (Kendon 2002).

One of the routes for grammaticalization is topic constructions in ASL (Janzen 1999, Janzen & Shaffer 2002; Janzen, Shaffer & Wilcox 1999), which are outlined in (3), derived from Janzen (2012, p. 832):

(3)

generalized question gesture > yes/no question marking > topic marking

Janzen (2012) observes that the brow raise gesture that is used in questions is similar in yes/no question marking and topic marking in ASL. In addition, Pfau & Steinbach (2006) show also that this marking can be used for marking conditionals (using examples from NGT, pp. 75-76). Pfau and colleagues note that the

nonmanual expressions used in RCs in DGS are very similar to topic markings. They assume brow raise observed in relative clauses are rooted to the topic markings.

Several grammaticalization routes have been denoted and here I would like to show that similar patterns can be observed in RCs in TİD. There are three different possible grammaticalization pathways: (i) brow raise in RCs; (ii) the change of squint in AS-YOU-KNOW constructions into nonmanual markings accompanying restrictive RCs and (iii) competing relative markers AYNI 'same' and clause-final-IX in RCs.

Brow raise is also a nonmanual accompanied by RCs in TİD (see Section 5.1.2.2.). An example is shown again in (4):

(4) (repeated from (13) in Chapter 5)
  (030087)

$$\underline{\hspace{4cm}\text{hn}}$$

$$\underline{\hspace{5cm}\text{br}}$$

[FATHER^MOTHER JOB BECAUSE GERMANY$_{loc1}$ $_{loc2}$MOVE$_{loc1}$] ...

$$\underline{\text{'o'}}$$
$$\underline{\text{hn}}$$
$$\underline{\text{br}}$$

IX$_{loc1}$ IN SCHOOL LIFE START

His school life has begun in Germany, where his parents moved because of their employment.

The example shows that it is possible that brow raise is spread over the relative clause. However, such occurrences are not observed as often as the nonmanual squint. Such constructions with squint are still in the topic position and, as Brunelli (2011) proposed, RCs (at least in LIS) accompanied with brow raise in the topic position might have appositive readings. The nonmanual element brow raise, which are mostly seen in circumnominal strategy, corroborate the emphasis on HN

or RC. This shows also the striking similarity of the topic and RC marking and the relationships with each other. The competition between these nonmanual elements has to be investigated deeply. Maybe there is a process indicating that brow raise is associated with appositive readings.

As for squint, (which covers also tense cheeks, tense lips), Dachkovsky & Sandler (2009) have already argued that the nonmanual marker of squint is related to the retrieval of shared information in the discourse. The gestures in spoken languages have some input to communication such as emphasizing structure, communicating interlocutors' intended message to their addressees (Kendon 1995; Özyürek 2002 among others). Regarding facial expressions in spoken languages, Ekman (1997, p. 340)

> *Most importantly, the [conversational signals] are part of the structure of conversation, part of the flow of the talk, and governed by the rules which govern the production of speech. While [facial expressions of emotion] often occur during conversation, their location in the speech flow is related not to the structure of the talk but to the semantics, revealing emotional reaction to what is being said or not being said* (as cited in Bavelas & Chovil 2000, p. 103; the expressions in square brackets are added by them).

Bavelas & Chovil referring to Clark's (1996) concept of *demonstration*. The speaker might use eye-squinting during *demonstrating* to remove unfocused information or emphasize focused information (Bavelas & Chovil 2000, p. 104). Even though the gesture/nonverbal act of eye-squinting is not well researched and might indicate disbelief or skepticism (ibid.), eye-squinting might have a special discourse/pragmatic function (for a metacognitive analysis see Proust 2013). If we assume the nonmanual gesture has a specific function, it might have been evolved to indicate restrictivity in RCs in TİD. I hypothesize that it comes from the interactants' common ground or retrieving given information into discourse (see e.g. Wilkin & Holler 2011). The potential evidence is the AS-YOU-KNOW constructions observed within the current corpus, which is denoted in (5).

(5) (010026):

<div style="text-align:center">hs</div>

<div style="text-align:right">sq'</div>

[BUOY:1 BUOY:2   SAME STREET WATER FILL TAP$_{loc}$ ALL VILLAGE

<u>'o'</u>

<u>hs</u>   <u>hn</u>

<u>sq</u>   <u>br</u>

KNOW   IX$_{loc}$ SAME] GO$_{loc}$

The first and second women went to the tap where (the cubes) from the villages are filled with water.

As seen in the example above, the KNOW verb is positioned at the end of the clause and squint is spread over this clause. This example and several examples in the corpus indicate that constructions with the KNOW verb are often accompanied by squint. Throughout time, AS-YOU-KNOW constructions might have lost the KNOW part, but kept the accompanying nonmanual expression, i.e. squint. To explore whether squint is rooted in a gesture within Turkish culture, further research is needed.

The third grammaticalization process is relative markers observed in RCs in TİD. Mosella Sanz (2011) has already mentioned similar phenomenon: MATEIX 'the same' in RCs in LSC. Mosella Sanz suggests that MATEIX has gained a nominalizing function through grammaticalization over time. Interestingly, in spite of its rare occurrence, AYNI 'the same' is also observed in RCs in TİD. The main optional relative marker is clause-final-IX in RCs in TİD. Another example is grammaticalization of relative pronouns is proposed by Pfau & Steinbach (2006) and Pfau (2011). They suggest that gestural pointings are a part of the linguistic system, functioning as demonstrative pronouns. These pronouns can evolve into demonstrative pronouns, and then into personal pronouns or relative pronouns, and finally into agreement markers or agreement

<div style="text-align:center">275</div>

auxiliary, based on the facts and hypotheses that they provide (Pfau & Steinbach 2006 and Pfau 2011). Even though RCs in TİD are not generally externally headed RCs, the clause-final IX in TİD seems to have evolved throughout time to become a relative marker. The optionality of clause-final IX indicates that it is either being more or less grammaticized. Without historical documents it is difficult to say which direction RCCs in TİD follow.

Three different hypothetical grammaticalization pathways in RCCs in TİD might denote that there is a strong grammaticalization of RCs focusing on the most salient one that is restrictive circumnominal relativization strategy with an optional relative marker which has a nominalization effect.

7.3. Limitations and Directions for Future Research

While this dissertation provides a corpus-based and descriptive analysis of the relativization strategies as well as their functions in discourse in TİD, several major questions remain about the relative clause constructions of a signed language in general.

This dissertation has shown a high variety of relativization strategies. However, there could be other potential relativization strategies that did not occur in the corpus analyzed for this dissertation – we do not have negative evidence to say there could not be much more that simply has not occurred in this set of data. In order to understand the grammatic purpose of relative clause constructions or whether there may be other strategies, there is a need for introspection (e.g. grammaticality judgments) and psycholinguistic experiments, as well. Using the data derived from this study, one might examine which relativization strategies are considered grammatical at all and whether there is a clear distinction between appositive and restrictive readings in terms of syntax. Another possible experiment could be to investigate the optionality of the relative element marker, when it is used and when it is not.

This study does not cover the syntactical analysis of RCCs. For example, the sharp distinction between circumnominal and adjoined RCs in the data still remains a question. Another essential research topic is topic-comment constructions in TİD and potential differences from RCCs. Coordinated clause constructions (parataxis) or

subordinated clause constructions (hypotaxis) in TİD have not been explored much yet. The comparison between RCCs and other subordinated clauses with relativization strategies would enable us to gain a better understanding of the nature of relativization strategies in TİD as well.

As is mentioned in Section 4.2.2, sentence boundaries in sign languages are an issue in their own right, which is why statistical cues in psycholinguistic experiments or an investigation how children who grow up with TİD acquire sign order as well as higher-order embedded clauses would probably shed even more light on what kind of relativization strategies TİD favors.

This dissertation uses an approach that focuses only on the relativization strategies in TİD. While this choice is surely justifiable for the questions I aimed to answer here, it is likely to miss other similar constructions without using a bottom-up approach. With a bigger corpus and a strategy of annotating all elements of the text, we would probably get an even clearer view on the relativization strategies used in TİD.

As this dissertation shows, relativization strategies are highly context-dependent, alas, it is to be expected, that the usage of RCCs may well be strongly dependent on text genres. Since the corpus studied here overrepresented the narrative discourse mode, it was not possible to compare the occurrence and structure of RCCs across various discourse modes. This dissertation provides a good overview of the relativization strategies in narrative passages, though.

The examples of relativization used in this dissertation are mainly monologues. This dissertation has shown that the functions of RCCs are to disambiguate the referents or to help the addressee determine the referent. It would be interesting to investigate the conversation between two or more interlocutors to also look at how this shapes the text, including the use of backchanneling. I strongly assume that there would be an extensive use of squint and relativization strategies in different settings, even as backchanneling behaviour.

As for the nonmanual marker squint, it has been claimed that it marks shared information or givenness in passages. For this dissertation, squint has only been examined in the context of relativization strategies in TİD. An

analysis of all different kinds of occurrences of squint in other linguistic structures and/or contexts would be helpful to reanalyze the interaction between squint and RCCs.

The findings on relativization strategies in TİD indirectly provide some information on the interface between prosody and syntax. There are different approaches as to how the interaction between prosody and syntax may be structured. For example, according to Wilbur & Patschke (1999), in the case of brow raise in ASL, the defined nonmanual marker acts as a syntactic feature (similar perspective in Neidle et al. 2000; Pfau & Steinbach 2005b). On the other hand, Sandler (1999, 2011) claims that the intonational tunes should not be seen as a direct connection to syntax, but that the prosodic constituents, which carry inherent meaning, and contentual information can be understood as a complex. This approach is supported by research on intonational tunes in spoken languages (Pierrehumbert & Hirschberg 1990; Gussenhoven 1984, 2004). In addition, Pfau & Quer (2010) provide thoughts on the exceptional example of non-isomorphism in relative clauses in DGS. Thorough reanalysis of the relativization samples in the context of the interaction between syntax and prosody might provide additional insight and help us to understand how brow raise and squint interact with relativized content in TİD.

Relative Clauses in Turkish are predominantly prenominal (non-finite relative clauses with participle suffixes) and Turkish also has 'ki-constructions' (finite relative clauses) (Göksel & Kerslake 2005). It is suggested that TİD uses different relative clause strategies. For this reason, cross-linguistic analyses should be conducted in order to understand modality-specific and language-specific properties in RCCs as a next step.

Last but not least, studying the grammaticization pathways of RCCs in terms of a diachronic study would assist us into a greater understanding of the structure of RCCs and other constructions in TİD.

REFERENCES

Aarons, D. (1994). *Aspects of the Syntax of American Sign Language*. Ph.D. Dissertation, Boston University, Graduate School of Applied Linguistics.

Açan, Z. (2007). A linguistic analysis on basic sentence types in Turkish Sign Language (TİD) with reference to non-manual activity. PhD Dissertation. Hacettepe University, Ankara.

Aksu-Koç, A., & Erguvanlı-Taylan, E. (1998). The functions of relative clauses in narrative discourse. In L. Johanson (Ed.), *The Mainz Meeting Proceedings of the Seventh International Conference on Turkish Linguistics* (pp. 271-284), Wiesbaden: Harrasowitz Verlag.

Allen, C., Walters, S., & Emerson, S. (2007). *Balkan survey report 2004 - 2006 : insight into the situation of deaf people in four Balkan region countries. Macedonia, Serbia and Montenegro, Bosnia and Herzegovina, Turkey*, Helsinki: The Finnish Association of the Deaf.

Andrews, A. D. (1985). *Studies in the Syntax of Comparative and Relative Clauses*. Garland. Originally PhD dissertation, MIT, 1975. Currently distributed by MITWPL.

Andrews, A. D. (2007). Relative clauses. In T. Shopen (Ed.), *Language typology and syntactic description. Vol. 2: Complex constructions. (2nd edition)* (pp. 206-236). Cambridge: CUP.

Antinoro Pizzuto, E., Chiari, I., & Rossini, P. (2010). Representing signed languages: theoretical, methodological and practical issues. In M. Pettorino, F.A. Giannini, I. Chiari, & F. Dovetto (Eds.), *Spoken communication* (pp. 205-241). Newcastle upon Tyne: Cambridge Scholars Publishing.

Antzakas, K., & Woll, B. (2002). Head movement and negation in Greek Sign Language. In I. Wachsmuth, & T. Sowa (Eds.), *Gesture and sign language in human-computer interaction. Proceedings of International Gesture Workshop* (pp. 193-196), London, Berlin: Springer.

Arık, E. (2006). *Constituents and Nonmanual Markers in Turkish Sign Language (TİD)*. Manuscript, Purdue University, West Lafayette.

Arık, E. (2009). *Spatial language: Insights from signed and spoken languages*. Purdue: Purdue University dissertation.

Arık, E. (2013). Introduction: Previous and current studies on Turkish Sign Language. In E. Arık (Ed.), *Current directions in Turkish Sign Language research* (pp. 1-17). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Arık, E., & Wilbur, R. (2008). *Locatives, existentials, and possessives in Turkish Sign Language (TİD)*. Poster presented at the 82nd Annual Meeting of the Linguistic Society of America, Chicago, IL, January 3–6.

Aronoff, M., Meir, I., & Sandler, W. (2005). The paradox of sign language morphology. *Language* 81.2, 301-344.

Asher, N., & Lascarides, A. (2003). *Logics of Conversation*. Cambridge: Cambridge University Press.

Baddeley, A. D. (1986). *Working memory*. Oxford: Oxford University Press.

Baddeley, A. D., & Hitch, G. (1974). Working memory. In G. Bower (Ed.), *The Psychology of Learning and Motivation* (pp. 47–89). Academic Press.

Baker, C., & Cokely, D. (1980). *American Sign Language: A teacher's resource text on grammar and culture*. Silver Spring, MD: T. J. Publishers.

Baker-Shenk, C. (1983). *A micro analysis of the nonmanual components of American Sign Language*. Unpublished PhD thesis, University of California, Berkeley, U.S.A.

Baker, C., & Padden, C. (1978). Focusing on the nonmanual components of ASL. In P. Siple (Ed.), *Understanding language through sign language research* (pp. 27-57). New York: Academic Press.

Bank, R., Crasborn, O., & van Hout, R. (2013). Alignment of two languages: The spreading of mouthings in Sign Language of the Netherlands. *International Journal of Bilingualism.* Published online before print, May 3, 2013, doi: 10.1177/1367006913484991.

Basilico, D. (1996). Head Position and Internally-Headed Relatives, *Language* 72, 498–894.

Battison, R. (1974). Phonological deletion in American Sign Language. *Sign Language Studies*, 5, 1-19.

Battison, R. (1978). *Lexical Borrowing in American Sign Language*. Silver Spring, MD: Linstok Press.

Bavelas, J. B., & Chovil, N. (2006). Hand gestures and facial displays as part of language use in face-to-face dialogue. In V. Manusov, & M. Patterson (Eds.), *Handbook of nonverbal communication* (pp. 97-115). Thousand Oaks, CA: Sage.

Bellugi, U., Klima, E., & Siple, P. (1975). Remembering in signs. *Cognition*, 3, 93-125.

Berenz, N. (2002). Insights into Person Deixis. *Sign Language & Linguistics* 5(2), 203-227.

Bertone, C. (2007). *La struttura del sintagma determinante nella Lingua dei Segni Italiana (LIS)*. Doctoral thesis, University of Venice.

Biber, D. (1988). *Variation across speech and writing.* Cambridge: Cambridge University Press.

Biber, D. (1993). Representatives in corpus design. *Literary and Linguistic Computing*, 8, 243-257.

Biber, D., Conrad, S., & Reppen, R. (1998). *Corpus Linguistics: Investigating Language Structure and Use*. Cambridge: Cambridge University Press.

Biber, D., Connor, U., & Upton, T. A. (2007). *Discourse on the move: Using corpus analysis to describe discourse structure*. Amsterdam: John Benjamins.

Bhatt, R. (2005a). *Appositive Relative Clauses*. Handout of a course at the 2005 LOT Summer School, Leiden (June 17). Retrieved from http://people.umass.edu/bhatt/752-s05/n55.pdf.

Bhatt, R. (2005b). *Correlative Clauses*. Handout of a course at the 2005 LOT Summer School, Leiden (June 16). Retrieved from http://people.umass.edu/bhatt/752-s05/n44.pdf.

Bianchi, V. (1999) *Consequences of antisymmetry: Headed Relative Clauses*, Berlin: Mouton de Gruyter.

Borer, H. (1984). Restrictive Relatives in Modern Hebrew. *Natural Language and Linguistic Theory* 2(2): 219–260.

Bos, H. F. (1995). Pronoun copy in Sign Language of the Netherlands. In H. Bos, & T. Schermer (Eds.) *Sign Language Research 1994. Proceedings of the 4th European Congress on Sign language Research, München 1994* (pp. 121-147). Hamburg: Signum Press.

Boudreault, P., & Mayberry, R. I. (2006). Grammatical processing in American Sign Language: Age of first-language acquisition effects in relation to syntactic structure. *Language and Cognitive Processes*, 21, 608-635.

Boyes-Braem, P. (1981) *Features of the hand shape in American Sign Language*. Ph.D. Thesis, University of California, Berkeley.

Branchini, C. (2006). *On relativization and clefting in Italian Sign Language (LIS)*. Ph.D. dissertation, University of Urbino.

Branchini C. (2014). *On relativization and clefting. An analysis of Italian Sign Language*. Berlin, Mouton de Gruyter.

Branchini, C., Cardinaletti, A., Cecchetto, C., Donati, C., & Geraci, C. (2013). WH-duplication in Italian Sign Language (LIS). *Sign language & linguistics*, 16(2), 157-188.

Branchini, C., & Donati, C. (2007). *Italian Sign Language relatives: a contribution to the typology of relativization strategies*. Manuscript, Università di Urbino. Retrieved from http://www.uniurb.it/lingue/docenti/donati/pubblicazioni/

Branchini, C., & Donati, C. (2009). Relatively different: Italian Sign Language relative clauses in a typological perspective. In A. Liptàk (Ed.), *Correlatives cross-linguistically* (pp. 157-191). Amsterdam: Benjamins.

Branchini, C., Caterina D., Pfau, R., & Steinbach, M. (2007). A typological perspective on relative clauses in sign languages. Paper presented at *the 7th Conference of the association for linguistic typology (ALT 7)*. Paris, September 25th, 2007.

Brentari, D. (1998). *A Prosodic Model of Sign Language Phonology*. Cambridge, MA: MIT Press.

Brentari D., & Padden C. A. (2001). Native and foreign vocabulary in American Sign Language: a lexicon with multiple origins. In D. Brentari D. (Ed.), *Foreign Vocabulary: A Cross-linguistic Investigation of Word Formation*. (pp. 87-119). Lawrence Erlbaum Associates; Mahwah, NJ.

Brinton, L. J., & Traugott, E. C. (2005). *Lexicalization and Language Change*. Cambridge: CUP.

Brunelli, M. (2006). *The grammar of Italian Sign Language with a study about its restrictive relative clauses*. MA Thesis, Università Ca'Foscari. Venezia.

Brunelli, M. (2011). *Antisymmetry and Sign Languages - A comparison between NGT and LIS*. Ph.D. Thesis. Università Ca' Foscari (Venice), Universiteit van Amsterdam.

Carlson, G. (1977). Amount Relatives. *Language* 53:3, 520-42.

Cecchetto, C., Geraci, C., & Zucchi, S. (2006). Strategies of Relativization in Italian Sign Language, *Natural Language and Linguistic Theory*, volume 25, 945-975.

Chafe, W. (1976). Givenness, contrastiveness, definiteness, subjects, topics and point of view, In C. N. Li, *Subject and Topic* (pp. 27-55). New York, Academic Press.

Chafe, W. (1980). The Deployment of Consciousness in the Production of a Narrative. In C. Wallace (Ed.), *The Pear Stories: Cognitive, Cultural, and Linguistic Aspects of Narrative Production*. Norwood, N.J.: Ablex.

Chafe, W. (1987). *Cognitive constraints on information flow*. In R. Tomlin (Ed.), *Coherence and Grounding in Discourse.* Amsterdam and Philadelphia: John Benjamins.

Chang, S-J. (1996). *Korean*. Amsterdam: Benjamins.

Chinchor, N. (1981). *Numeral incorporation in American Sign Language*. Ph.D. dissertation. Brown University.

Clark, H. (1996). *Using language*. Cambridge: Cambridge University Press.

Clark, H., & Haviland, S. (1977). Comprehension and the Given-New Contract. In R. Freedle (Ed.), *Discourse production and comprehension* (pp. 1-40). Ablex, Norwood, NJ.

Cogill-Koez, D. (2000). A model of signed language 'classifier predicates' as templated visual representations. *Sign language & Linguistics* 3:2, 209-236.

Cole, P. (1987). The Structure of Internally Headed Relative Clauses. *Natural Language and Linuistic Theory* 5, 277-302.

Cole, P., & Hermon, G. (1994). Is there LF wh-movement? *Linguistic Inquiry*, 25:2, 239-262.

Comrie, B. (1981). *Language Universals and Linguistic Typology*. Oxford: Basil Blackwell.

Conrad, S. (2002). Corpus linguistics approaches for discourse analysis. *Annual Review of Applied Linguistics*, 22, 75-95

Corina, D. P., & McBurney, S. L. (2001). The neural representation of language in users of American Sign Language. *Journal of Communication Disorders*, 34, 455- 471.

Cormier, K. (2012). Pronouns. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. Handbooks of Linguistics and Communication Science* (pp. 227-244). Berlin: Mouton de Gruyter.

Cormier, K., Quinto-Pozos, D., Sevcikoca, Z. & Schembri, A. (2012). Lexicalisation and de-lexicalisation processes in sign languages: Comparing depicting constructions and viewpoint gestures. *Lang Commun*, 32, 329-348.

Coulter, G. R. (1979). *American Sign Language Typology*, Doctoral Dissertation, University of California, San Diego.

Coulter, G. R. (1983). A Conjoined analysis of American Sign Language relative clauses. *Discourse Processes* 6, 305 –318.

Crasborn, O. (2006). Nonmanual Structures in Sign Language. In K. Brown (Ed.), *Encyclopedia of Language and Linguistics,* (pp. 668-672). 2nd Edition. Oxford: Elsevier

Crasborn, O. (2007). How to recognise a sentence when you see one. *Sign Language & Linguistics* 10(2), 103-111.

Cuxac, C. (2000). La langue des signes française (LSF). *Les voies de l'iconicité. Faits de Langues*, n. 15-16. Paris: Ophrys.

Cuxac, C., & Sallandre, M. A. (2007). Iconicity and arbitrariness in French Sign Language : Highly Iconic Structures, degenerated iconicity and diagrammatic iconicity. In E. Pizzuto, P. Pietrandrea, R. Simone (Eds.) *Verbal and Signed Languages : Comparing Structures, Constructs and Methodologies*, (pp. 13-33) Berlin: Mouton de Gruyter.

Culy, C. (1990). *The Syntax and Semantics of Internally Headed Relative Clauses.* Doctoral Dissertation, Stanford University, Stanford.

Dachkovsky, S., & Sandler, W. (2009). Visual intonation in the prosody of a sign language. *Language and Speech* 52 (2/3), 287-314.

Dayal, V. (1996). *Locality in Wh Quantification*. Dordrecht: Kluwer Academic Publishers.

Dikyuva, H. (2011) *Aspectual non-manual expressions in Turkish Sign Language (TİD)*. MA Thesis, University of Central Lancashire (UCLan).

Dikyuva, H., & Zeshan, U. (2008). *Turk Isaret Dili - Birinci Duzey*. [Turkish Sign Language - Level One]. Nijmegen: Ishara Press.

Downing, B. (1978). Some Universals of Relative Clause Structure. In J. Greenberg (Ed.), *Universals of Human Language* (pp. 375-418). Volume 4, Syntax. Stanford, California: Stanford University Press.

Dye, M.W.G. (2012). Processing. In R. Pfau, M. Steinbach, and B. Woll (Eds.), *Sign Language: An International Handbook*. New York, NY: Mouton de Gruyter.

Eijck, J. van. (2006). Discourse Representation Theory. In *Encyclopedia of Language and Linguistics, Elsevier*. Volume 3, 660-669.

É. Kiss, K. (1987). *Configurationality in Hungarian*. The Hague: Mouton.

Ekman, P. (1997). Expression or communication about emotion. In N. Segal, G. E. Weisfeld, & C. C. Weisfeld (Eds.), *Genetic, Ethological and Evolutionary Perspectives on Human Development: Essays in Honor of Dr Daniel G. Freedman*. Washington, DC: American Psychological Association.

Emmorey, K. (2001). Space on Hand: The Exploitation of Signing Space to Illustrate Abstract Thought. In M. Gattis (Ed.) *Spatial Schemas and Abstract Thought*, (pp. 147-174). Cambridge, MA: The MIT Press.

Emmorey, K. (2002). *Language, cognition, and the brain: insights from sign language research*. Mahwah, N.J.: Lawrence Erlbaum Associates.

Emmorey, K. (2003). *Perspectives on Classifier Constructions in Sign Languages*. Mahwah, NJ: Lawrence Erlbaum and Associates.

Emmorey, K. (2007). The psycholinguistics of signed and spoken languages: How biology affects processing. In G. Gaskell (Ed.), *The Oxford Handbook of Psycholinguistics*, (pp. 703-721), Oxford University Press.

Emmorey, K., & Herzig, M. (2003). Categorical versus gradient properties of classifier constructions in ASL. In K. Emmorey (Ed.), *Perspectives on classifier constructions in signed languages*, (pp. 222-246). Mahwah, NJ: Lawrence Erlbaum Associates.

Emonds, J. (1979). Appositive Relatives Have No Properties. *Linguistic Inquiry* 10,211-243.

Engberg-Pedersen, E. (1993). *Space in Danish Sign Language*. Hamburg: Signum Press.

Fauconnier, G. (1997). *Mappings in Thought and Language*. Cambridge: Cambridge University Press.

Fenlon, J. (2010). *Seeing sentence boundaries: the production and perception of visual markers signaling boundaries in signed languages*. Unpublished doctoral thesis, University College London (UCL).

Fenlon, J. Denmark, T, Campbell, R., & Woll, B. (2007). Seeing sentence boundaries. *Sign Language and Linguistics* 10(2), 177–200.

Fischer, S. A. (1975). Influence on word order change in American Sign Language. In C. N. Li (Ed.), *Word order and word order change* (pp. 1-25). Austin and London: University of Texas Press.

Fontana, J. (1990). Is ASL like Diegueno or Digueno like ASL? A study of internally headed relative clauses. In C. Lucas (Ed.), *Sign language research: Theoretical issues* (pp. 238-255). Washington, DC: Gallaudet University Press.

Fox, B., & Thompson, S. (1990). A discourse explanation of the grammar of relative clauses in English conversation. *Language* 66, 297-317.

Friedman, L. (1975). Space, Time and Person, *Language*, 51, 940-961.

Friedman, L. (1976). The Manifestation of Subject, Object, and Topic in the American Sign Language. In C. Li (Ed.), *Subject and Topic* (pp. 125-148). New York, NY: Academic Press.

Frishberg N., & Gough, B. (1973). *Morphology in American Sign Language*. La Jolla, CA: The Salk Institute for Biological Studies.

Frishberg N., & Gough, B. (1974). *Time on our hands*. Working paper. La Jolla, CA: The Salk Institute for Biological Studies.

Fuji, M. (2010). On Internally Headed Relative Clauses in Japanese and Navajo. *Journal of the Tokyo University of Marine Science and Technology*, Vol. 6, 47-58.

Galloway, T. (2011). *Why Agreement Matters: The Syntax of Relative Clauses in American Sign Language*. Poster Presentation in Formal and Experimental Advances in Sign language Theory (FEAST) colloquium, University of Venice, June 20-22, 2011.

Gennari, S. P., & MacDonald, M. C. (2008). Semantic indeterminacy in object relative clauses, *Journal of Memory and Language*, 58, 161–187

Geoffrey R. C. (1983). A conjoined analysis of American sign language relative clauses, *Discourse Processes*, 6:3, 305-318

Geraci, C. 2007. Comparative Correlatives in Italian Sign Language. *Traitement Automatique des Langues*, 48(3), 55-92.

Givon, T. (1983). Topic continuity in discourse: an introduction. In T. Givón (Ed.), *Topic Continuity in Discourse: Quantitative Cross-Language Studies. TSL 3* (pp. 1-42). Amsterdam: John Benjamins.

Givon, T. (1984). *Syntax: A Functional-Typological Introduction*. Amsterdam/ Philadelphia: John Benjamins.

Glück, S., & Pfau, R. (1998). On classifying classification as a class of inflection in German Sign Language. In T. Cambier-Langeveld, A. Lipták, & M. Redford (Eds.), *Proceedings of ConSOLE6*, (pp. 59-74). Leiden: Sole.

Goldsmith, J. (1976), *Autosegmental Phonology*. PhD dissertation, MIT.

Gómez, R.L., & Gerken, L.A. (1999). Artificial grammar learning by one- year-

olds leads to specific and abstract knowledge. *Cognition* 70, 109-135.

Gorbet, L. P. (1976). *A Grammar of Diegueño.* New York: Garland.

Gökgöz, K. (2009). *Topics in Turkish Sign Language (Turk Isaret Dili – TID) Syntax: Verb movement, negation, and clausal structure.* MSc Thesis. Boğaziçi University, İstanbul.

Gökgöz, K. (2011). Negation in Turkish Sign Language: The Syntax of Nonmanual Markers. *Sign Language & Linguistics*, 14:1, 49-75.

Gökgöz, K., & Arik, E. (2011). Distributional and syntactic characteristics of nonmanual markers in Turkish Sign Language (Turk Isaret Dili, TID). MIT Working Papers in Linguistics 62: *Proceedings of the 7th Workshop on Altaic Formal Linguistics*, 63-78.

Gökgöz, K., & Özsoy, S. (2008). *Non-manual markers for syntactic organization and its implications.* Poster presented at the First Sign Typ Conference, University of Connecticut, Storrs.

Göksel, A., Kelepir, M., & Üntak-Tarhan, A. (2009). *Interrogatives in Turkish Sign Language: The specific functions of head tilt, head shake and head nod.* Paper presented at the Workshop on Nonmanuals in Sign Languages. Goethe University, Frankfurt am Main, 4-5 April 2009. (http://www.germanistik.uni-mainz.de/linguistik/nisl/goeksel.pdf) Last access: Feb 13th 2013.

Göksel, A., Kelepir, M., & Üntak-Tarhan, A. (2010). Decomposing the non-manual tier: Cross-modality generalisations. In I. Kwon, H. Pritchett, & J. Spence (Eds.), *Proceedings of BLS-35, Special Session on Non-Speech Modalities*, 1-11.

Göksel, A., & Kerslake, C. (2005). *Turkish, A comprehensive grammar*. London: Routledge.

Grice, H. P. (1975) Logic and conversation. In P. Cole, & J. Morgan (Eds.), *Syntax and. Semantics 3: Speech Acts* (pp. 41–58). New York: Academic Press

Grosu, A. (2002). Strange Relatives at the Interface of Two Millennia. *Glot Internaltional*. Vol.6, 145-167.

Grosu, A., & Landman, F. (1998). Strange relatives of the third kind. *Natural Language Semantics,* 6, 125–170.

Gundel, J. K. (1985). Shared knowledge and topicality. *Journal of Pragmatics*, 9, 83-107.

Gundel, J. K. (1988). Universals of topic-comment structure. In M. Hammond, E. Moravczik, & J. Wirth (Eds.), *Studies in syntactic typology* (pp. 209-239). Amsterdam: John Benjamins.

Gundel, J. K., Hedberg, N., & Zacharski, R. (1993). Cognitive status and the form of referring expressions indiscourse. *Language*, 69(2), 274–307.

Gussenhoven, C. (1984). *On the Grammar and Semantics of Sentence Accent*. Dordrecht: Foris.

Gussenhoven, C. (2004). *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.

Hale, K. L. (1976). The adjoined relative clause in Australia. In R. M. W. Dixon (Ed.), *Grammatical Categories in Australian Languages* (pp. 78–105). Canberra: Australian Institute of Aboriginal Studies.

Halliday, M.A.K., & Yallop. C, (2007). *Lexicology: A Short Introduction*. Trowbridge: Cromwell Press.

Hanke, T. (2002). iLex - A tool for sign language lexicography and corpus analysis. In M. González Rodriguez, and C. Paz Suarez Araujo (Eds.), *Proceedings of the third International Conference on Language Resources and Evaluation* (pp. 923–926), Las Palmas de Gran Canaria, Spain. Paris: ELRA.

Hanke, T., & Storz, J. (2008). iLex – A database tool for integrating sign language corpus linguistics and sign language lexicography. In *LREC 2008. 6th International Conference on Language Resources and Evaluation. Workshop Proceedings* (pp. 64-67). W25. 3rd Workshop on the Representation and Processing of Sign Languages. Sunday 1st June 2008, Marrakech – Morocco. Paris: ELRA.

Hansen, M., & Heßmann, J. (2007). Matching propositional content and formal markers: Sentence boundaries in a DGS text. *Sign Language & Linguistics* 10(2), 145-176.

Haspelmath, M. (2002). *Understanding Morphology*. London: Arnold.

Hedberg, N. (1990). *Discourse Pragmatics and Cleft Sentences in English*. PhD dissertation, University of Minnesota.

Hendriks, B. (2008). *Jordanian Sign Language: Aspects of grammar from a cross-linguistic perspective*. Utrecht, The Netherlands: LOT.

Herrmann, A. (2009). *Prosody in German Sign Language*. Workshop on Prosody and Meaning, 17–18 September 2009, Frankfurt am Main. http://prosodia.upf.edu/activitats/prosodyandmeaning/home/presentations.php

Herrmann, A. (2010). The interaction of eye blinks and other prosodic cues in German Sign Language. *Sign Language and Linguistics* 13(1), 3-39.

Herrmann, A. (2013). *Modal and Focus Particles in Sign Languages. A Cross-linguistic Study*. De Gruyter Mouton and Ishara Press.

Hockett, C. F. (1960). The origin of speech. *Scientific American*, 203, 88-96.

Hohenberger, Annette (2008). The word in sign language: empirical evidence and theoretical controversies. Special Issue "Theory and Typology of Words", *Linguistics* 46, 2, 249-308.

Hohenberger, A., Happ, D., & Leuninger, H. (2002). Modality-dependent Aspects of Sign Language Production. Evidence from Slips of the Hands and their Repairs in German Sign Language (Deutsche Gebärdensprache (DGS)). In K. Cormier, R. Meier, & D. Quinto-Pozos (Eds.), *Modality and Structure in Signed and Spoken Language* (pp. 112-142). Cambridge, Mass: Cambridge University Press.

Hohenberger, A., & Leuninger, H. (2012). Sign language production. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. Handbooks of Linguistics and Communication Science* (pp. 711-738). Berlin: Mouton de Gruyter.

İlkbaşaran, D. (2013). Communicative practices of deaf people in Turkey and the sociolinguistics of Turkish Sign Language. In E. Arık (Ed.), *Current*

directions in Turkish Sign Language research (pp. 19-54). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Jackendoff, R. (1977). *X'-Syntax: A Study of Phrase Structure*. Cambridge, Mass: The MIT Press.

Janis, W. (1992). *Morphosyntax of the ASL verb phrase*. Dissertation. Ann Arbor : U.M.I. State Univ. of New York at Buffalo.

Janzen, T. (1999). The grammaticization of topics in American Sign Language. *Studies in Language*, 23:2, 271-306.

Janzen, T. (2012). Lexicalization and grammaticalization. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. Handbooks of Linguistics and Communication Science* (pp. 816-841). Berlin: Mouton de Gruyter.

Janzen, T., & Shaffer, B. (2002). Gesture as the substrate in the process of ASL grammaticization. In R. Meier, K. Cormier, & D. Quinto-Pozos (Eds.), *Modality and Structure in Signed and Spoken Languages* (pp. 199-223). Cambridge: Cambridge University Press.

Janzen, T., Shaffer, B., & Wilcox, S. (1999). Signed language pragmatics. In J. Verschueren, J. O. Ostman, J. Blommaert, & C. Bulcaen (Eds.), *Handbook of Pragmatics, Installment* (pp. 1-20). Amsterdam/Philadelphia: John Benjamins Publishing Co.

Johnston, T. & Schembri, A. (2007). *Australian Sign Language (Auslan): An introduction to sign language linguistics*. Cambridge: Cambridge University Press.

Johnston, T. (2013). Formational and functional characteristics of pointing signs in a corpus of Auslan (Australian sign language): are the data sufficient to posit a grammatical class of 'pronouns' in Auslan? *Corpus Linguistics and Linguistic Theory,* 9(1), 109-159.

Kamp, H. (1981). A theory of truth and semantic representation. In J. Groenendijk, T. Janssen, & M. Stokhof (Eds.), *Formal methods in the study of language*, No. 135 (pp. 277-322). Amsterdam: Mathematical Centre.

Kamp, H., & Reyle, U. (1993). *From discourse to logic: Introduction to model theoretic semantics of natural language, formal logic and discourse representation theory*. Dordrecht, the Netherlands: Kluwer Academic Press.

Kan, S., & Gökgöz, K. (2009). *Aspects of Compound Formation in Turkish Sign Language*. The Mediterranean Graduate Students Meeting in Linguistics-II (MGML 2), Mersin University, Mersin, Turkey.

Karlsson, F. (1984). Structure and Iconicity in Sign Language. In F. Loncke, P. Boyes-Braem, Penny, & Y. Lebrun (Eds.), *Recent Research on European Sign Languages* (pp 149-155). Lisse: Swets and Zeitlinger.

Kaufman, E. (1974). Navajo spatial enclitics: a case for unbounded rightward movement. *Linguistic Inquiry* 5, 507-33.

Kayne, R. S. (1994). *The Antisymmetry of Syntax* (Linguistic Inquiry Monographs 25), Cambridge, MA: MIT Press,

Keenan, E. L. (1985). Relative clauses. In T. Shopen (Ed.), *Language typology and syntactic description: Complex constructions* (pp. 141–170). Volume 2. Cambridge, England: Cambridge University Press.

Keenan, E. L., & Comrie, B. (1977). Noun phrase accessibility and universal grammar. *Linguistic Inquiry* 8, 63-99.

Kendon, A. (1995). Gestures as illocutionary and discourse structure markers in Southern Italian Conversation. *Journal of Pragmatics*, 23, 247-279.

Kendon, A. (2002). Some uses of the headshake. *Gesture* 2, 147-82.

Klima, E. S., & Bellugi, U. (1979). *The signs of language*. Cambridge, MA: Harvard University Press.

Konrad, R. (2010a). *Die Erstellung von Fachgebärdenlexika am Institut für Deutsche Gebärdensprache (IDGS) der Universität Hamburg (1993-2010)*. Universität Hamburg. URL: http://www.sign-lang.uni-hamburg.de/projekte/mfl/Konrad_2010_FachgebLexika.pdf (last accessed on January 06 2012).

Konrad, R. (2010b). Transkriptionskonventionen im Vergleich. Universität Hamburg. URL: http://www.sign-lang.uni-

hamburg.de/projekte/mfl/transkrkonv_vergleich. (last accessed on January 06 2012).

König, S., Konrad R., & Langer, G. (2003). Hintergrundinformationen. In R. Konrad, A. Schwarz, S. König, G. Langer, T. Hanke, & S. Prillwitz, (Eds.), *Fachgebärdenlexikon Sozialarbeit/Sozialpädagogik* (pp. 444-465). Seedorf: Signum.

Kubus, O. (2008). *An Analysis of Turkish Sign Language (TİD) Phonology and Morphology*. M.S. Thesis. Middle East Technical University, Ankara.

Kubus, O. (2010). Der rechtliche Status der Türkischen Gebärdensprache und die gegenwärtige Sprachplanung. *Das Zeichen,* 86, 382-389.

Kubus, O., & Hohenberger, A. (2007). *The effect of phonological similarity and irrelevant visual input on Working Memory in Turkish Sign Language* (Poster presented at 20th CUNY Sentence Processing Conference, March 29-31, 2007). San Diego, La Jolla CA.

Kubus, O., & Hohenberger, A. (2011). The phonetics and phonology of TİD (Turkish Sign Language) bimanual alphabet. In R. Channon, & H. van der Hulst (Eds.), *Formational units in sign languages* (pp. 43-63). Berlin: Walter de Gruyter

Kubus, O., İlkbaşaran, D. & Gilchrist, S. (in press). Türkiye'de İşaret Dili Planlaması ve Türk İşaret Dili'nin Yasal Durumu [Sign Language Planning in Turkey and the legal status of Turkish Sign Language.]. In E. Arik (Ed.), Türk İşaret Dili Araştırmaları [Research on Turkish Sign Language].

Kubus, O., & Rathmann, C. (2009). *Past Morpheme Realized by a Nonmanual Marker in Turkish Sign Language (TID)*. Workshop on Nonmanuals in Sign Languages 04.-05. April 2009 Goethe-University, Frankfurt am Main, Germany.

Lambrecht, K. (1986). *Topic, focus, and the grammar of spoken French*. PhD dissertation, University of California, Berkeley.

Lambrecht, K. (1994). *Information structure and sentence form. Topic, Focus, and the mental representations of discourse referents*. Cambridge: CUP.

Lany, J., & Saffran, J.R. (2013). Statistical learning mechanisms in infancy. In J.L.R. Rubenstein & P. Rakic (Eds.), *Comprehensive developmental neuroscience: Neural circuit development and function in the brain*, Vol 3. (pp. 231-248). Amsterdam: Elsevier.

Lehmann, C. (1984). *Der Relativsatz*. Gunter Narr Verlag, Tübingen.

Leuninger, H., Hohenberger, A., Waleschkowski, E., Menges, E., & Happ, D. (2004). The Impact of Modality on Language Production: Evidence from Slips of the Tongue and Hand. In T. Pechman, & C. Habel (Eds.), *Multidisciplinary approaches to language production* (pp. 219-277). Berlin, New York, Amsterdam: Mouton de Gruyte.

Li, C. N., & Thompson, S. A. (1981). *Mandarin Chinese: A Functional Reference Grammar*. University of California Press.

Liddell, S. K. (1977). *An Investigation into the Syntactic Structure of American Sign Language*. Doctoral Dissertation, University of California, San Diego.

Liddell, S. K. (1978). Non-manual signals and relative clauses in ASL. In P. Siple (Ed.), *Understanding language through sign language research*. New York: Academic Press.

Liddell, S. K. (1980) *American Sign Language Syntax*. The Hague: Mouton.

Liddell, S. K. (1984). THINK and BELIEVE: Sequentiality in American Sign Language. *Language*, 60, 372-399.

Liddell, S. K. (1996). Numeral Incorporating Roots and Non-incorporating Prefixes in American Sign Language. *Sign Language Studies* 92, 201-226.

Liddell, S. K. (2000). Indicating verbs and pronouns: Pointing away from agreement. In K. Emmorey, & H. Lane (Eds.), *The signs of language revisited: An anthology to honor Ursula Bellugi and Edward Klima* (pp. 303-320). Mahwah, NJ: Lawrence Erlbaum Associates.

Liddell, S. K. (2003). *Grammar, Gesture, and Meaning in American Sign Language.* Cambridge: Cambridge University Press.

Liddell, S. K., & Johnson, R. E. (1989). American Sign Language: The Phonological Base, *Sign Language Studies,* 195-277.

Liddell, S. K., Ramsey, C., Powell, F., & Corina, D. (1984). *Numeral incorporation and numeral classifiers in American Sign Language*. Manuscript Gallaudet University.

Liddell, S. K., Vogt-Svendsen, M., & Bergman, B. (2007). A crosslinguistic comparison of buoys: Evidence from American, Norwegian, and Swedish Sign Language. In M. Vermeerbergen, L. Leeson, & O. Crasborn (Eds.), *Simultaneity in Signed Languages: Form and function* (p. 187-215). Amsterdam: John Benjamins.

Lillo-Martin, D., & Klima, E. S. (1990). Pointing out differences: ASL pronouns in syntactic theory. In S. Fischer, & P. Siple (Eds.), *Theoretical issues in sign language research, Vol. 1: Linguistics*, (pp. 191-210), Chicago, IL: University of Chicago Press.

Lillo-Martin, D., & R. P. Meier. (2011). On the linguistic status of 'agreement' in sign languages. *Theoretical Linguistics* 37, 95–141.

Lipták, A. (2005). *Correlative Topicalization*. Manuscript. University of Leiden.

Lipták, A. (2009). *The landscape of correlatives: An empirical and analytical survey*. In A. Lipták, (Ed.), *Correlatives cross-linguistically* (p. 1-50). Amsterdam/Philadelphia: John Benjamins.

Loui, S., & Gennari, S. P. (2008). The role of animacy in the production of greek relative clauses, *ExLing-2008*, 145-148.

Mak, W. M., Vonk, W., & Schriefers, H. (2002). The influence of animacy on relative clause processing. *Journal of Memory and Language*, 47, 50-68.

Makaroğlu, B. (2012). *Türk İşaret Dilinde Soru: Kaş Hareketlerinin Dilsel Çözümlemesi*. Unpublished Masters Thesis. Ankara University, Ankara.

Makaroğlu, B. (2013). Interrogatives in Turkish Sign Language (TİD): The role of eyebrows. In E. Arık (Ed.), *Current directions in Turkish Sign Language research* (pp.143-165)*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Mann, W. C., & Thompson, S. A. (1988). Rhetorical Structure Theory: Toward a functional theory of text organization. *Text*, 8 (3). 243-281.

Mathur, G. (2000). *Verb agreement as alignment in signed languages*. Ph.D. dissertation, MIT.

Mathur, G., & Rathmann, C. (2001). Why not GIVE-US: an articulatory constraint in signed languages. In V. Dively, M. Metzger, & A. M. Baer (Eds.), *Signed languages: Discoveries from international research* (pp. 1-26). Washington, DC: Gallaudet University Press.

Mathur, G., & Rathmann, C. (2004). *Linguistic properties of verb agreement in signed languages*. Invited lecture at the Eighth International Conference on Theoretical Issues in Sign Language Research (TISLR 8). Universitat de Barcelona, Spain. September 2004.

Mathur, G., & Rathmann, C. (2007). The argument structure of classifier predicates in American Sign Language. In A. Rose (Ed.), *Proceedings of the Fourth Meeting on Semantics of Underrepresented Languages of the Americas*. University of Massachusetts, Amherst.

Mathur, G., & Rathmann, C. (2011). Two types of nonconcatenative morphology in signed languages. In D. Napoli, & G. Mathur (Eds.), *Deaf Around the World: The Impact of Language* (pp. 54-82). Oxford: Oxford University Press.

Mathur, G., & Rathmann, C. (2012). Verb Agreement. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language* (pp. 136-157). Berlin: Mouton de Gruyter.

McNeill, D. (1992). *Hand and Mind: What Gestures Reveal about Thought*. Chicago: University of Chicago Press.

McNeill, D. (2005). *Gesture and Thought*. Chicago: University of Chicago Press.

McBurney, S. L. (2002). Pronominal Reference in Signed and Spoken Language: Are Grammatical Categories Modality-Dependent? In R. Meier, K. Cormier, & D. Quinto-Pozos (Eds.), *Modality and Structure in Signed and Spoken Languages* (pp. 329-369). Cambridge: Cambridge University Press.

Meier, R. (1990). Person Deixis in ASL. In S. Fischer, & P. Siple (Eds.), *Theoretical Issues in Sign Language Research: Vol.1: Linguistics* (pp. 175-190). Chicago: University of Chicago Press.

Meier, R. (2002). Why different, why the same? Explaining effects and non-effects of modality upon linguistic structure in sign and speech. In R. Meier, K. Cormier, & D. Quinto-Pozos (Eds.), *Modality and structure in signed and spoken languages* (pp. 1-26). Cambridge: Cambridge University Press.

Meir, I. (1998). *Thematic Structure and Verb Agreement in Israeli Sign Language*. PhD Dissertation, The Hebrew University of Jerusalem.

Meir, I. (2002). A Cross-modality Perspective on Verb Agreement. *Natural Language and Linguistic Theory* 20, 413-450.

Miles M. (2000). Signing in the Seraglio: mutes, dwarfs and gestures at the Ottoman Court 1500 – 1700. *Disability & Society*, 15, 115–134.

Miller D. (1990). ASL relative clauses and their interaction with null categories. In C. Lucas (Ed.), *Sign Language Research: Theoretical Issues* (pp. 228-237), Whashington D.C.: Gallaudet University Press.

Morgan, G. (2002). The Encoding of Simultaneity in Children's BSL Narratives. *Sign Language & Linguistics,* 5(2), 131-165.

Morgan, G. (2006). The Development of Narrative Skills in British Sign Language. In B. Schick, M. Marschark, & P. Spencer (Eds.), *Advances in Sign Language Development in Deaf Children* (pp. 314-343). Oxford: Oxford University Press,.

Mosella Sanz, M. (2011). The position of fronted and postposed relative clauses in Catalan Sign Language. Paper presented at *Venice FEAST Colloquium, Formal and Experimental Advances in Sign language Theory*, Venice, June 20-22, 2011.

Neidle, C. (2001). SignStream™: A database tool for research on visual-gestural language. *Sign Language and Linguistics,* 4(1/2), 203-214.

Neidle, C., Kegl, J., MacLaughlin, D., Bahan, B., & Lee, R. G. (2000). *The Syntax of American Sign Language: Functional Categories and Hierarchical Structure*. Cambridge, Massachusetts: The MIT Press.

Nespor, M., & Sandler, W. (1999). Prosody in Israeli Sign Language. *Language & Speech,* 42: 2&3, 143-176.

Nespor, M. & Vogel, I. (1986). *Prosodic Phonology*. Dordrecht: Foris.

Newkirk, D., Klima, E. S., Pedersen, C. C., & Bellugi, U. (1980). *Linguistic evidence from slips of the hand.* In V. A. Fromkin (Ed.), *Errors in linguistic performance: Slips of the tongue, ear, pen, and hand* (pp. 165–197). New York: Academic Press.

Nicodemus, B. (2009). *Prosodic markers and utterance boundaries in American Sign Language interpretation*. Washington, DC: Gallaudet University Press.

Nunes, J., & Quadros, R. M. de (2004). Phonetic realization of multiple copies in Brazilian Sign Language. Paper presented at *8th Conference on Theoretical Issues in Sign Language Research (TISLR 8)*, Barcelona, September 2004.

Ogle, R. (1974). *Natural Order and Dislocated Syntax*. Doctoral dissertation UCLA.

Ormel, E., & Crasborn, O. (2012). Prosodic Correlates of Sentence in Signed Languages: A Literature Review and Suggestions for New Types of Studies. *Sign Language Studies*, 12(2), 279-315.

Özürlüler ve Bazı Kanun ve Kanun Hükmünde Kararnamelerde Değişiklik Yapılması Hakkında Kanun. (2005). *T. C. Resmi Gazete*, 25868 , 07 July 2005.

Özyürek, A. (2002). Do speakers design their cospeech gestures for their addressees ? The effects of addressee location on representational gestures. *Journal of Memory and Language*, 46, 688-704.

Özyürek, A., İlkbaşaran, D., & Arık, E. (2005). *The Turkish Sign Language Website.* http://turkisaretdili.ku.edu.tr/

Özyürek, A., Zwitserlood, I., & Perniss, P. (2010). Locative expressions in signed languages: A view from Turkish Sign Language (TİD). *Linguistics*, 48(5), 1111-1145.

Padden, C. (1981). Some arguments for syntactic patterning in American Sign Language. *Sign Language Studies*, 32, 237–259.

Padden, C. (1983). *Interaction of Morphology and Syntax in American Sign Language*. PhD Dissertation, University of California, San Diego.

Padden, C. (1988). *Interaction of Morphology and Syntax in American Sign Language.* New York and London: Garland Publishing, Inc.

Palmer, F. R. (2001). *Mood and Modality. Second edition*. Cambridge: Cambridge University Press.

Perniss, P. (2007). *Space and Iconicity in German Sign Language (DGS)*. MPI Series in Psycholinguistics 45, Radboud University Nijmegen.

Perniss, P. (2012). Use of sign space. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. Handbooks of Linguistics and Communication Science* (pp. 412-431). Berlin: Mouton de Gruyter.

Perniss, P., Pfau, R., & Steinbach, M. (2007), Can't you see the difference? Sources of variation in sign language structure. In P. Perniss, R. Pfau, & M. Steinbach (Eds.), *Visible variation: Comparative studies on sign language structure* (pp. 1-34). Berlin: Mouton de Gruyter.

Petronio, K., & Lillo-Martin, D. (1997). Wh-movement and the position of spec-CP: Evidence from American Sign Language. *Linguistic Inquiry*, 23, 407–442.

Pfau, R. (2002). Applying morphosyntactic and phonological readjustment rules in natural language negation. In R. Meier, K. Cormier, & D. Quinto-Pozos (Eds.), *Modality and structure in signed and spoken languages* (pp. 263-295). Cambridge: Cambridge University Press.

Pfau, R. (2003). *The grammar of headshake: Sentential negation in German Sign Language*. Manuscript. University of Amsterdam.

Pfau, R. (2011). A point well taken: On the typology and diachrony of pointing. In D. J. Napoli, , G. Mathur (Eds.), *Deaf around the world. The impact of language* (pp. 144-163). Oxford: Oxford University Press.

Pfau, R. & Glück, S. (2000). The pseudo-simultaneous nature of complex verb forms in German Sign Language. In N. M. Antrim, G. Goodall, M. Schulte-Nafeh, & V. Samiian (Eds.), *Proceedings of the 28th Western Conference on Linguistics* (pp. 428–442). Fresno, CA: CSU.

Pfau, R., & Quer, J. (2002). V-to-Neg Raising and Negative Concord in Three Sign Languages. *Rivista di Grammatica Generativa*, 27, 73-86.

Pfau, R., & Quer, J. (2010). Nonmanuals: their prosodic and grammatical roles. In D. Brentari (Ed.), *Sign Languages* (*Cambridge Language Surveys*) (pp. 381-402). Cambridge.

Pfau, R., & Steinbach, M. (2005a). Plural formation in German Sign Language: Constraints and strategies. In H. Leuninger, & D. Happ (Eds.), *Gebärdensprachen: Struktur, Erwerb, Verwendung (Linguistische Berichte Special Issue 13)* (pp. 111-144). Opladen: Westdeutscher Verlag.

Pfau, R., & Steinbach, M. (2005b), Relative clauses in German Sign Language: Extraposition and reconstruction. In L. Bateman, & C. Ussery (Eds.), *Proceedings of the North East Linguistic Society (NELS 35),Vol. 2* (pp. 507-521). Amherst, MA: GLSA.

Pfau, R., & Steinbach, M. (2006). Modality-Independent and Modality-Specific Aspects of Grammaticalization in Sign Languages. *Linguistics in Potsdam 24*, 5-98.

Pierrehumbert, J., & Hirschberg, J. (1990). The meaning of intonational contours in interpretation of discourse, in P. R. Cohen, J. Morgan, & M. E. Pollack (Eds.), *Intentions in Communication* (pp. 271-311)*, Cambridge, MA: MIT Press.

Platero, P. (1974). The Navajo relative clause. *International Journal of American Linguistics.* 202–246.

Platero, P. (1978). *Missing noun phrases in Navajo*. Doctoral dissertation, MIT, Cambridge, Mass.

Portner, P., & Yabushita, K. (1998). The Semantics and Pragmatics of Topic Phrases, *Linguistics and Philosophy*, 21, 117-157.

Potts, C. (2003). *The Logic of Conventional Implicatures*. PhD thesis, UC Santa Cruz.

Potts, C. (2005). *The Logic of Conventional Implicatures*, *Oxford Studies in Theoretical Linguistics 7*, Oxford: Oxford University Press.

Prince, E. (1981). Toward a taxonomy of given-new information. In P. Cole (Ed.), *Radical Pragmatics* (pp. 223-255), New York: Academic.

Prince, E. (1992). The ZPG Letter: subjects, definiteness, and information-status..In M. William, S. Thompson, & A. Sandra (Eds.), *Discourse Description: Diverse Linguistic Analyses of a Fund-Raising Text* (pp. 295-325). Amsterdam: Benjamins.

Proust, J. (2013). *The Philosophy of Metacognition: Mental Agency and Self-Awareness*. OUP, Oxford.

Pu, M. (2007). The distribution of relative clauses in Chinese discourse. *Discourse Processes*, 43, 1, 25-53.

Quadros, R. M. de, & Quer, J. (2008). Back to backwards and moving on: on agreement, auxiliaries and verb classes in sign languages. In R. M. de Quadros (Ed.), *Sign Languages: spinning and unraveling the past, present and future. TISLR9, forty five papers and three posters from the 9th. Theoretical Issues in Sign Language Research Conference* (pp. 530-551). Florianópolis, Brazil, December 2006. Petrópolis/RJ: Editora Arara Azul.

Quer, J., Frigola, S. (2006). The workings of indexicals in role shift structures in Catalan Sign Language (LSC), with Santiago Frigola. *Actes del 7è Congrés de Lingüística General*, Universitat de Barcelona.

Rathmann, C. (2000) *The Optionality of Agreement Phrase: Evidence from German Sign Language*. Qualifying paper, University of Texas at Austin.

Rathmann, C. (2005). *Event Structure in American Sign Language*. Ph.D. dissertation, University of Texas at Austin.

Rathmann, C., & Mathur, G. (2005). Unexpressed features of verb agreement in signed languages. In G. Booij, E. Guevara, A. Ralli, S. Sgroi, & S. Scalise (Eds.), *Morphology and Linguistic Typology, On-line Proceedings of the Fourth Mediterranean Morphology Meeting (MMM4)* (pp. 235-250). Bologna: University of Bologna.

Rathmann, C., Mathur, G. (2008). Verb agreement as a linguistic innovation in signed languages. In J. Quer (Ed.), *Signs of the time: selected papers from TISLR 2004* (pp. 191-216). Hamburg: Signum Verlag.

Reinhart, T. (2002). The Theta System – An overview. *Theoretical Linguistics,* 28, 229-290.

Riester, A. (2009). Stress Test for Relative Clauses. In A. Riester, & E. Onea (Eds.), *Focus at the Syntax-Semantics Interface*. Working Papers of the SFB 732 (SinSpeC) 3:69-86. Stuttgart.

Roland, D., Dick, F., & Elman, J. (2007). Frequency of basic English grammatical structures: A corpus analysis. *Journal of Memory and Language*, 57, 3, 348-379.

Ross, J. R. (1967). *Constraint on Variables in Syntax*, PhD dissertation, MIT.

Saffran, J. R. & Wilson, D. P. (2003). From syllables to syntax: Multi-levelstatistical learning by 12-month-old infants. *Infancy*, 4, 273-284.

Sandler, W. (1989). *Phonological representation of the sign: linearity and nonlinearity in American Sign Language*. Dordrecht, Holland; Providence, RI, U.S.A.: Foris Publications.

Sandler, W. (1999). The medium and the message: Prosodic Interpretation of Linguistic Content in Sign Language. *Sign Language and Linguistics*, 2(2). 187-216.

Sandler, W. (2011). Prosody and syntax in sign language. *Transactions of the Philological Society,* 108:3. 298-328.

Sandler, W., & Lillo-Martin, D. C. (2006). *Sign language and linguistic universals*. Cambridge, UK ; New York: Cambridge University Press.

Schembri, A. (2003). Rethinking "classifiers" in signed languages. In K. Emmorey (Ed.), *Perspectives on classifier constructions in sign languages* (pp. 3-34). Mahwah N.J.: Lawrence Erlbaum Assoc.

Senghas, A., & Coppola, M. (2011). Getting to the point: How a simple gesture became a linguistic element in Nicaraguan signing. In D. J. Napoli, & G. Mathur (Eds.), *Deaf Around the World: The Impact of Language*, Oxford: Oxford University Press, pp. 127-143.

Sevinç, A. M. (2006). *Grammatical relations and word order in Turkish Sign Language (TID)*. MSc Thesis. Middle East Technical University, Ankara.

Shaffer, B. (2000). *A syntactic, pragmatic analysis of the expression of necessity and possibility in American Sign Language*. Ph.D. dissertation, University of New Mexico.

Shimoyama, J. (1999). Internally headed relative clauses in Japanese and E-type anaphora. *Journal of East Asian Linguistics,* 8, 147-182.

Smith, C. (1997). *The Parameter of Aspect*. Dordrecht: Kluwer Academic Publishers

Smith, C. S. (2001). Discourse modes: Aspectual and tense interpretation. In J. Busquets, F. Lambert, A. Le Draoulec (Eds.), *Cahiers de Grammaire 26: Sémantique et Discours*, Toulouse: ERSS et Université de Toulouse-le Mirail.

Smith C. S. (2003). *Modes of Discourse: The Local Structure of Texts*. Cambridge: Cambridge University Press.

Smits, R. (1988). *The Relative and Cleft Constructions of the Germanic and Romance Langauges*. Ph.D. thesis, Katholieke Universiteit Brabant.

Stern J., & Dunham D. (1990). The ocular system. In J. T. Cacioppo, & L. G. Tassinary (Eds.), *Principles of psychophysiology: Physical social & inferential elements* (pp. 513–553). Cambridge: Cambridge University Press.

Srivastav, V. (1991). The syntax and semantics of correlatives. *Natural Language and Linguistic Theory*, 9, 637–86.

Stokoe, W. C. (1960). Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf, *Studies in linguistics: Occasional papers (No. 8)*. Buffalo: Dept. of Anthropology and Linguistics, University of Buffalo.

Swart, H. de, & Hoop, H. de (1995). Topic and Focus. *GLOT International,* 1(7), 3–7.

Supalla, T. (1982). *Structure and Acquisition of Verbs of Motion and Location in American Sign Languag*e. PhD Dissertation, University of San Diego.

Supalla, T. (1986). The Classifier System in American Sign Language. In C. Craig (Ed.), *Noun Classes and Categorization* (pp. 181-214) . Amsterdam: Benjamins.

Supalla, T. (2003). Revisiting visual analogy in ASL classifier predicates. In K. Emmorey (Ed.), *Perspectives on classifier constructions in sign language* (pp. 249–257). Mahwah N.J.: Lawrence Erlbaum Assoc.

Sutton-Spence, R., & Woll, B. (1998). *The Linguistics of British Sign Language: An Introduction*. Cambridge: Cambridge University Press.

Sze, F. (2008). Blinks and Intonational Phrasing in Hong Kong Sign Language. In J. Quer (Ed.), *Signs of the time: selected papers from TISLR 2004* (pp. 83-107). Hamburg: Signum.

Taşçı, S. S. (2012). *Phonological and morphological aspects of lexicalized fingerspelling in Turkish Sign Language (TİD)*. Unpublished Masters Thesis. Boğaziçi University, İstanbul.

Taşçı, S. S. (2013). Hand reversal and assimilation in TİD lexicalized fingerspelling. In E. Arik (Ed*.), Current directions in Turkish Sign Language research* (pp. 71 - 100). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Tang, G., Prudence, L., & J. Lee (2010). Strategies of Relativization in Hong Kong Sign Language. Paper presentedat the Theoretical Issues in Sign Language Research 10 Conference (TISLR 10) at Purdue University, September – October 2010, last accessed on 30th July 2011 at http://www.purdue.edu/tislr10/pdfs/Tang%20Lau%20Lee.pdf.

Taub, S. F. (2001). *Language from the Body: Iconicity and Metaphor in American Sign Language*. Cambridge: Cambridge University Press.

Thompson, H. (1977). The lack of subordination in American Sign Language. In L. Friedman (Ed.), *On the other hand*. New York, Academic Press.

Traxler, M., Morris, R., & Seely R. (2002) Processing subject and object relative clauses:evidence from eye-movement, *JML*, 47, 69-90.

Turkey Disability Survey (2002). http ://www.ozida .gov.tr ENG/?menu=data_bank&sayfa=tr_disability_survey (last accessed on 28. October 2010).

Türk İşaret Dili Sisteminin Oluşturulması ve Uygulanmasına Yönelik Usul ve Esasların Belirlenmesine ilişkin Yönetmelik. (2006). *T. C. Resmi Gazete*, 26139, 14 April 2006.

Türk İşaret Dili Sisteminin Oluşturulması ve Uygulanmasına Yönelik Usul ve Esasların Belirlenmesine ilişkin Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik. (2011). *T. C. Resmi Gazete*, 27819, 18 January 2011.

Türk İşaret Dili Sisteminin Oluşturulması ve Uygulanmasına Yönelik Usul ve Esasların Belirlenmesine ilişkin Yönetmelikte Değişiklik Yapılmasına Dair Yönetmelik. (2012). *T. C. Resmi Gazete*, 28330, 21 June 2012.

Van Valin, R., & LaPolla, R. (1997). *Syntax: Structure, meaning and function*. Cambridge: Cambridge University Press.

Van Herreweghe, M., & Vermeerbergen, M. (2012). Data Collection. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign language. An international handbook* (pp. 1023-1045). Berlin: de Gruyter Mouton,.

Valli, C., & Lucas, C. (2001). *Linguistics of American Sign Language*. Washington DC: Gallaudet University Press.

Vermeerbergen, M. (2001). Simultane constructies in de Vlaamse Gebarentaal. In R. Beyers (Ed.), *Handelingen (Koninklijke Zuid-Nederlandse Maatschappij voor Taal- en Letterkunde en Geschiedenis), LIV 2000*, (pp. 69-81). Brussels: LIV.

Vries, M. de (2001). Patterns of Relative Clauses. *Linguistics in the Netherlands 18*, 231-243.

Vries, M. de (2002). *The Syntax of Relativization*. PhD Dissertation, University of Amsterdam. Published by LOT, Utrecht.

Wilbur R. B. (1994a). Eyeblinks and ASL phrase structure. *Sign Language Studies* 84, 221–240.

Wilbur, R. B. (1994b). Foregrounding structures in ASL. *Journal of Pragmatics* 22, 647–672.

Wilbur R. B. (1999). Stress in ASL: Empirical evidence and linguistic issues. *Language & Speech*. 42, 229-250.

Wilbur, R. B. (2000). Phonological and prosodic layering of nonmanuals in American Sign Language. In K. Emmorey, & H. Lane (Eds.), *The Signs of Language Revisited: An Anthology to Honor Ursula Bellugi and Edward Klima* (pp. 213-244). Mahwah, NJ: Lawrence Erlbaum.

Wilbur, R. B. (2009). Effects of varying rate of signing on ASL manual signs and nonmanual markers. *Language and Speech, 52*(2/3), 245-285.

Wilbur, R. B. (2012). Information Structure, in R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. An International Handbook* (pp. 462–489). Berlin: De Gruyter Mouton.

Wilbur R. B., & Patschke, C. (1999). Syntactic correlates of brow raise in ASL. *Sign Language & Linguistics, 2*, 3-40.

Wilkin, K., & Holler, J. (2011). Speakers' use of 'action' and 'entity' gestures with definite and indefinite references. In G. Stam, & M. Ishino (Eds.), *Integrating gestures: The interdisciplinary nature of gesture* (pp. 293-308). Amsterdam: John Benjamins.

Williamson, J. (1987). An Indefiniteness Restriction for Relative Clauses in Lakhota. In E. Reuland, & A. ter Meulen (Eds.), *The Representation of (In)definiteness* (pp. 168-190). Cambridge, MA: MIT Press.

Wilson, M. (2001). The case for sensorimotor coding in working memory. *Psychonomic Bulletin and Review*, 8, 44-57.

Wilson, M., & Emmorey, K. (1997). Working Memory for Sign Language: A Window into the Architecture of the Working Memory System. *Journal Deaf Studies and Deaf Education*, 2(3), 123-132.

Wilson, M., & Emmorey, K. (1998). The "word length effect" for sign language: further evidence on the role of the language in structuring working memory. *Memory and Cognition*, 26(3), 584-590.

Wilson, M., & Emmorey, K. (2003). The Effect of Irrelevant Visual Input on Working Memory for Sign Language. *Journal of Deaf Studies and Deaf Education*, 8, 97-103.

Zeshan, U. (2002). Sign Language in Turkey: The story of a hidden language. *Turkic Languages* 6(2), 229–274.

Zeshan, U. (2003). Aspects of Türk Isaret Dili (Turkish Sign Language). *Sign Language and Linguistics,* 6(1), 43–75.

Zeshan, U. (2004). Interrogative constructions in signed languages: crosslinguistic perspectives. *Language,* 80, 7-39.

Zeshan, U. (2006). Negative and interrogative structures in Türk Isaret Dili (Turkish Sign Language). In U. Zeshan (Ed.), *Interrogative and Negative Constructions in Sign Languages* (pp. 128-164). Nijmegen: Ishara Press.

Zwicky, A. M., & Pullum, G. K. (1983). Cliticization versus inflection: English n't. *Language* 59, 502-513

Zwitserlood, I. (2003). *Classifying Hand Configurations in Nederlandse Gebarentaal (Sign Language of the Netherlands)*. PhD Dissertation, Utrecht University. Utrecht: LOT.

Zwitserlood, I. (2010). Sign language lexicography in the early 21st century and a recently published dictionary of sign language of the Netherlands. *International Journal of Lexicography*, 23.4: 443-476.

Zwitserlood, I. (2012). Classifiers. In R. Pfau, M. Steinbach, & B. Woll (Eds.), *Sign Language. Handbooks of Linguistics and Communication Science* (pp. 158-186). Berlin: Mouton de Gruyter.

Zwitserlood, I., Perniss, P., & Özyürek, A. (2012). An empirical investigation of expression of multiple entities in Turkish Sign Language (TİD): Considering the effects of modality. *Lingua,* 122, 1636 -1667.

Zwitserlood, I., Perniss, P., & Özyürek, A. (2013). Expression of multiple entities in Turkish Sign Language (TİD). In E. Arik (Ed.), *Current directions in Turkish Sign Language research* (pp. 273-302). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

1998 Yılı Bütçe Raporu [the 1998 Budget Report of the Turkish National Ministry of Education (MNoE)] (1998). Milli Eğitim Bakanlığı. Ankara: DAYM Matbaası.

2009 Yılı Bütçe Raporu [the 2009 Budget Report of the Turkish National Ministry of Education (MNoE)] (2009). Milli Eğitim Bakanlığı. Ankara: DAYM Matbaası.

APPENDIX A: REFERENCES to VIDEO-CLIPS USED IN CORPUS

	Source
Movie (01)	http://vimeo.com/34458742 (Last access: 2 January 2012)
Movie (02)	https://www.facebook.com/photo.php?v=153485933387&set=t.1595704539&type=1 (Last access: 17 October 2009)
Movie (03)	https://www.facebook.com/photo.php?v=116777619348 (last access: 02 January 2012)
Movie (04)	Elicited Data
Movie (05)	Elicited Data
Movie (06)	Elicited Data
Movie (07)	Elicited Data
Movie (08)	First part: https://www.facebook.com/video/video.php?v=1078831590379 (last access: 02 January 2012) Second part: https://www.facebook.com/video/video.php?v=1079275041465 (last access: 02 January 2012) Third part: https://www.facebook.com/video/video.php?v=1079730852860 (last access: 02 January 2012)
Movie (09)	First part: https://www.facebook.com/photo.php?v=405880323400&set=t.579099348&type=3 (last access: 02 January 2012) Second part: https://www.facebook.com/photo.php?v=405909963400&set=t.579099348&type=3 (last access: 02 January 2012)

	Source
Movie (10)	http://www.izlesene.com/video/genc-deaf-cesıtlı-vıdeolar-cınsıyetlerın-farki/220166 (last access: 02 January 2012)
Movie (11)	http://www.myvideo.de/watch/4369837/GEN_DEAF_YA_ANMI_H_KAYE_SADAKA (last access: 02 January 2012)
Movie (12)	http://www.youtube.com/watch?v=hHjBL63wS5M&list=UUvdYrOwmkE40A6JRVhMf6cw&index=9&feature=plcp (last access: 02 January 2012)
Movie (13)	http://www.youtube.com/watch?v=nM769K7n17w (last access: 02 January 2012)
Movie (14)	http://www.youtube.com/watch?v=J30p5riDmTY&list=UUvdYrOwmkE40A6JRVhMf6cw&index=10&feature=plcp (last access: 03 January 2012)
Movie (15)	http://www.youtube.com/watch?v=5IvylmUb98s (last access: 02 January 2012)
Movie (16)	http://www.youtube.com/watch?v=xqVgMrU4B-M (last access: 02 January 2012)
Movie (17)	First part: http://www.youtube.com/watch?v=G1vUHC2FQxI (last access: 02 January 2012) Second part: http://www.youtube.com/watch?v=7cNGroyO8tk (last access: 02 January 2012) Third part: http://www.youtube.com/watch?v=00p76nmzLq4 (last access: 02 January 2012)
Movie (18)	https://www.facebook.com/photo.php?v=384407394348 (last access: 02 January 2012)

APPENDIX B: DURATION of VIDEO-CLIPS

Label	Duration	Participants
Movie (01)	00:07:15:07	Participant B1
Movie (02)	00:06:34:20	Participant B2
Movie (03)	00:11:18:16	Participant B3
Movie (04)	00:02:46:18	Participant A1
Movie (05)	00:01:28:06	Participant A2
Movie (06)	00:01:41:21	Participant A1
Movie (07)	00:14:23:02	Participant A3
Movie (08a)	00:18:22:04	Participant B4
Movie (08b)	00:16:39:06	Participant B4
Movie (08c)	00:16:54:08	Participant B4
Movie (09a)	00:09:08:12	Participant B5
Movie (09b)	00:05:29:03	Participant B5
Movie (10)	00:01:43:02	Participant B6
Movie (11)	00:06:46:15	Participant B7
Movie (12)	00:14:04:24	Participant B8
Movie (13)	00:07:04:12	Participant B9
Movie (14)	00:04:23:10	Participant B9
Movie (15)	00:08:05:15	Participant B9
Movie (16)	00:15:29:24	Participant B10
Movie (17)	00:03:49:09	Participant B11
Movie (18)	00:02:43:17	Participant B3
Total	02:56:02:11	14 participants

[ ] indicates relative clauses.

bold text indicates headnouns.

(rh) indicates the signs made by the right hand.

(lh) indicates the signs made by the left hand.

1. (010002):

<div style="text-align:right">

<u>br</u>

'o'

sq   <u>hf</u>

</div>

[**MOVIE_i** SAME S-E-R-I-E-S MUSLIM SAME   IX_i] IX₁ ₁SEE_i WATCH SAD

<u>br</u>

'o'

<u>hf</u>

UPSET TELL IX_i

I watched the film that is a religious series. I got upset and I will tell you about this film.

2. (010009):

<u>   hs   </u>

<u>   sq </u> <u>   br   </u>

[**BUOY:3** SINGLE]   GET-JEALOUS START

The third single person started to be jealous.

3. (010010):

<div style="text-align:right">
<u>   br   </u>
<u> 'o' </u>
</div>

<u> sq </u> <u> hn </u>

[**BUOY:1ᵢ BUOY:2ⱼ** MARRIED MARRIED IX(2) SAME(2h) **IX**(2h)$_{(i,j)}$]

VISIT$_{rec(i,j)}$ CHAT

The second and third (person), both of whom are married, visited each other and chatted.

4. (010011):

<u> fb </u>

<u> sq </u>

[**OTHER** BUOY:3 SINGLE SAME FOOL ILLITERATED LIKE] GET-BORED WATCH

The other person, who is single, foolish and like an illiterate got bored and watched (them).

5. (010016):

<u> br </u>

<u> hn </u> <u> hn </u>

<u> sq </u> <u> 'o' </u> <u> sq </u>

[**BUOY:1**   MARRY FINISH   IXᵢ] SINGLEⱼ CL-MEET$_{(i,j)}$

The first (woman), who was already married, met (the woman), who was single.

6. (010026):

<pre>
                                                        ____hs____
_____sq'____
[BUOY:1 BUOY:2   SAME STREET WATER FILL TAP_loc ALL VILLAGE

        ___'o'___
____hs____   _____hn____
____sq____   _____br____
KNOW   IX_loc SAME] GO_loc
</pre>

The first and second women went to the tap where (the cubes) from the villages are filled with water.

7. (010028):

<pre>
                                ____br____
____br____   _____sq   'o'   ____br____
OTHER_i [FRIEND_j SAME   IX_j] WALK _iSEE_j SHUT-UP
</pre>

Another (woman) walked and saw (a woman) who is a friend (of hers) and shut up.

8. (010049):

<pre>
                ____br____
_____sq   'o'   ____sq____
[HOUSE ARRIVE   IX_i   GIRL_i] THINK
</pre>

The girl who arrived home was thinking.

9. (010052):

<u>   hn   </u>   <u>   hf   </u>

_ _ _ <u>   sq   </u>   <u>   fu   </u>

[**GIRL**$_i$ SINGLE] $_i$ASK$_j$ (SOMETHING $_1$TELL$_j$).

The girl who is single asked 'May I ask something?'

10. (010054):

                                                    <u> repetitive hn</u>

<u>   fu   </u> <u>   sq   </u> <u>   fu   </u>

IX$_{you}$ IX$_1$ HELP FOR [POSS$_1$ FRIEND IX(2)$_{i,j}$] $_{you}$TELL $_{i,j}$ POSSIBLE

Could you help me by telling (my secret) the two women, both of who are my friends?

11. (010064):

               <u>   hn   </u>

<u>   </u>sq

[IX(2)$_{i,j}$ FRIEND MUST EACH-OTHER FRIEND OTHER FRIEND IX(2)$_{i,j}$

                <u> br </u>

<u> sq </u> <u> 'o' </u>

SAME$_{i,j}$ IX$_{i,j}$] MEVLUT   GO FINISH.

Two friends who had to be friends with each other, went to her mevlut.

12. (010065):

             <u>   hn   </u>   <u> 'o' </u>

<u>   </u>sq <u> br </u>

[IX$_{loc}$ CL-**DIG**$_{loc}$+   DEAD GRAVE SOIL PUT$_{loc}$ IX$_{loc}$ IN] SNAKE EXIST.

There was a snake in (the hole) in which the corpses are put under soil.

13. (010100):

	hn		hs	
	br		sq	br

HOUSE ARRIVE   [MOTHER SAME] **HOUSE** GO

(She) arrived home. She also went to the house that belongs to her mother.

14. (010101):

	ht(left)	ht(right)	hs		br		
			sq	sq			sq

BUT [[**GIRL_i** TELL IX$_1$ GUILT SORRY UPSET   IX$_i$] **NEIGHBOR$_j$** WITNESS

	'o'	
	sq	br

EXIST WATCH FOR   IX$_j$ SAME].

… But she was the neighbor who witnessed the girl saying, 'I am guilty, I apologize, I am sorry.'

15. (010102):

	sq

[**MOTHER$_i$** HOME ARRIVE] **MOTHER$_i$**   COME-TO-MIND NEIGHBOR$_j$

	br

$_i$CALL$_j$ COME

(Her) mother, who had just arrived home, came to her mind and called her neighbor.

315

16. (010109):

           hs   hs   hn

                                                   sq

[**WOMAN NEIGHBOR** YES IX$_1$ WITNESS] TELL

The female neighbor who said 'yes, I witnessed it', told (everything).

17. (020036)

                  br   br

                  ht   sq   'o'

READ TRUE POSSx NOT [**BANK CARD$_i$** HAND GET IX$_i$] SIGN

(He) read, 'Right, that is not for that.' It was for signing (a document) to get an ATM card.

18. (020058)

                              ht

                                      sq

(rh)   [BEFORE **FILM$_i$** TELL^NOT CL-PART$_i$] STOP IX

(lh)   IX--

Later, let me tell the storyline that I did not tell (intentionally).

19. (020065)

      hs

                               sq   ht

[IX$_i$ …   **CARD$_i$** KNOW BANK] BIG … UNDERSTAND^NOT CARD INSERT

The card, which was for banks, was a big one. I did not understand. I inserted the card.

20. (020077)

<u>   br</u>

<u>   sq</u>

[IX BANK NEW GET **CARD**$_i$] BE-SURPRISED KEEP-SAFE

(He) was surprised by the credit card that he received recently. He kept the card safe.

21. (020078)

<u>   hn</u> <u>   hn</u>   <u>hn</u>

<u>   sq</u> _ _ _ _ _ <u>   sq</u>   <u>   </u>

<u>sq</u>

[KNOW IX$_{you}$ BUS IDENTITY HOT PRESS PLASTIC KNOW IX$_{you}$ ….. P-V-C

<u>   hs</u>   <u> br</u>

<u>   sq</u> _ _ _ _ _ _ _ _ _ _ _ <u> sq</u> <u> 'o'</u>

IDENTITY NEW BUY THEN GET PLASTIC HARD **CARD**]   IX$_{man}$ BANK

CARD HOT PRESS

He pressed his credit card in PVC, used for pressing identity cards shown on transportation.

22. (030006)

```
        ___hn____                                              ___hn____
GERMANY IX IN       ONE YOUNG PERSON E-V-E-N-T GOOD WATCH
```

```
_____br___hn___
[IXᵢ HEARING ONE FRIENDᵢ FILM ᵢGIVE₁]      IX₁ CHANGE SIGN FILM
```

```
₁TELLyou
```

I heard a good and thrilling story about a young boy in Germany. I changed the story, which a hearing friend told me, and will tell the story to you all.

23. (030009)

```
                              'bu'
        _____sq___rb___        ____hs____  __ht__
(rh)   [SONᵢ MONEY tGIVEᵢ   IXᵢ] MONEY WHAT-DO SPEND^NOT
(lh)
```

```
                    'o'
        _____sq___br___
(rh)   [LOVERⱼ   HAVE IXj]   MONEY ᵢSPENDⱼ
(lh)   IX----------------------
```

The son did not save the money that he got (from his parents); rather he spent it (on her), his girlfriend.

24. (030010)

                                                $\overline{\qquad\qquad\qquad\qquad\qquad\qquad}$ sq $\overline{\qquad}$ hs

AFTER [MOTHER^FATHER$_i$ CL-**MONEY** $_i$GET$_{(1)}$]   WHERE GO

Afterwards, where did the money that he got from his parents go?

25. (030020)

                                                   'o'

          $- - - - - - - - - - - - - - - - - - - -$ $\overline{\qquad}$ sq $\overline{\qquad\qquad}$ br

(rh) [FATHER^MOTHER$_i$ EFFORT WORK **MONEY$_k$** EARN $_i$GIVE$_j$ IX$_k$] SON$_j$

(lh)

                                             'o'

                                $\overline{\qquad\qquad}$ br $\overline{\quad}$ ht $\overline{\quad}$ br

(rh)   SPEND SELF WANDER NEED   THINK   IX$_x$ LOVER$_k$

(lh)   BUT NOT

(rh) $_j$SPEND$_k$

(lh)

They thought their son needed the money that their parents gave him, but he spent it on his girlfriend.

26. (030052)

a)

```
                                                              sq
                                            _____
ONE MORNING MAN_i ONE PERSON WALK [IX_i MAN_i SELF PUNK-HAIR
```

```
   sq
_____
BAD] SIT.
```

*One morning, a man was walking, while another man, who had punk rock hair
and looked bad, was sitting.*

b)

```
                                                              hn
                                                             ____
                                                              br
                                          _____
(rh) MAN_i ONE CL-WALK      [SCHOOL UNIVERSITY STUDENT IX_i(flat)]
(lh)                        IX_i------ (pointing to CL)
```

```
                                             sq
                                 _____
(rh) CL-WALK IX_i MAN_i _iSEE_j [IX_j PUNK HAIR FOR]    DESPERATE DRINK
(lh)
```

*The man, who was a university student, was walking and saw a man with punk
rock hair, looking desperate and drinking a lot.*

27. (030060)

<div style="text-align:right">sq hs</div>

[IX$_i$ **MAN**$_i$ $_i$DISTURB$_1$ BAD $_i$SWEAR$_1$ VERY ALL] IX$_1$ $_1$SAY$_i$ 'PLEASE

BROTHER LOVE' $_1$SAY$_i$

The man, who had sworn and was himself treated badly, said, 'Please, brother, I love you!'

28. (030062)

'o'

 br   sq

[IX$_i$ **MAN$_i$** PERSON $_1$SWEAR$_i$ ALL] $_i$IX$_1$ GOOD

The man, whom I had sworn at, was good to me.

29. (030064)

       sq

[BITTER $_1$THROW$_i$] SUGAR $_i$GIVE$_1$

I treated well to the one who treated me badly.

30. (030065)

      hn

           sq

BE-SURPRISED [STONE STONE LIKE $_1$THROW$_i$] ROSE R-O-S-E $_i$GIVE$_1$

It was surprising that (The one) whom I threw a stone at gave me a rose.

31. (030067)

<u>   </u> sq

[**FATHER^MOTHER**$_i$ $_i$PAM$_1$ CARE-FOR] $_1$DISTURB$_i$ $_i$DISTURB$_1$

My parents, who had cared for me, swore back to me when I swore at them.

32. (030073)

<u>'o'</u>

 <u>br</u> <u>   </u> sq

[IX OLD HEAD **MISTAKE**$_i$ VERY BE] CLOSE NOW IX$_i$ IX$_1$ AGAIN

                   <u>   hs   </u>

                   <u>   hn   </u>

TOGETHER POSSIBLE

Let's forget what happened in the past. Could we meet?

33. (030086)

                                                <u>   hs   </u>   <u>   hs   </u>

<u>   </u> sq

(rh)[**MAN**$_i$ PERSON CL-COME-TOGETHER CL-PERSON HELP CL-PERS.]

(lh)   IX$_i$--------------   ------------- IX$_i$

(rh) TURKISH CITIZEN BIRTH

(lh)

The man that I met, who was helping me, was a Turkish citizen.

34. (030087)

                                          'o'

                                          hn   hn

                                          br   br

[FATHER^MOTHER JOB BECAUSE **GERMANY$_{loc1}$** $_{loc2}$MOVE$_{loc1}$] … IX$_{loc1}$

IN SCHOOL LIFE START

His school life has begun in Germany, where his parents moved because of their employment.

35. (030112)

                                          sq

[R-E-L-I-G-I-O-N GERMAN SCHOOL FOR R-E-L-I-G-I-O-N RELIGION

TEACHER$_i$] $_i$TELL$_j$ CHRISTIANITY

The teacher (who was teaching) in a German school teaches Christianity.

36. (040025):

                        hs   hs

                        br

[**OTHER GIRL**$_i$ $_x$CATCH$_i$ IX$_i$] $_x$INVESTIGATE$_j$ MUST ENGLAND SEND

(They) investigated another girl (they) had caught, and had to send her to England.

37. (050016):

$\_ \_ \_ \_$ ‾‾‾‾‾‾‾‾ hs

‾‾‾‾‾‾‾‾‾‾‾ sq

[**ALL** CL-COME] BACK CL-GO

Everyone who came went back.

38. (060034):

‾‾‾‾‾‾‾‾‾‾‾ hs

‾‾‾‾‾‾‾‾‾‾‾ sq

[**IX** GRANDMOTER EAT] IN CUT-OFF… IN REMOVE-OUT

They cut open (the wolf), who had eaten grandma, and took her out from inside (the wolf).

39. (070002):

‾‾‾‾‾‾ hn

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾ sq

OLD SCHOOL IN FRIEND ALL [SCHOOL NUMBER 1-8-3   **LABEL**] OLD

SAME COPY BACK THINK SAME ERCAN NAME PUT

In my previous school, all of my schoolmate friends agreed to give me the sign name 'Ercan', which represents my school number, 183, (which is) located on my back.

40. (070012a):

       <u> hn </u>   <u> hn </u>

                                                                  <u> sq </u>

IX_1 OLD   SCHOOL HAVE   IN SCHOOL   WORK CLOSE [3-MONTH

                    <u> hn </u>

         <u> sq </u>

SCHOOL OFF]

I was going to school. The school, which has a 3-month vacation, was closed.

41. (070012b):

              <u> hs </u>   <u> hn </u>   <u> hs </u>

                                                 <u> sq </u>

3-MONTH WHAT-DO WANDER   SHOE REPAIR [HOUSE IN T-E-R-L-İ-K

         <u> sq </u>

HOUSE IN] REPAIR.

For 3 months I wandered around working as a shoemaker, repairing shoes that had been used indoors.

42. (070019):

              <u> hs </u>

          <u> sq </u>   <u> sq </u>

PRINTERY PAINT[**NAME** S-E-R-I-G-R-A-P-H-Y PRESS PAINT] IX_1 WORK

I was working as a printer and a painter, (a profession), that is called serigraphy.

43. (070022):

<u> br </u> _ _   <u>   sq   </u>   <u> hn </u>
[IX$_i$ OUT **FACTORY$_i$** OPEN IX$_i$]   FACTORY INSURANCE READY

           <u> hn </u>
    MEAL HAVE   BUS HAVE

A factory, which had been established out of town, provided insurance, meals, and a bus (for workers).

44. (070035):

                         <u> hn </u>
<u>   sq </u>   <u>   sq </u> _ _ _ _ _ _ _ _ <u>   </u>
[IX$_1$ FATHER POSS$_1$ RELATIVE FAR   **FACTORY$_i$** C-E-M-E-N-T FACTORY

<u>   sq </u>
CEMENT JOB WORK **FACTORY$_i$** IX$_i$] GOOD FAMOUS RELIABLE

The cement factory, in which one of my relatives from my father's side was working, was reliable, good and well known.

45. (070106):

                 <u>   sq </u>
(rh) AFTER **MONEY-BAG$_i$** [IX$_i$ IX$_1$ SORRY] **MONEY-BAG$_i$** GIVE
(lh)   **MONEY-BAG$_i$**------------------------ **MONEY-BAG$_i$**

Afterwards, I gave back the moneybag, which I was sorry about.

46. (070108):

                       <u>sq</u>   <u>hn</u>

[MAN SELF MAKE]   BE-INFLUENCE$_i$

He was influenced by what he did.

47. (070118):

                                            <u>hs</u>

           <u>sq</u>   <u>br</u>

(rh) [MAN BALD] **DAUGHTER$_i$** HAVE [OLD DIVORCE] **DAUGHTER$_i$**

(lh) IX$_i$------------------------   IX$_i$--------

The bald man has a daughter from the wife that he divorced.

48. (070138):

                         <u>sq</u>

[IX FILM NOT-REAL] NOW REALLY MARRIED

(The couple) who were married in the film are married in real life.

49. (08a0011):

                                 <u>hn</u>

IX İ-B-R-A-H-İ-M IX PROPHET FOR   IX FATHER   TOGETHER

                                                 <u>hn</u>

                           <u>hn</u>   <u>sq</u> <u>hn</u>

İBRAHİM FATHER TOGETHER   [**İBRAHİM$_i$** SMALL KID SMALL IX$_i$]

FATHER TOGETHER CL-GO-COME

İbrahim, who was a small child, went to (a place) regularly with his father.

50. (08a0037):

<div align="right"><u>   sq   </u>   <u>   br   </u></div>

(rh) [**STAR**_i AS-FOR CL-STAR++ ONE   **STAR**_i SHINY VERY CL-ROUND

(lh)

<u>'o'</u>

<u>   sq   </u> <u>br</u>   <u>hs</u>

(rh) **STAR**_i SMALL++ IX_i] İBRAHİM SELF HAND IX_i------------------

(lh)   GOD IX_i   BE

İbrahim pointed to a star, which was the shiniest of all, and asked himself whether it could be God.

51. (08a0108):

<u> hn </u> <u>   sq   </u>

FATHER SLEEP   [**FATHER** HOUSE INSIDE SLEEP] COMFORTABLE

HAPPY

The father, who was sleeping at home, was happy and peaceful.

52. (08a0109):

<div align="right"><u>'o'</u></div>

<div align="right"><u> _ _ _ _ </u> <u>sq </u> <u>hn</u></div>

[SEEK(contuniative) GET-BORED(contuniative) LAST COMFORT FOR IX]

SLEEP

(İbrahim), who was exhausted and relieved after having been worried and sought out (God), was now sleeping.

53. (08a0110):

$$\underline{} \text{ } \underline{} \text{ } \underline{} \quad \overline{}^{\text{sq}}$$

İBRAHİM LITTLE AFTER [FIGURE ADORE **ROOM_i** ALL IX_i FIGURE

$$\overline{}^{\text{sq}} \quad \overline{}^{\text{br}}$$

PERSON STONE PERSON++ MAN TOGETHER PRAY ADORE IX_i IN]

İBRAHİM WAIT COME

İbrahim, a little while later, came to wait in a room in which there was a collection of cult figures, and people came together to adore them.

54. (08a0175):

$$\overline{}^{\text{hn}} \quad \overline{}^{\text{sq}} \quad \overline{}^{\text{br}}$$

FIGURE PERSON CL-BIG AXE EXIST   [**TWO AXE_i** MODEL HAND IX_i]

İBRAHİM FIND GET

There was a big cult figure and two axes. İbrahim took two axes, which were in the hands of the cult figure.

55. (08a0182):

                                                          hn
_ _ _ _ _ _ _ _ _ _____ sq
AFTER MORNING IN [MAN ADORE ALL F-I-G-U-R-E SAME$_{loc1}$]

CL-GATHER$_{loc1}$

Afterwards, in the morning, the people gathered at the same (place) that they used to adore the cult figures.

56. (08a0185):

                                                    hn   hn
                                                            'o'
_____ sq   _____ br
[KNOW YESTERDAY FOR İBRAHİM BOY$_i$ İBRAHİM FOR   IX$_j$ COME

        'o'
_____ br   _____ br
$_i$FIGHT$_j$ IX$_j$ FOR] … IX$_j$ MAYBE DO IX$_j$.

Maybe (the man) did it. He came and fought with İbrahim's son yesterday.

57. (08b0196):

                                                    _ _ ___ hs
_____ sq   _____ fu
MAN$_i$ OTHER SELF   [SOME SMART **MAN$_i$** SOME] $_i$LOOK$_j$ IX$_j$ KNOW

Other boys, some of whom looked intelligent, (asked) 'how do they know?'

330

58. (08b0199):

```
                                              _____  sq
(rh) [KNOW F-I-G-U-R-E_i PERSON BIG ALL SMALL IX_1 AXE BREAK
(lh)
```

```
        _____ sq                          _____ br
(rh) DESTROY] IX_i IX_1 F-I-G-U-R-E BIG _iPROTECT_1 NOT-EXIST …
(lh)                                      IX(flat)------------
```

For example, the big cult figure that had destroyed the small figures did not stop me.

59. (08b0207):

```
                                    __hn     _____ br   hn
KING_i OKAY _iORDER_j BOY_j PERSON … [WOOD WORK PERSON IX_j]
```

WOOD PREPARE COLLECT

The king ordered a man who worked as a woodcutter to prepare and collect some wood.

60. (08b0222):

```
                    __hs
          _____ sq
BUT [MAN RUN-AWAY] GOD ALL CATCH     FIRE SPREAD
```

But the god caught them and fire spread over all of the men who were running away.

61. (08b0229):

_ _ _ _ _ _ _   ———————————————————— sq

[İBRAHİM FIRST WOMAN WIFE S-A-R-A-H] OLD 'palm-up'

İbrahim's first wife, whose name was Sarah, was old.

62. (08b0242):

                          'o'

                   hs   hn

———————————————————————— br   br ———————————————————— sq

IX_i 3 ANGEL_i 3 REASON FOR [IX_j   **WOMAN_j** BUOY:1 PREGNANT

          'o'   hn

———————————— sq   br

BE^NOT OLD IX_j FOR] PREGNANT BE MIRACLE M-I-R-A-C-L-E FOR

              hn

_iINFORM_j WAIT COME

The reason that the three angels waited was to give a miracle to the woman, who was the first (wife), could not get pregnant, and was getting old.

63. (08b0255):

                         sq   hn

[IX_i **WOMAN_i** FIRST BUOY:1 MARRY FIRST IX_i] HEAR   SURPRISE

The woman, who was the first wife, heard and was surprised.

64. (08b0270):

                                <u>br</u> <u>hn</u>

[ABNORMAL **ALL** BAD **ALL**]   LOST

Everyone bad and abnormal was lost.

65. (08b0274b):

                                              <u>br</u>

                                     <u>sq</u> _ _ _ _ _   <u>   </u>sq

AFTER [[**BUOY:2$_i$** HACER PREGNANT IX$_i$] **İBRAHİM$_j$** KNOW NOT

<u>'o'</u>

      <u>br</u>   <u>hn</u>   <u>hn</u>

IX$_j$ FOR] BUOY:2$_i$ GIVE-BIRTH   İBRAHİM$_j$ SEE   FATHER VERY

          <u>hn</u>

HAPPY

İbrahim, who did not know that his second (wife), Sarah, was pregnant, saw that his second child had been born, and was happy.

66. (08b0289):

<div style="text-align: right;">sq</div>

IX(3) RIDE GO++ FAR [IX$_i$ **WOMAN$_i$** FIRST WIFE LIVE **D-A-M-A-S-C-U-S$_{loc}$**

<div style="text-align: right;">br</div>

[SYRIA CAPITAL PLACE$_{loc}$ **D-A-M-A-S-C-U-S**] [READ TEXT EXIST

    'o'   'o'

    hn   hn   hn

    br   br

KNOW^NOT IX$_{loc}$] LIVE IX$_{loc}$] MECCA FAR

I am not sure, but according to the book the three of them went far away from Damascus, where the first wife lived and which is the capital city, to Mecca.

67. (08b0295):

    hn   hn

İBRAHİM HAPPY   WATER MEAL BAZAAR CARRY   GIVE

                              'o'

    hn   sq br hn

COMFORT STAY   IX$_1$ İBRAHİM GO$_{loc}$ [FIRST WIFE GO$_{loc}$ IX$_{loc}$]

İbrahim was happy and brought some water, food, and vegetables. He wanted them to be comfortable. He went to (the place) where his first wife was.

68. (08b0298):

     <u> hn</u>   <u> sq</u>

SON CRY   WATER THIRSTY WANT WATER NOT-EXIST   **[WATER**

<u>   sq</u>

BEFORE İBRAHİM BRING **WATER]** OVER 'palm-up'

The son was crying and thirsty, and wanted some water, but there was none. The water that İbrahim had brought earlier was gone.

69. (08c0326):

                              <u> sq</u>   <u>bl</u>

MAN [**MAN** TRADE WORK DO] SURPRISED

The man, who was busy with trading, was surprised.

70. (08c0340):

                            <u> sq</u> 'o'

HAPPY FOR BACK [FIRST BUOY:1 WIFE   ] BACK

As for his happiness, he went back to where his first wife was.

71. (08c0342):

                                                                 sq

EVERY YEAR-ONE $_{loc1}$CL-GO-COME$_{loc2}$ İBRAHİM$_i$ SELF [FIRST$_j$ WIFE

                           sq   sq

BUOY:1 $_i$CARE-FOR$_j$]$_{loc1}$ [BUOY:2$_k$ WOMAN WIFE $_i$CARE-FOR$_k$]$_{loc2}$

$_{loc1}$CL-GO-COME$_{loc2}$

İbrahim went between the (two locations) every year. He went back and forth between the places where the first wife was, to care for her, and where the second wife was, to care for her.

72. (08c0344):

                                    'o'

                                sq br

[BUOY:2 GIVE.BIRTH   IX$_i$] GROW-UP IX$_i$

(The child), who the second (wife) had given birth to, grew up.

73. (08c0357):

                                      'o'

                 hs   hs hn

                                                      br

[IX$_i$ **SON** BEFORE MOST LOVE IX$_j$] RESPONSIBLE $_k$ORDER$_i$ IX$_j$ COME

                hn

IMMOLATE

According to (God's) order, the son that you love the most should be immolated.

74. (08c0413):

<pre>
                                        hs
                              sq   br
[**DEVIL** FIRST BUOY:1 CL-ENTITY-COME]   TALL
</pre>

The first devil that came was tall.

75. (08c0416):

<pre>
                                    hs   'o'
                                    sq   br
[BUOY:2 BUOY:3 CHILD THROW_loc1 THROW_loc1 IX_loc1] NOW HAJJ DEVIL
</pre>

<pre>
                hn
STONE PLACE IX_loc1.
</pre>

The place where the child threw a stone at the second and third (devils) is the
same place where the devils were stoned.

76. (08c0471):

<pre>
                        hs   hs
                                                    br
GABRIEL HELP PLACE POINT_loc [SON İSMAİL IX WATER DIG WATER
</pre>

<pre>
      hs   'bu'
                      br
RISE   IX_loc SAME IX_loc].
</pre>

(The angel) Gabriel helped by pointing to a place that is the same place as the one
where İsmail dug and found water.

77. (08c0473):

<u> hn </u>   <u> hn </u>

İBRAHİM APPROVE   SON$_i$ IX$_i$ HELP   IX$_{loc}$ DIG$_{loc}$ SOIL REMOVE-

<u> 'bu' </u>   <u> 'bu' </u>

<u> hs </u>   <u> hs </u> <u> hn </u>

                                            <u> br </u>

OUT [IX$_{loc}$ BEFORE A-D-A-M FIRST HUMAN RAISE IX$_{loc}$]

İbrahim approved helping his son dig a hole and remove soil from the hole, the place where the first human, Adam, had emerged from.

78. (090070):

                                      <u>'o' 'o' 'o'</u>

                                                          <u> sq </u>

RESEARCH [REFERENCE **BOOK**   IX++$_{i,j,k}$ BOOK DIFFERENT++

<u>   sq </u>

BOOK] MANY DEAF IX$_1$ $_1$SEE++ $_{i,j,k}$

I have researched several references, mostly different books, and I noticed that the word 'deaf' was used often.

79. (090102):

                                          <u> sq </u>   <u> br </u>

[SOMETIMES EXIST ONE **WORD$_i$** IX$_i$] ONE PROBLEM BIG D-İ-L-S-İ-Z

The word 'dilsiz', which is used sometimes, is fairly problematic.

80. (090149):

$$\text{hn}$$
$$\text{'o'}$$

hn   sq   br

BOOK WRITE   [IX$_i$ **BOOK$_i$** PRESS BEFORE PRESS IX$_i$ IN] MANY TALK

D-E-A-F

The books, which have been recently published, mostly discuss Deaf people.

81. (110001):

$$\text{'o'}$$

                hs   hs   hn

                fu   sq br

B-E-G-G-A-R PERSON WHAT [**POOR** FAIRLY BEG IX] PERSON TELL

I will talk about a beggar, who is really poor and begs.

82. (110068):

                repetitive hn   sq

WINDOW IX$_1$ OPEN IX$_i$ SURPRISE   [BEFORE MONEY $_1$GIVE$_i$

'o'
hn   repetitive hn
br
IX]

I opened the window, saw (a person) whom I had given money to earlier, and became surprised.

83. **(120120):**

<div align="center">

                      hs

                         sq

           br   ht

</div>

IX$_1$ **HANGMAN** [COMPETITION A-B-C]   CL-NOT-WANT

I did not like hangman, a game which uses letters.

84. **(120159):**

<div align="center">

'o'

hn

br

sq

</div>

[HOUSE ENTER DOOR CLOSE BELGEN GO IX$_i$] FALL WAIST HURT

ESRA$_i$ WAIST HURT.

Esra, who tried to enter the house as Belgen was leaving, was hit by the closing door, fell and hurt his waist.

85. **(120183):**

<div align="center">

'o'

br

hn   sq

</div>

LET'S GLASSES DOCTOR CANSU   [DOCTOR INSPECTION KNOW IX$_i$

<div align="center">

sq

</div>

FATMA$_i$ DOCTOR INSPECTION KNOW] TOGETHER LET.

Cansu (said) 'Let's go' to Fatma, who knew she had to see an optician.

86. **(120204):**

$$\overline{\hspace{9cm}}^{\text{br}}$$

ESRA_i [IX_i COMPUTER USE BEFORE COMPUTER USE IX_i] **ESRA_i**

$$\overline{\hspace{1cm}}^{\text{hn}}$$

COMPUTER PRESS

Esra pressed on (the keys of) the computer that she used earlier.

87. **(120229):**

$$\overline{\hspace{2cm}}^{\text{hs}}$$
$$\overline{\hspace{5cm}}^{\text{sq}} \quad \overline{\hspace{1cm}}^{\text{br}}$$

[ESRA BEFORE COMPUTER USE WRINKLE THROW] GET SAME.

She took back (the paper) that Esra had wrinkled up, and threw it upwards while she used the computer.

88. **(120259):**

$$\overline{\hspace{3cm}}^{\text{bl}}$$
$$\overline{\hspace{3cm}}^{\text{br}}$$
$$\overline{\hspace{3cm}}^{\text{sq}} \qquad\qquad \overline{\hspace{0.5cm}}^{\text{hn}}$$

[EYE OPTICIAN **GLASSES** DROP] AGAIN DOOR HIT BREAK **GLASSES**

(He) broke his glasses, which he had dropped at the optician's office earlier, again by hitting the door.

89. **(120272):**

$$\underline{\qquad\qquad\qquad\text{hn}\qquad\qquad\qquad\text{'exist'}}$$

GULCIN CL-DOOR-OPEN-OUT   POLICE$_i$ IX$_i$ POLICE$_i$ $_i$LOOK$_j$

$$\underline{\qquad\qquad\quad\text{hs}\qquad\qquad}$$
$$\underline{\qquad\qquad\qquad\qquad\quad\text{sq}\quad\underline{\text{hn}}}$$

[**DEAD**$_j$ IX$_j$ INSPECT]

While Gulcin opened the door, the police looked at the corpse that he was inspecting.

90. **(130005):**

$$\underline{\qquad\qquad\qquad\qquad\qquad\text{sq}}$$

[**GIRL** FAR VILLAGE IN]   BOY$_i$ IX$_i$ LOVE

The girl, who was from a village far away, loved the boy.

91. **(130038):**

$$\underline{\qquad\text{hn}}\ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \ \underline{\qquad\qquad\qquad\text{sq}}\_ \_ \_$$

JOB APPLY   [NURSING-HOME OLD ALL GROUP HOME] WORK

CL-GO-COME

(She) applied for a job. (She) regularly visits the nursing home where mostly grandmothers live.

92. **(130053):**

<div align="center">

              hs

              sq   br
</div>

[IX$_i$ **SON$_i$** BEFORE HUG KISS] NOW BRIDE CUT

The son, who had regularly hugged and kissed the bride, didn't do this anymore.

93. **(130087):**

<div align="center">

              bl

       hs

       sq _ _ _ _ _ _ _   sq
</div>

[NURSE **WOMAN$_i$** WALK DEAD NOW CL-BED-COLLECT] KOCA$_j$ SEE$_{rec(i,j)}$

$_i$SEE$_j$

The nurse,(who) entered into a room to collect the dead man's bed, and she and (the woman's) husband saw each other.

94. **(140006):**

<div align="center">

                  br

 _ _ _ _ _   sq
</div>

[**NEIGHBOR$_i$** CL-DOOR WOMAN GRANDMOTHER FRIEND BECOME IX$_i$]

CL-GO-COME(contuniative) ALWAYS.

The neighbor, whose apartment faced her front door, had become close with the old woman. They visit each other regularly.

95. **(140020):**

<div style="text-align:center">

       hs   ht   hn   ht

       sq

</div>

[GIRL$_i$ **EARN** $_i$GIVE$_1$] IX$_1$ NOT-WANT IX$_1$ TELL^NOT

I could not tell that I did not want the money that the woman had earned.

96. **(140041):**

<div style="text-align:center">

'bu'   'bu'

br   sq br

</div>

IX$_1$ $_1$TELL$_i$ [IX$_j$ **GRANNY$_j$** BAD BACK GOSSIP IXj] SICK VERY DIE

I told (her) that the old woman, who was bad and gossiped about her, had been extremely ill and was now dead.

97. **(150011):**

<div style="text-align:center">

sq hn

</div>

NURSE$_i$ $_i$LOOK-AT$_i$ [**BABY$_j$** SLEEP]

The nurse looked at the baby, who was sleeping.

98. **(150012):**

<div style="text-align:center">

hn   sq

</div>

IX$_i$ 'FATHER$_j$ IX$_j$' WRITE   [BEFORE GIRL$_k$ IX$_k$ **NAME PAPER$_i$** FATHER

<div style="text-align:center">

sq hn

</div>

BOOK WRITE]

The paper, on which a woman had written the name of the father, said 'He is the father'.

99. **(160047):**

<pre>
                                         sq   hs   br
</pre>
MAN_i THINK [_iSTAB_j DIE IX_j **GIRL** SICK] WHERE SEEK FIND

The man thought about the sick girl, whose father he had killed. He sought and found her.

100. **(160054):**

<pre>
             hn   sq
</pre>
GRANNY_i   [EYE BLURRY LITTLE SELF EYE BLURRY LITTLE IX_i]

_iLOOK-AT_j

The old woman, whose vision is blurry, looked at (her).

101. **(160074):**

<pre>
                            sq   ht   ht
</pre>
[BEFORE **BOY_i** _jSHOOT_i IX_i] NOT   MILLIONAIRE NOT

He was not the boy that I shot. He was not the millionaire.

102. **(160083):**

<pre>
     br
     'o'

                sq
</pre>
(rh)   [_iSHOOT_j DIE] THINK DOUBLE

(lh)   IX_j----------------------

(He) was thinking about (the man) that I killed.

345

103. **(160101):**

                                             <u>   </u> sq

A-WEEK-LATER IN WOMAN SELF [**DOOR** SAME POOR VERY WALK

<u>   </u> sq

DOOR SAME] LOOK

A week later, the girl looked at the door, through which the poor man was walking slowly.

104. **(160168):**

<u>   </u> hs

<u>   </u> sq   <u>   </u> br

[**MAN** POOR FACE LITTLE] CLOTH CHANGE FACE GOOD

The man, who was poor and looked ugly, changed his clothes and now looks great.

105. **(160238):**

            <u>   </u> hs

<u>   </u> sq   <u>   </u> hn

[**MAN** BEFORE TRADE RISE] MONEY SAVE MAN SELF CAR NEW BUY

The man, who was good at business, saved money and bought a new car.

106. **(170005):**

$$'o'$$

$$\underline{\text{hn}}$$

‗   ‾‾‾‾‾‾ sq   br

[**FOOT HEEL**ᵢ HARD AND **ELBOW EDGE**ⱼ HARD EXIST IXᵢ,ⱼ] LEMON

$$\underline{\text{hn}}$$

CUT CL-CLEAM IXᵢ FOOT HAND SOFT BECOME

Use lemon rind to soften heels and elbows, both of which have hard surfaces.

107. **(170017):**

$$'o'$$

$$\underline{\text{side ht}} \quad \underline{\text{side ht}} \qquad\qquad \underline{\text{hn}} \qquad\qquad \underline{\text{side ht}}$$

‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗ ‗   ‾‾‾‾‾‾‾‾ sq ‾‾‾‾‾‾ br

[SOME **HOME**ᵢ DOG CAT BIRD SOME **HOME**ᵢ EXIST IXᵢ IN] CHAIR

CARPET FEATHER FALL

There is lots of fur and feathers on couches and carpets in houses that have pet animals.

108. **(170018):**

$$\underline{\qquad\qquad\qquad} \text{sq}$$

CARPET AS-FOR CLEAN OR COUCH [**ALL** FALL EXIST] CLEAN

Couches or carpets that have fur or feathers are cleaned.

109. **(170019):**

<pre>
                                      hn   hn   hs
_____br   _____br
</pre>

[HOME SOME **WALL-PAPER**ᵢ EXIST IXᵢ IN] REMOVE WANT WHAT-DO

If you want to remove wallpaper, which some houses have, what should (you) do?

110. **(170020):**

<pre>
                                                              hn
                                                              'o'
_ _ _ _____sq   br
</pre>

SOFT [**SPONGE** HARD FRONT BACK SOFT   ABOVE HARD   IXᵢ] BUY

Buy a soft sponge, which has a hard substance on top, and a soft substance beneath.

111. **(180011):**

<pre>
          _____hs
          _____br
          _____sq
</pre>

CL: STADIUM [L-E-A-G-U-E MATCH **STADIUM**] BETWEEN 90 METER

The stadium where league matches are held is 90-meters long.

APPENDIX D: RCCs in TİD from FINDINGS (in TURKISH GLOSSES)

[ ] ortaç kısımlarını gösterir.

kalın harfle yazılanlar Baş-isimleri (headnouns) gösterir.

(rh) sağ elle yapılan işaretleri gösterir.

(lh) sol elle yapılan işaretleri gösterir.

1. (010002):

$$\underline{\qquad\qquad\qquad\qquad\qquad\qquad\underset{\text{sq}}{} \quad \underset{\text{hf}}{\underline{\underset{\text{'o'}}{\underline{\text{br}}}}}}$$

[**FILM**$_i$ AYNI D-İ-Z-İ MÜSLÜMAN AYNI   IX$_i$] IX$_1$ $_1$GÖRMEK$_i$ İZLEMEK

$$\underset{\text{hf}}{\underline{\underset{\text{'o'}}{\underline{\text{br}}}}}$$

ÜZÜLMEK DUYGULANMAK ANLATMAK IX$_i$

Dini dizilerden biri olan bir filmi izledim. Üzüldüm, duygulandım ve bunu anlatacağım.

2. (010009):

$$\underline{\qquad\qquad\underset{\text{sq}}{}} \quad \underline{\underset{\text{br}}{}}$$
$$\underline{\qquad\underset{\text{hs}}{}}$$

[**ÜÇÜNCÜ** BEKAR] KISKANMAK BAŞLAMAK

Bekar olan üçüncü kişi kıskanmaya başladı.

3. (010010):

$$\frac{\quad\text{br}}{\frac{\quad\text{'o'}}{\frac{\ \text{sq}\quad\text{hf}}{}}}$$

[**BİRİNCİ**$_i$ **İKİNCİ**$_j$ EVLİ EVLİ İKİ AYNI(2h)   IX(2h)$_{(i,j)}$] MİSAFİR$_{rec(i,j)}$

SOHBET

Her ikisi de evli olan birinci ve ikinci (kadın) birbirlerini ziyaret ettiler, sohbet ettiler.

4. (010011):

$$\frac{\ \text{fb}}{\ \text{sq}}$$

[**ÖBÜR** ÜÇÜNCÜ BEKAR AYNI SAF CAHİL GİBİ] SIKILMAK İZLEMEK

Saf, cahil gibi davranan ve bekar olan üçüncü öteki (kadın) sıkılıp izledi.

5. (010016):

$$\frac{\quad\text{br}}{\frac{\ \text{hn}\quad\text{hn}}{\ \text{sq}\ \ \text{'o'}\ \ \text{sq}}}$$

[**BİRİNCİ** EVLİ BİTMEK   IX$_i$] BEKAR$_j$ CL-KARŞILAŞMAK$_{(i,j)}$

Evli olan birinci (kadın) bekar olanla karşılaştı.

6. (010026):

<p style="text-align: right;">hs</p>

<p style="text-align: right;">sq</p>

[BİRİNCİ İKİNCİ AYNI SOKAK SU DOLDURMAK **ÇEŞME**loc HEP KÖY

'o'

br

sq   hn

BİLMEK   IXloc AYNI] GİTMEKloc

Köylerde su doldurmak için gidilen çeşmeye birinci ve ikinci (kadın) gitti.

7. (010028):

br

br   sq 'o'   br

ÖBÜRi [DOSTj AYNI   IXj] YÜRÜMEK iGÖRMEKj SUSMAK

Öbür (kadın) yürüdü, dostu olan (kadını) gördü ve sustu.

8. (010049):

br

sq 'o' sq

[EV VARMAK   IXi **KIZi**] DÜŞÜNMEK

Eve varan kız düşünüyordu.

9. (010052):

<u>   hn   </u>   <u>   hf   </u>

_ _ _ <u>   sq   </u>   <u>   fu   </u>

[**KIZ**$_i$ BEKAR] $_i$SORMAK$_j$ (BİRŞEY $_1$SÖYLEMEK$_j$).

Bekar olan kız sordu: 'Birşey söylebilir miyim?'

10. (010054):

                                                                     <u>repetitive hn</u>

<u>   fu   </u> <u>   sq   </u> <u>   fu   </u>

IX$_{you}$ IX$_1$ YARDIM İÇİN **[**POSS$_1$ DOST IX(2)$_{i,j}$] $_{you}$SÖYLE $_{i,j}$ OLMAK$_{modal}$

Bana yardım etmek amacıyla, her ikisi dostum olan (kadınlara) (sırrımı) söyleyebilir misin?

11. (010064):

<u>   hn   </u>   <u>br</u>

                                                                             <u> sq </u> <u>'o'</u>

[IX(2)$_{i,j}$ **DOST** MECBUR BİRBİRİ DOST ÖBÜR DOST IX(2)$_{i,j}$ AYNI$_{i,j}$ IX$_{i,j}$]

MEVLÜT GİTMEK BİTMEK.

Birbirleriyle dost olmak zorunda kalan her ikisi de mevlüte gitti.

12. (010065):

<div align="center">

_____hn_____   ‘o’

_____sq __br__

</div>

[IX$_{loc}$ CL-**KAZMAK$_{loc}$**+   ÖLÜ MEZAR TOPRAK KOYMAK$_{loc}$ IX$_{loc}$ İÇ]

YILAN VAR.

Ölülerin toprağa gömüldüğü (mezarın) içinde yılan vardı.

13. (010100):

<div align="center">

_____hn_____   _____hs_____

_____br_____   ____sq__ br

</div>

EV VARMAK   [ANNE AYNI] **EV** GİTMEK

Annesine de ait olan eve gitti.

14. (010101):

<div align="center">

        ht(left)   ht(right)   hs

_____sq

</div>

AMA [[**KIZ$_i$** ANLATMAK IX$_1$ SUÇ ÖZÜR DİLEMEK ÜZÜLMEK   IX$_i$]

<div align="center">

_____br_____   ‘o’

_____sq ____br____

</div>

KOMŞU$_j$ ŞAHİT VAR İZLEMEK İÇİN   IX$_j$ AYNI].

Ancak, 'Suçluyum. Özür dilerim. üzgünüm.' diye anlatan kıza şahitlik yapan komşusuydu.

15. (010102):

<div align="center">

_____sq_____   br

</div>

[**ANNE$_i$** EV VARMAK] **ANNE$_i$** AKIL GELMEK KOMŞU$_j$ $_i$ÇAĞIRMAK$_j$ GEL

Eve varan annesi aklına geldi, (bunun üzerine) komşusunu çağırdı.

16. (010109):

<u>   hs   hs   hn   </u>

<u>   sq</u>

[**KADIN KOMŞU** EVET IX$_1$ ŞAHİT] ANLATMAK

Evet ben şahit oldum diyen komşu kadın (herşeyi) anlattı.

17. (020036)

<u>   br   br</u>

<u>   ht   sq 'o'</u>

OKUMAK HAY ALLAH POSSx DEĞİL [**BANKA KART**$_i$ EL ALMAK IX$_i$] İMZALAMAK

Okudu. 'Hay allah bu değilmiş' dedi. Banka kartı almak için (verilen evrağı) imzaladı.

18. (020058)

<u>   ht   </u>

<u>   sq</u>

(rh)   [EVVEL FILM$_i$ SÖYLEMEK^DEĞİL CL-KISIM$_i$] DURMAK IX

(lh)   IX---

Daha önce anlatmadığım film kısmı dursun.

19. (020065)

<u>   hs   </u>

<u>   sq   </u>   <u>   ht   </u>

[IX$_i$ …   **KART$_i$** BİLMEK BANKA] BÜYÜK … ANLAMAK^DEĞİL KART

SOKMAK

Hani bankalarda kullanılan kart büyüktü. Anlamadım. Kartı soktum.

20. (020077)

<u>   br   </u>

<u>   sq   </u>

[IX BANKA YENI ALMAK **KART$_i$**] ŞAŞIRMAK ÖZEN-GÖSTERMEK

Bankadan yeni aldığı karta şaşırdı. Özenle tuttu.

21. (020078)

<u>   hn   </u> <u>   hn   </u>   <u>   hn   </u>

<u>   sq </u>_ _ _ _ _ _ <u>   sq   </u>

[BİLMEK IX$_{you}$ OTOBÜS NÜFUS SICAK PRES PLASTİK BİLMEK IX$_{you}$ …..

<u>   hs   </u>

<u>   sq </u>_ _ _ _ _ _ _ _ _ _ _ _ _ _ <u>   sq   </u>

P-V-C NÜFUS YENİ ALMAK SONRA VERMEK PLASTİK SERT **KART**]

<u> 'o' </u>

<u> br </u>

IX$_{man}$ BANKA KART SICAK PRES

O adam (banka) kartını preslemiş, ki (bu işlem) genelde otobüslerde kullanılan
yeni alınan sert plastik kimlik kartları preslemekte kullanılır.

22. (030006)

<pre>
        hn   hn
ALMANYA IX İÇ   BİR GENÇ İNSAN O-L-A-Y GÜZEL İZLEMEK
</pre>

<pre>
                                              br   hn
[IX_i DUYAN BİR ARKADAŞ_i **FİLM** _iVERMEK₁]   IX₁ DEĞİŞTİRMEK
</pre>

İŞARET FİLM ₁ANLATMAK_{you}

Almanya'daki bir genç kişi ile ilgili güzel bir film izledim. Duyan bir arkadaşımın anlattığı bu hikayenin (içeriğini) değiştirdim ve sizlere bu hikayeyi işaret dilinde anlatıyorum.

23. (030009)

<pre>
                              'bu'
                                     hn
                          sq   rb   hs   ht
(rh)   [**OĞLU**_i PARA _tVERMEK_i IX_i] PARA NE-YAPMAK YEMEK^DEĞİL
(lh)
</pre>

<pre>
           'o'
           sq   br
(rh) [**SEVGİLİ**_j VAR IXj]   PARA _iHARCAMAK_j
(lh) IX--------------------
</pre>

Ebeveynlerinin verdiği parayı kendisi yemeyip var olan sevgilisine harcadı.

24. (030010)

                                                                sq   hs

SONRA [ANNE^BABA$_i$ CL-**PARA** $_i$ALMAK$_{(1)}$]   NEREYE GİTMEK

Sonra, Ebeveynlerinden aldığı para nereye gitti?

25. (030020)

                                                            'o'

                                                        sq   br

$_{(rh)}$[BABA^ANNE$_i$ EMEK ÇALIŞMAK **PARA$_k$** KAZANMAK $_i$VERMEK$_j$ IX$_k$]

                                                    br   ht

(rh)   OĞUL$_j$ YEMEK KENDİ GEZMEK LAZIM SANMAK

(lh)   AMA DEĞİL

   'o'

    br

(rh) IX$_x$ SEVGİLİ$_k$ $_j$HARCAMAK$_k$

Ebeveynleri emek verip kazandıkları parayı, oğullarının kendi ihtiyaçlarını karşılamak için harcadığını sanıyorlardı ancak (o) sevgilisine harcamıştı.

26. (030052) a)

                                                             sq

BİR SABAH **ADAM$_i$** BİR KİŞİ YÜRÜMEK [IX$_i$ **ADAM$_i$** KENDİ PUNK-SAÇ

    sq

KÖTÜ] OTURMAK.

Bir sabah, bir adam yürürken, punk saç kesimi olan (ve) kötü görünen (başka) bir adam oturuyordu.

b)

<div style="text-align: right;">hn</div>

<div style="text-align: right;">br</div>

(rh) **ADAM$_i$** BİR CL-YÜRÜMEK   [OKUL ÜNİVERSİTE ÖĞRENCİ IX$_i$(flat)]

(lh)   IX$_i$------(pointing to CL)

<div style="text-align: right;">sq</div>

(rh) YÜRÜMEK IX$_i$ ADAM$_i$ $_i$GÖRMEK$_j$ [IX$_j$ PUNK SAÇ İÇİN] DERBEDER

(rh) İÇKİ İÇMEK

Üniversite öğrencisi olan bir adam yürürken punk saçı olan (başka bir) adamı derbeder bir halde içki içerken gördü.

27. (030060)

<div style="text-align: right;">sq</div>

[IX$_i$ **ADAM$_i$** $_i$LAF-ATMAK$_1$ KÖTÜ $_i$KÜFRETMEK$_1$ AĞIR HEPSİ] IX$_1$

hs

$_1$NE-DEMEK$_i$ 'LÜTFEN KARDEŞ SEVMEK' $_1$DEMEK$_i$

Küfrettiği, kötü sözler söylediği adam ona 'lütfen kardeşim seni seviyorum' dedi.

28. (030062)

'o'

 br   sq

[IX$_i$ **ADAM$_i$** KİŞİ $_1$KÜFÜR$_i$ HEPSİ] $_i$PAM$_1$ GÜZEL

Küfrettiğim adam bana iyi davrandı.

29. (030064)

<u>   sq</u>

[ACI $_1$ATMAK$_i$] ŞEKER $_i$VERMEK$_1$

Anlamı: Kötü davrandığım (kişi) bana iyi davrandı.

30. (030065)

<u>   hn</u>

<u>   sq</u>

ŞAŞIRMAK [TAŞ TAŞ GİBİ $_1$FIRLATMAK$_i$] GÜL G-Ü-L $_i$VERMEK$_1$

Taş fırlatığım (kişinin) bana gül vermesine şaşırdım.

31. (030067)

<u>   sq</u>

[**BABA^ANNE$_i$** $_i$PAM$_1$ İLGİ-GÖSTERMEK] $_1$LAF-ATMAK$_i$ $_i$LAF-ATMAK$_1$

Benimle ilgilenen ebeveynlerim, kendilerine laf ettiğimde, bana laf ettiler.

32. (030073)

<u>'o'</u>

<u> br</u> <u>   sq</u>

[IX ESKİ KAFA **HATA$_i$** ÇOK OLMAK] KAPATMAK SIMDI IX$_i$ IX$_1$ TEKRAR BERABER

<u>   hs</u>

<u>   hn</u>

OLMAK

Eskiden yaptığımız hataları unutalım. Şimdi tekrar bir araya gelebilir miyiz?

33. (030086)

$$\overline{\hspace{6cm}}\;\underline{\hspace{1cm}}\;\text{hs}$$
$$\overline{\hspace{8cm}}\;\text{sq}$$

(rh) [**ADAM**$_i$ KİŞİ CL-BERABER-GELMEK CL-KİŞİ YARDIM ETMEK

(lh)   IX$_i$--------------   -------------

$$\underline{\hspace{2cm}}\;\text{hs}$$
$$\underline{\hspace{2cm}}\;\text{sq}$$

(rh) CL-KİŞİ] TÜRK VATANDAŞ DOĞMAK

(lh)-------- IX$_i$

Beraber geldiğim ve bana yardım eden adam Türk vatandaşıydı.

34. (030087)

$$\underline{\hspace{2cm}}\;\text{hn}$$
$$\overline{\hspace{8cm}}\;\text{br}$$

 [BABA^ANNE İŞ YÜZÜNDEN **ALMANYA**$_{loc1}$ $_{loc2}$TAŞINMAK$_{loc1}$]   ...

'o'
 hn
 br

IX$_{loc1}$ İÇ OKUL HAYAT BAŞLAMAK

Ebeveynlerimin iş yüzünden taşındığı Almanya'da okul hayatım başladı.

35. (030112)

sq

[D-İ-N ALMAN OKUL İÇİN D-İ-N DİN **ÖĞRETMEN$_i$**] $_i$ANLATMAK$_j$

HIRİSTİYAN

Almanya'daki okullarda din dersi veren din öğretmeni hıristiyanlığı anlatıyor.

36. (040025):

hs   hs

br

[**ÖBÜR KIZ**$_i$ $_x$YAKALAMAK$_i$ IX$_i$] $_x$SORUŞTURMAK$_j$ MECBUR İNGİLTERE

GÖNDERMEK

Yakaladıkları öbür kızı sorguladılar ve İngiltere'ye göndermek zorunda kaldılar.

37. (050016):

_ _ _ _ _ _ _   hs

sq

[**HEPSİ** CL-GELMEK] GERI CL-GİTMEK

Gelenlerin hepsi geri gitti.

38. (060034):

hs

sq

[**IX** ANNEANNE YEMEK] İÇ KESMEK… İÇ ÇIKARMAK

Anneanneyi yiyenin içini kestiler ve (onları) içinden çıkardılar.

39. (070002):

hn

sq

ESKİ OKUL İÇ ARKADAŞ HEPSİ [OKUL NUMARA 1-8-3   **ETİKET**] ESKİ

AYNI KOPYA ARKA DÜŞÜNMEK AYNI ERCAN ADI KOYMAK

Eskiden okuldaki arkadaşlarımın hepsi arkamdaki etikette yazan okul numarasından dolayı, ki numaram 183 idi, bana ERCAN işaret ismini koymaya karar vermişlerdi.

40. (070012a):

hn   hn   hn

sq

IX$_1$ ESKİ   OKUL VAR İÇ   OKUL ÇALIŞMAK KAPANMAK [3-AY **OKUL**

sq

TATİL]

Eskiden gittiğim okul, ki 3 ay tatilleri olurdu, tatile girmişti.

41. (070012b):

hs   hn   hs

sq

3 AY NE-YAPMAK DOLAŞMAK   AYAKKABI TAMİR [EV İÇ T-E-R-L-İ-K

sq

EV İÇ] TAMİR-ETMEK.

3 ayda yaptığım (iş) dolaşmak ve evde giyilen terlik/ayakkabıları tamir etmek idi.

42. (070019):

<u>hs</u>

<u>sq</u>   <u>sq</u>

MATBAA BOYA [**İSİM** S-E-R-İ-G-R-A-F-İ PRES BOYA] IX₁ ÇALIŞMAK

Matbaada, boya ve baskı tekniği olan ve serigrafi diye adlandırılan bir işte
çalışıyorum.

43. (070022):

<u>br</u> _ _   <u>sq</u>   <u>hn</u>

[IXᵢ DIŞ **FABRİKAᵢ** AÇMAK IXᵢ]   FABRİKA SİGORTA HAZIR

<u>hn</u>

YEMEK VAR   SERVİS VAR

Dışarılarda bir yerde açılan fabrikanın sigortası yemeği ve servisi vardı.

44. (070035):

<u>hn</u>

<u>sq</u> <u>sq</u> _ _ _ _ _ _ _ <u>sq</u>

[IX₁ BABA POSS₁ AKRABA UZAK   **FABRİKAᵢ** Ç-İ-M-E-N-T-O **FABRİKA**

<u>sq</u>

ÇİMENTO İŞ ÇALIŞMAK **FABRİKAᵢ** IXᵢ] GÜZEL ÜNLÜ SAĞLAM

Babamın uzak bir akrabasının çalıştığı çimento fabrikası güzel, ünlü ve güvenilirdi.

45. (070106):

$$\overline{\hspace{3cm}\text{sq}}$$

(rh) SONRA **PARA-BOHÇA$_i$** [IX$_i$ IX$_1$ ÜZÜLMEK] **PARA BOHÇA$_i$** VERMEK

(lh)   **PARA-BOHÇA$_i$**------------------------------- **PARA-BOHÇA$_i$**

Para bohçasını, ki çok üzgündüm, geri vermek zorunda kaldım.

46. (070108):

$$\overline{\hspace{3cm}\text{sq}} \quad \overline{\text{hn}}$$

[ADAM KENDİ YAPMAK]   ETKİLENMEK$_i$

Adam kendi yaptıklarından etkilendi.

47. (070118):

$$\overline{\hspace{3cm}\text{hs}}$$

$$\overline{\hspace{2cm}\text{sq}} \qquad \overline{\hspace{3cm}\text{br}}$$

(rh) [ERKEK KEL] **KIZ$_i$** VAR [ESKİ BOŞANMAK] **KIZ$_i$** VAR

(lh) IX$_i$---------------------------   IX$_i$--------

Kel olan adamın boşandığı (eşinden) bir kızı var.

48. (070138):

$$\overline{\hspace{2cm}\text{sq}}$$

[IX FİLM ŞAKA] ŞİMDİ GERÇEK EVLENMEK

Anlamı: Filmde rol gereği (evlenen çift) şimdi gerçekten evli.

49. (08a0011):

<div style="text-align:center">hn</div>

IX İ-B-R-A-H-İ-M IX PEYGAMBER İÇİN   IX BABA BERABER İBRAHİM

<div style="text-align:right">hn</div>

hn   sq hn

BABA BERABER   [İBRAHİM$_i$ UFAK OĞUL UFAK IX$_i$] BABA BERABER

CL-GİTMEK-GELMEK

Küçük bir çocuk olan İbrahim babasıyla beraber gidip geliyordu.
Anlamı: İbrahim Peygamber küçük bir çocukken babasıyla beraber gidip
geliyordu.

50. (08a0037):

<div style="text-align:center">sq   br</div>

(rh) [**YILDIZ$_i$** GÖRE CL-YILDIZ++ BİR **YILDIZ$_i$** PARLAK ÇOK
(lh)

<div style="text-align:center">'o'</div>

br   sq   br

(rh) CL-YUVARLAK **YILDIZ$_i$** UFAK++   IX$_i$] İBRAHİM KENDİ EL
(lh)

<div style="text-align:center">hs</div>

(rh) IX$_i$------------------------
(lh) ALLAH IX$_i$ OLMAK

Ufak tefek yıldızların arasından koskocaman parlayan bir yıldıza eliyle işaret etti
ve 'Allah o olabilir mi?' diye sordu.

51. (08a0108):

<div style="text-align:center">hn   sq</div>

BABA UYUMAK   [**BABA** EV İÇİNDE UYUMAK] RAHAT MUTLU

Babası uyuyordu. Evin içinde uyuyan babası rahat ve mutlu idi.

52. (08a0109):

<div style="text-align:center">'o'</div>

<div style="text-align:center">_ _ _ _   sq   hn</div>

[ARAMAK(contuniative) SIKILMAK(contuniative) SON RAHAT İÇİN   IX]

UYUMAK

Büyük arayışlar ve sıkıntılardan sonra murada eren (İbrahim) şimdi uyuyordu.

53. (08a0110):

<div style="text-align:center">_ _ _   sq</div>

İBRAHİM BİRAZ SONRA [PUT TAPMAK **ODA$_i$** HEPSİ IX$_i$ PUT KİŞİ TAŞ

<div style="text-align:center">'o'</div>

<div style="text-align:center">sq   br</div>

KİŞİLER ADAM TOPLAMNAK DUA TAPMAK IX$_i$ İÇİN] İBRAHİM

BEKLEMEK GELMEK

İbrahim biraz sonra taştan yapılmış putların bulunduğu ve putlara tapmak üzere insanların toplandığı odaya gelip bekleyecekti.

54. (08a0175):

<div style="text-align:right">'o'</div>

hn   sq   br

PUT KİŞİ CL-BÜYÜK BALTA VAR   [**İKİ BALTA**$_i$ MODEL EL IX$_i$]

İBRAHİM BULMAK ALMAK.

İbrahim büyük putun elinde bulunan iki büyük baltayı buldu ve aldı.

55. (08a0182):

hn

sq

SONRA SABAH İÇİN [ADAM TAPMAK HEPSİ P-U-T AYNI$_{loc1}$] CL-

TOPLANMAK$_{loc1}$

Sonra, sabahleyin putlara tapılan yerde toplandılar.

56. (08a0185):

hn   hn

'o'

sq   br

[BİLMEK DÜN İÇİN İBRAHİM ÇOCUK$_i$ İBRAHİM İÇİN   IX$_j$ GELMEK

'o'

br   br

$_i$TARTIŞMAK$_j$ IX$_j$ İÇİN] … IX$_j$ BELKİ YAPMAK IX$_j$.

Dün İbrahim'in çocuğu için gelip onunla tartışan yapmıştır belki.

57. (08b0196):

$$\overline{}^{sq}$$

ADAM$_i$ BAŞKA KENDİ   [BAZI AKILLI **ADAM$_i$** BAZI] $_i$BAKMAK$_j$ IX$_j$

---- $\underline{hs}$

       $\underline{fu}$

BİLMEK

Bazıları akıllı olan başka adamlar (onlara) baktı ve onlar nereden biliyorlar (diye sordu)

58. (08b0199):

   $\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_$ $\overline{}^{sq}$

(rh) [BILMEK P-U-T$_i$ KİŞİ BÜYÜK HEPSİ UFAK IX$_1$ BALTA KIRMAK

(lh)

    $\overline{sq}$ $\overline{br}$

(rh) YIKMAK] IX$_i$ IX$_1$ PUT BÜYÜK $_i$KORUMAK$_1$ YOK …

(lh)   IX(flat)------------

Büyük put tüm ufak putları yıkan beni durdurmadı.

59. (08b0207):

                        $\underline{hn}$ $\overline{br}$ $\underline{hn}$

KRAL$_i$ TAMAM $_i$EMİR$_j$ **OĞLAN**$_j$ **KİŞİ** … [ODUN İŞ KİŞİ IX$_j$] ODUN

HAZIRLAMAK TOPLAMAK

Kral odun topla ve hazırla diye oduncu olarak çalışan oğlana emretti.

60. (08b0222):

<pre>
                    hs
          _____
                    sq
</pre>

AMA [**ADAM** KAÇMAK] ALLAH HEPSİ YAKALAMAK   ATEŞ YAYMAK

Ama Allah kaçan adamların hepsini yakaladı ve üzerine ateş yaydı.

61. (08b0229):

<pre>
_ _ _ _ _   _____
                              sq
</pre>

[**İBRAHİM İLK KADIN EŞ** S-A-R-A-H] YAŞLI 'palm-up'

(Adı) Sarah olan ibrahim'in ilk karısı yaşlıydı.

62. (08b0242):

<pre>
                          'o'
                     hs   hn
          _____
                     br   br   sq
</pre>

IX_i ÜÇ MELEK_i ÜÇ SEBEP İÇİN [IX_j **KADIN_j** BİRİNCİ HAMİLE

<pre>
           'o'   hn
          _____
           sq   br
</pre>

OLMAK^DEĞİL YAŞLI IX_j İÇİN] HAMİLE OLMAK MÜJDE M-Ü-J-D-E

<pre>
                          hn
          _____
</pre>

İÇİN _iHABER_j BEKLEMEK GELMEK

Üç meleğin burada bulunmasının sebebi hamile olamayan, yaşlı ve birinci eş olan kadına müjde vermek idi.

63. (08b0255):

$$\overline{} \overset{sq}{} \overset{hn}{}$$

[IX$_i$ **KADIN**$_i$ İLK BİRİNCİ EVLİ İLK IX$_i$] DUYMAK   ŞAŞIRMAK

İlk eşi olan kadın duydu ve şaşırdı.

64. (08b0270):

$$\overline{} \overset{br}{} \overset{hn}{}$$

[SAPKIN **HEPSİ** PİS **HEPSİ**]   KAYBOLMAK

Sapkın ve kötü olanların hepsi kayboldu.

65. (08b0274b):

‘o’

$$\overset{br}{} \qquad\qquad \overset{br}{}$$

$$\overline{} \overset{sq}{} \_\ \_\ \_\ \_\ \_\ \overline{} \overset{sq}{}$$

SONRA [[**İKİNCİ**$_i$ HACER HAMİLE IX$_i$] **İBRAHİM**$_j$ HABER YOK IX$_j$ İÇİN]

$$\overset{hn}{} \qquad\qquad \overset{hn}{} \qquad\qquad \overset{hn}{}$$

İKİNCİ$_i$ DOĞURMAK   İBRAHİM$_j$ GÖRMEK   BABA ÇOK SEVİNMEK

Sapkın ve kötü olanların hepsi kayboldu.

66. (08b0289):

<u>   sq</u>

IX(3) BİNMEK GİTMEK++ UZAK [IX$_i$ KIZ$_i$ İLK EŞ OTURMAK **Ş-A-M$_{loc}$**

<u>   br</u>

[SURİYE BAŞKENT YER$_{loc}$ **Ş-A-M**] [OKUMAK YAZMAK VAR

    <u>hn</u>   <u>hn</u>

    <u>'o'</u>   <u>'o'</u>

        <u>br</u>   <u>br</u>   <u>hn</u>

BİLMEK^DEĞİL IX$_{loc}$] OTURMAK IX$_{loc}$] MEKKE UZAK

Emin olmamakla beraber okuduklarıma göre üçü de ilk eşin oturduğu yer olan Şam'dan, ki Suriye'nin başkentidir, uzak olan Mekke'ye doğru yola çıktılar.

67. (08b0295):

        <u>hn</u>   <u>hn</u>

İBRAHİM MUTLU   SU YEMEK PAZAR TAŞIMAK   VERMEK

                                                 <u>'o'</u>

        <u>hn</u>   <u>sq</u> <u>br</u> <u>hn</u>

RAHAT DURMAK   IX$_1$ İBRAHİM GİTMEK$_{loc}$ [İLK EŞ GİTMEK$_{loc}$ IX$_{loc}$]

İbrahim mutluydu ve biraz yemek ile suyu pazardan alıp getird). Onları rahat ettirmek istiyordu. İlk eşinin bulunduğu yere gitti.

371

68. (08b0298):

          <u> hn </u>   <u> sq </u>

OĞUL BAĞIRMAK   SU SUSAMAK İSTEMEK SU YOK   [**SU** EVVEL

                        <u>   sq </u>

İBRAHİM GETİRMEK **SU**] BİTMEK 'palm-up'

Oğlu bağırıyordu. Susamıştı ve su istiyordu. İbrahim'in önceden getirdiği su bitmişti.

69. (08c0326):

             <u>   sq </u>   <u> bl </u>

ADAM [**ADAM** TİCARET İŞ YAPMAK] ŞAŞIRMAK

Ticaret ile uğraşan adam şaşırmıştı.

70. (08c0340):

             <u>   sq </u> 'o'

MUTLU İÇİN GERİ [İLK BİRİNCİ EŞ   ] GERI

Mutlu olmak için ilk eşinin bulunduğu (yere) döndü.

71. (08c0342):

<u>   sq</u>

HEP SENEDE-BİR _{loc1}CL-GİTMEK-GELMEK_{loc2}   İBRAHİM_i KENDİ [İLK_j

<u>   sq</u>   <u>   sq</u>

EŞ BİRİNCİ _iBAKMAK_j]_{loc1}   [İKİNCİ_k KADIN EŞ _iBAKMAK_k]_{loc2}

_{loc1}CL-GİTMEK-GELMEK_{loc2}

İbrahim her sene ilk eşine baktığı (yer) ile ikinci eşine baktığı (yer) arasında gidip gelir, mekik dokurdu.

72. (08c0344):

<u>   'o' </u>

<u>   sq</u> <u> br </u>

[İKİNCİ DOĞMAK   IX_i] BÜYÜMEK IX_i

İkincinin doğurduğu büyüdü.

73. (08c0357):

<u>   'o' </u>

<u>   hs   </u>   <u>   hs </u> <u> hn </u>

<u>   br</u>

[IX_i **OĞUL** EVVEL EN-ÇOK SEVMEK IX_j] SORUMLU _kEMRETMEK_i   IX_j

<u>   hn </u>

GEL KURBAN

(Allah'ın) emriyle o en çok sevdiği oğlunu kurban edecekti.

74. (08c0413):

<div style="text-align:right">
<u>   hs   </u>
</div>

<div style="text-align:right">
<u>sq</u>   <u> br </u>
</div>

[ŞEYTAN İLK BİRİNCİ CL-ENTITY-GELMEK]   UZUN-BOY

İlk gelen şeytan uzun boyluydu.

75. (08c0416):

<div style="text-align:right">
<u> hs </u> <u>'o'</u>
</div>

<div style="text-align:right">
<u>sq</u> <u>br</u>
</div>

[İKİNCİ ÜÇÜNCÜ ÇOCUK FIRLATMAK$_{loc1}$ FIRLATMAK$_{loc1}$ IX$_{loc1}$] ŞİMDİ

<div style="text-align:center">
<u> hn </u>
</div>

HAC ŞEYTAN TAŞLAMA YER IX$_{loc1}$.

Çocuğun ikinci ve üçüncü (şeytana) taş fırlattığı yer şimdi Hac'daki şeytan taşlama yeri olarak bilinir.

76. (08c0471):

<div style="text-align:right">
<u> hs </u>   <u> hs </u>   <u> hs </u>
</div>

<div style="text-align:right">
<u>br</u>
</div>

CEBRAIL YARDIM YER POINT$_{loc}$ [OĞUL İSMAİL IX SU KAZMAK SU

<div style="text-align:left">
<u>   hs   </u>   <u>'bu'</u>
</div>

<div style="text-align:left">
<u>   br   </u>
</div>

ÇIKMAK IX$_{loc}$ AYNI IX$_{loc}$].

Oğlu İsmail'in kazdığı ve suyun çıktığı yeri Cebrail el ile işaretleyerek yardım etti.

77. (08c0473):

	hn				hn			

İBRAHİM TAMAM   OĞUL$_i$ IX$_i$ YARDIM   IX$_{loc}$ KAZMAK$_{loc}$ TOPRAK

'bu'   'bu'
 hs   hs   hn
                                                                          br

TAŞIMAK [IX$_{loc}$ EVVEL H-Z A-D-E-M İLK İNSAN ÇIKMAK IX$_{loc}$]

İbrahim'in oğluna yardım etmeyi kabul ederek kazdığı ve toprak taşıdığı yer daha
önce Hz. Adem'in çıktığı yerdi.

78. (090070):

'o' 'o' 'o'
                                                                     sq

ARAŞTIRMAK [KAYNAK **KİTAP**   IX++   KİTAP FARKLI++ KİTAP]

FAZLA SAĞIR IX$_1$ GÖRMEK

Bazı kaynakları, ki çoğu kitaplardan oluşuyordu, araştırdım ve sağır kelimesinin
çok geçtiğini gördüm.

79. (090102):

                         sq   br

[BAZEN VAR BİR **KELİME**$_i$ IX$_i$] BİR PROBLEM BÜYÜK D-İ-L-S-İ-Z

Bazen kullanılan bir kelime olan 'dilsiz' (sözcüğü) çok problemli.

80. (090149):

<table>
<tr><td></td><td></td><td></td><td>hn</td><td></td></tr>
<tr><td></td><td></td><td></td><td>'o'</td><td></td></tr>
<tr><td>hn</td><td></td><td></td><td>sq</td><td>br</td></tr>
</table>

KİTAP YAZMAK   [IX$_i$ **KİTAP**$_i$ BASMAK EVVEL BASMAK IX$_i$ İÇİN]

FAZLA KONUŞMAK S-A-Ğ-I-R

Kitap yazmıştım. Yeni basılan kitabın içinde fazla sayıda 'sağır' (sözcüğü) geçiyor.

81. (110001):

<table>
<tr><td></td><td></td><td>'o'</td><td></td><td></td></tr>
<tr><td>hs</td><td></td><td>hs</td><td></td><td>hn</td></tr>
<tr><td>fu</td><td></td><td>sq</td><td>br</td><td></td></tr>
</table>

S-A-D-A-K-A KİŞİ NE [**FAKİR** AĞIR DİLENME IX] KİŞİ ANLATMAK

Dilencinin kim olduğunu ve fazlaca fakir olan ve dilenen kişiyi anlatacağım.

82. **(110068):**

<table>
<tr><td></td><td></td><td></td><td>hn</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>'o'</td><td></td><td></td></tr>
<tr><td></td><td>rept. hn</td><td></td><td>sq</td><td>br</td><td>rept. hn</td></tr>
</table>

CAM IX$_1$ AÇMAK IX$_i$ ŞAŞIRMAK   [ÖNCE PARA $_1$VERMEK$_i$ IX]

Camı açtığında, daha önce para verdiğim (kişiyi) gördüm ve şaşırdım.

83. (120120):

<div style="text-align:right">hs</div>
<div style="text-align:right">sq</div>
<div style="text-align:right">br   ht</div>

IX₁ **ADAM-ASMACA** [YARIŞMA A-B-C]   CL-ISTEMEMEK

Harflerle yapılan oyunu, adam asmacayı (oynamak) istemiyorum.

84. (120159):

<div style="text-align:right">'o'</div>
<div style="text-align:right">hn</div>
<div style="text-align:right">br</div>
<div style="text-align:right">sq</div>

[EV GİRMEK KAPI KAPANMAK BELGEN GİTMEK IXᵢ] DÜŞMEK BEL

AĞRIMAK **ESRA**ᵢ BEL-AĞRIMAK.

Belgen gittiğinde kapı kapanırken eve giren Esra düştü ve beli ağrıdı.

85. (120183):

<div style="text-align:right">'o'</div>
<div style="text-align:right">br</div>
<div style="text-align:right">hn   sq</div>

HADİ GÖZLÜK DOKTOR CANSU   [DOKTOR MUAYENE BİLMEK IXᵢ

<div style="text-align:center">sq</div>

FATMAᵢ DOKTOR MUAYENE BİLMEK] BERABER HADİ.

Cansu, doktora muayeneye (gitmesi gerektiğini) bilen Fatma'ya "Hadi muayeneye gidelim." dedi.

86. **(120204):**

br

ESRA$_i$ [IX$_i$ BİLGİSAYAR KULLANMAK EVVEL BİLGİSAYAR

sq   hn

KULLANMAK IX$_i$] **ESRA$_i$** BİLGİSAYAR TIKLAMAK

Daha önce kullandığı bilgisayarın (klavyesine) tıkladı.

87. **(120229):**

hs

sq

[ESRA EVVEL BİLGİSAYAR KULLANMAK BURUŞTURMAK ATMAK]

br

ALMAK AYNI.

Esra bilgisayar kullanırken buruşturup attığı kağıdı yeniden aldı.

88. **(120259):**

bl

br

sq

[GÖZ MUAYENE **GÖZLÜK** DÜŞÜRMEK] BİR-DAHA KAPI ÇARPMAK

hn

KIRMAK **GÖZLÜK**

Göz muayenesinde düşürdüğü gözlüğü kapıya çarparak bir daha kırdı.

89. **(120272):**

                           <u>hn</u>   'var'

GULCIN CL-KAPI-AÇMAK-ARALAMAK   POLIS$_i$ IX$_i$ POLIS$_i$

                   <u>hs</u>

     <u>   sq</u>

$_i$BAKMAK$_j$ [**ÖLMEK**$_j$ IX$_j$ İNCELEMEK]

Gülçin kapıyı araladığında, polis incelediği ölüye bakıyordu.

90. **(130005):**

     <u>   sq</u>

[**KIZ** UZAK KÖY İÇİN] OĞLAN$_i$ IX$_i$ SEVMEK

Uzaktaki bir köyde olan kız oğlanı seviyordu.

91. **(130038):**

          <u>hn</u> _ _ _ _ _ _ <u>   sq</u> _ _ _

İŞ BAŞVURMAK   [**HUZUREVİ** YAŞLI HEPSİ GRUP **EV**] İŞ

CL-GİTMEK-GELMEK

İşe başvurdu. Hepsi yaşlılardan oluşan kişilerin kaldığı huzurevine gidip geldi.

92. **(130053):**

```
                              hs
                  sq                        br
```
[IX_i **OĞUL_i** EVVEL SARILMAK ÖPMEK] ŞİMDİ GELİN KESMEK

Önceden düzenli olarak geline sarılan ve gelini öpen oğul şimdi bunu yapmayı durdurdu.

93. **(130087):**

```
                                                      bl
              hs
              sq _ _ _ _ _ _ _                        sq
```
[HEMŞİRE KIZ_i YÜRÜMEK ÖLMEK HEMEN CL-YATAK-TOPLAMAK]

KOCA_j BAKIŞMAK_{rec(i,j) i}GÖRMEK_j

Ölünün yatağını toplamak üzere yürüyerek içeri giren hemşire kocasını gördü, bakıştılar.

94. **(140006):**

```
                                              br
          _ _ _ _ _                           sq
```
[**KOMŞU_i** CL-DOOR KADIN ANNEANNE ARKADAŞ OLMAK IX_i]

CL-GİTMEK-GELMEK(contuniative) HEP.

Karşı kapıda yaşayan ve yaşlı kadınla arkadaş olan komşu ile yaşlı kadın birbirlerini düzenli olarak ziyaret ediyorlardı.

92. **(130053):**

```
                              hs
                  sq                        br
```
[IX_i **OĞUL_i** EVVEL SARILMAK ÖPMEK] ŞİMDİ GELİN KESMEK

Önceden düzenli olarak geline sarılan ve gelini öpen oğul şimdi bunu yapmayı durdurdu.

93. **(130087):**

```
                                                      bl
              hs
              sq _ _ _ _ _ _ _                        sq
```
[HEMŞİRE KIZ_i YÜRÜMEK ÖLMEK HEMEN CL-YATAK-TOPLAMAK]

KOCA_j BAKIŞMAK_{rec(i,j)} _iGÖRMEK_j

Ölünün yatağını toplamak üzere yürüyerek içeri giren hemşire kocasını gördü, bakıştılar.

94. **(140006):**

```
                                              br
          _ _ _ _ _                           sq
```
[**KOMŞU_i** CL-DOOR KADIN ANNEANNE ARKADAŞ OLMAK IX_i]

CL-GİTMEK-GELMEK(contuniative) HEP.

Karşı kapıda yaşayan ve yaşlı kadınla arkadaş olan komşu ile yaşlı kadın birbirlerini düzenli olarak ziyaret ediyorlardı.

95. (140020):

<div style="text-align:center">

      hs   ht   hn

                              sq

</div>

[KIZ$_i$ **PARA-KAZANMAK** $_i$VERMEK$_1$] IX$_1$ İSTEMEK^DEĞİL IX$_1$

        ht

SÖYLEMEK^DEĞİL

Kızın kazandığı parayı istemediğimi söyleyemedim.

96. (140041):

<div style="text-align:center">

  'bu'   'bu'

  br   sq br

</div>

IX$_1$ $_1$SÖYLEMEK$_i$ [IX$_j$ **ANNEANNE$_j$** KÖTÜ ARKA DEDİKODU IX$_j$] HASTA

AĞIR ÖLMEK

Arkasından kötü bir şekilde dedikodu yapan yaşlı kadının ağır hasta olduğunu ve öldüğünü söyledim.

97. (150011):

<div style="text-align:center">

               sq hn

</div>

HEMŞİRE$_i$ $_i$BAKMAK$_i$ [BEBEK$_j$ YATMAK]

Hemşire yatmakta olan bebeğe baktı.

98. **(150012):**

<u>   hn</u> <u>   sq</u>

IX$_i$ 'BABA$_j$ IX$_j$' YAZMAK   [EVVEL KIZ$_k$ IX$_k$ **İSİM KAĞIT$_i$** BABA DEFTER

<u>   sq </u> <u>hn</u>

YAZMAK]

Önceden kızın deftere babasının ismini yazdığı kağıtta 'babası budur' diye

yazıyordu.

99. **(160047):**

                                  <u>   sq </u> <u>   hs</u>

ADAM$_i$ DÜŞÜNMEK [$_i$BIÇAKLAMAK$_j$ ÖLMEK IX$_j$ **KIZ** HASTA] NEREDE

                   <u>   br</u>

ARAMAK BULMAK

Adam hasta olan ve bıçaklayıp öldürdüğü adamın kızının nerede olduğunu

düşündü. Arayıp buldu.

100. **(160054):**

<u>   hn</u> <u>   sq</u>

ANNEANNE$_i$ [GÖZ BULANIK AZ KENDİ GÖZ BULANIK AZ IX$_i$]

$_i$BAKMAK$_j$

gözleri tam görmeyen yaşlı kadın (kıza) baktı.

101. **(160074):**

<div style="text-align:right">sq   ht   ht</div>

[EVVEL **OĞLAN**_{i j}VURMAK_i IX_i] DEĞİL   MİLYONER DEĞİL

Bu vurduğum oğlan değil. Milyoner olan değil.

102. **(160083):**

    br

'o'

           sq

(rh)   [_iVURMAK_j ÖLMEK] DÜŞÜNMEK ÇİFT

(lh) IX_j-------------------------

Vurup öldürdüğü (kişiyi) sık sık düşünüyordu.

103. **(160101):**

<div style="text-align:right">sq</div>

BİR-HAFTA-SONRA İÇ KIZ KENDİ [**KAPI** AYNI FAKİR AĞIR YÜRÜMEK

      sq

KAPI AYNI] BAKMAK

Bir hafta sonra, kız fakirin önünden geçtiği kapıya baktı.

104. **(160168):**

   hs

          sq   br

[**ADAM** FAKİR YÜZ AZ] ELBİSE DEĞİŞMEK YÜZ GÜZEL

Fakir olan ve yüzü pek güzel görünmeyen adam kıyafetini değiştirince yüzü güzelleşti.

105. **(160238):**

<u>   hs</u>

<u>   sq</u>

[**OĞLAN** EVVEL TİCARET YÜKSELMEK] PARA KURTARMAK   **OĞLAN**

<u>   hn</u>

KENDİ ARABA SIFIR ALMAK

Önceleri ticarette yükselen adam parasını kurtardı. Adam (kendine) yeni araba aldı.

106. **(170005):**

<u>   'o'</u>

<u>   hn</u>

‒ <u>   sq</u> <u>br</u>

[**AYAK TOPUK**$_i$ SERT VE **DİRSEK TOPUK**$_j$ SERT VAR IX$_{i,j}$] LİMON

<u>   hn</u>

KESMEK CL-TEMİZLEMEK IX$_i$ AYAK EL YUMUŞAK OLMAK

Sert olan ayak topuklarınızı ve dirseklerinizi limon dilimiyle temizleyebilirsiniz. Eliniz ve ayağınız yumuşacık olacaktır.

107. **(170017):**

<div align="center">'o'</div>

<div align="center">side ht   side ht   hn   side ht</div>

<div align="center">sq   br</div>

[BAZI **EV**ᵢ KÖPEK KEDİ KUŞ BAZI **EV**ᵢ VAR IXᵢ İÇİN] KOLTUK HALI TÜY

DÖKÜLMEK

Evcil hayvan bulunduran bazı evlerdeki koltuk ve halıların üzerinde tüyler bulunabilir.

108. **(170018):**

<div align="right">sq</div>

HALI GÖRE TEMİZLEMEK VEYA KOLTUK [**HEPSİ** DÖKÜLMEK VAR]

TEMİZLEMEK

Halı ya da koltuk ya da kirlenmiş olan herşeyi temizleyiniz.

109. **(170019):**

<div align="center">hn   hn</div>

<div align="center">br</div>

[EV BAZI **KAĞIT DUVAR**ᵢ VAR IXᵢ İÇİN] ÇIKARMAK İSTEMEK

hs

br

NE-YAPMAK

Bazı evlerde bulunan duvar kağıdını çıkarmak istediğinizde ne yapmalısınız?

110. (170020):

$$\underline{\text{hn}}$$

$$\underline{\text{'o'}}$$

_ _ _ _ _ _ $\underline{\text{sq}}$ $\underline{\text{br}}$

[YUMUŞAK **SÜNGER**$_i$ SERT ÖN ARKA YUMUŞAK ÜST SERT   IX$_i$] AL

Önü sert ve arkası yumuşak olan yumuşak sünger alınız.

111. (180011):

            $\underline{\text{hs}}$

                    $\underline{\text{br}}$

                       $\underline{\text{sq}}$

CL: SAHA [L-İ-G MAÇ **SAHA**] ARA 90 METRE

Lig maçlarının yapıldığı sahanın boyu 90 metredir.

APPENDIX E: LISTS of LEXICAL ENTRIES and THEIR

OCCURRENCES

Lexical Entries	Occurrence
$ALPHA_TID	31
$GEST_TID	9
$INDEX111A_TID	1
$INDEX11A_TID	52
$INDEX11B_TID	2
$INDEX1A_TID	73
$INDEX1B_TID	26
$INDEX1C_TID	2
$INDEX1D_TID	5
$INDEX1E_TID	1
$INDEX2_TID	4
$INDEX3_TID	2
$MAN-ADAM-ASMACA_TID	2
$MAN-ASKI_TID	1
$MAN-BITMEK_TID	1
$MAN-BOY-KISA_TID	3
$MAN-BÜYÜK-KART_TID	1
$MAN-CA?_TID	24
$MAN-CAM-ACMAK-HANDLE_TID	1
$MAN-CIKARMAK-HANDLE_TID	1
$MAN-CL-CHAND_TID	2
$MAN-CL-FLAT-SASS_TID	1
$MAN-CL-MESAJ-SASS_TID	1
$MAN-CL-MOV-GELMEK_TID	1
$MAN-CUKUR-KAZMAK1_TID	4
$MAN-DEFTER-KAPATMAK_TID	1
$MAN-DÜSÜRMEK_TID	1
$MAN-EL-ALMAK_TID	3
$MAN-ENTITIY-GELMEK_TID	2
$MAN-ENTITY-MOV-GIDIPGELMEK_TID	7

Lexical Entries	Occurrence
$MAN-GETIRMEK-HANDLE_TID	1
$MAN-HANDLE-KAGIT-BURUSTURMAK_TID	1
$MAN-HANDLE-TEMIZLEMEK_TID	4
$MAN-HEPSI-ICINDE_TID	2
$MAN-HOLD-TUTUP-ALMAK_TID	1
$MAN-IZLEMEK1_TID	1
$MAN-KAGIT-ALMAK-HANDLE_TID	1
$MAN-KAGIT-PARCASI_TID	1
$MAN-KART-ALMAK_TID	1
$MAN-KART-KIRILMASI_TID	1
$MAN-KART-SASS_TID	3
$MAN-KART-SOKMAK_TID	7
$MAN-KART-VERMEK_TID	1
$MAN-KISI-NOUN-CL_TID	10
$MAN-KITAP-BASMAK_TID	2
$MAN-KLAVYE-TIKLAMAK_TID	3
$MAN-KOYMAK_TID	1
$MAN-KÜCÜK-KART_TID	1
$MAN-LAPTOP-ACMAK_TID	1
$MAN-LOC-CLAW_TID	1
$MAN-ODA-NOUNCL_TID	1
$MAN-PARA-BOHCASI_TID	2
$MAN-PERSON-ENTITY_TID	1
$MAN-PRESLEMEK_TID	2
$MAN-PUNK_TID	2
$MAN-SASS-DEFTER-ACMAK_TID	1
$MAN-SASS-MOV-TOPLANMAK_TID	3
$MAN-SASS-PARLAK-YILDIZ_TID	3

Lexical Entries	Occurrence
$MAN-SASS-UZUNLAMASINA_TID	2
$MAN-SASS-YILDIZ_TID	1
$MAN-SASS-YUVARLAK_TID	1
$MAN-SMALL-THINGS-SASS_TID	1
$MAN-SU-DOLDURMA_TID	1
$MAN-TAS-SASS_TID	1
$MAN-THUMB-ENTITY_TID	1
$MAN-UZUN-BOY_TID	1
$MAN-YATAK-TOPLAMAK_TID	1
$MAN-YOK-ETMEK_TID	1
$NAME_TID	37
$NUM-LIST_TID	16
$NUM-MONTH_TID	2
$NUM-WEEK-AFTER_TID	1
$NUM-WEEK-BEFORE_TID	1
$NUM_TID	19
$PAM1_TID	5
$POSS1_TID	3
$SPE-AKLA-GELMEK_TID	1
$SPE-BARIYER_TID	1
$SPE-EPEY_TID	4
$SPE-GENELDE-BÖYLEDIR_TID	1
$SPE-GERCEK_TID	1
$SPE-HAY-ALLAH_TID	1
$SPE-ILGILENMEK_TID	1
$SPE-KAFA-TAKMAK_TID	1
$SPE-MUTLU_TID	2
$SPE-OLSUN_TID	1
$SPE-ONAYLAMAK_TID	1
$SPE-SADECE_TID	1
$SPE-SASIRMAK_TID	1
$SPE-SIFIR-ARABA_TID	1
$SPE-SIKINTI-YAPMAK_TID	1
$SPE-SUSAMAK_TID	1
$SPE-TUHAF_TID	1
$SPE-TÜY-ÜRPERTISI_TID	1

Lexical Entries	Occurrence
$SPE-VESAIRE_TID	1
$SPE-ÖZEN-GÖSTERMEK_TID	2
$SPE-ÖZEN_TID	1
$TRIPLE!!_TID	1
ACI1_TID	1
ACMAK1_TID	1
ADAM1_TID	13
ADAM2_TID	1
AGIR1_TID	1
AGLAMAK1_TID	1
AKRABA1_TID	1
ALLAH1_TID	2
ALMAK1_TID	3
ALMANYA1_TID	3
ALT1_TID	1
AMA1_TID	1
AMA2_TID	1
AMA3_TID	2
ANLAMAK1_TID	0
ANLATMAK1_TID	1
ANNE1_TID	9
ANNEANNE1_TID	5
ARA1_TID	1
ARABA1_TID	1
ARAMAK1_TID	2
ARASTIRMAK1_TID	1
ARKA1_TID	1
ARKADAS1_TID	3
ATMAK1_TID	5
AYAK1_TID	2
AYAKKABI1_TID	2
AYNI1_TID	3
AYNI2_TID	8
AZ1_TID	3
BABA1_TID	15
BAGIRMAK1_TID	1
BAKMAK1_TID	7
BALTA1_TID	1
BANKA1_TID	4
BASKENT1_TID	1
BASLAMAK1_TID	2
BAZEN1_TID	4
BEBEK1_TID	1
BEKAR1_TID	4

Lexical Entries	Occurrence
BEKLEMEK1_TID	2
BELKI1_TID	1
BERABER1_TID	7
BICAKLAMAK1_TID	1
BILGISAYAR1_TID	6
BILMEK1_TID	8
BILMEK2_TID	3
BINMEK1_TID	1
BIR-DAHA1_TID	1
BIRAZ1_TID	2
BIRBIRI1_TID	2
BIRSEY1_TID	1
BITMEK1_TID	0
BITTI1_TID	2
BOSANMAK1_TID	1
BOYA1_TID	2
BU-YÜZDEN1_TID	1
BULANIK1_TID	2
BULMAK1_TID	2
BÜYÜK1_TID	4
BÜYÜMEK1_TID	2
CAGIRMAK1_TID	0
CAHIL1_TID	1
CALISMAK1_TID	7
CAM1_TID	1
CESME1_TID	1
CICEK1_TID	1
CIFT1_TID	1
CIKARMAK1_TID	1
CIKMAK1_TID	2
CIMENTO1_TID	1
COCUK1_TID	2
COK1_TID	1
DEDIKODU1_TID	1
DEFTER1_TID	1
DEGIL1_TID	3
DEGISTIRMEK1_TID	2
DIN1_TID	1
DIRSEK1_TID	1
DIS1_TID	1
DOGMAK1_TID	3
DOGRU1_TID	1
DOKTOR1_TID	3
DOLANMAK1_TID	1
DOST1_TID	5

Lexical Entries	Occurrence
DUA1_TID	2
DURMAK1_TID	1
DUSMEK1_TID	1
DUSUNMEK2_TID	2
DUVAR1_TID	1
DUYAN1_TID	1
DUYMAK1_TID	1
DÖKÜLMEK1_TID	2
DÜN1_TID	1
DÜSÜNMEK1_TID	2
EL1_TID	2
EMEK1_TID	1
EMRETMEK1_TID	2
EN1_TID	1
ES1_TID	6
ETKİLENMEK1_TID	1
EV1_TID	12
EVLI1_TID	3
EVVEL1_TID	18
FABRIKA1_TID	5
FAKİR1_TID	3
FARKLI1_TID	1
FAZLA1_TID	3
FILM1_TID	2
FILM2_TID	3
FIRLATMAK1_TID	5
GELIN1_TID	1
GELMEK1_TID	5
GENC1_TID	1
GERCEK1_TID	1
GERI1_TID	3
GEZMEK1_TID	1
GIBI1_TID	2
GIBI2_TID	1
GIRMEK1_TID	1
GITMEK1_TID	10
GITMEK2_TID	1
GIYSI1_TID	1
GRUP1_TID	1
GUZEL1_TID	6
GÖNDERMEK1_TID	1
GÖNÜLLÜ1_TID	1
GÖRE1_TID	2
GÖRMEK1A_TID	3
GÖRMEK1B_TID	0

Lexical Entries	Occurrence
GÖZ1_TID	4
GÖZLÜK1_TID	2
HABER1_TID	1
HAC1_TID	1
HALI1_TID	2
HAMILE1_TID	3
HARCAMAK1_TID	3
HASTA1_TID	2
HATA1_TID	2
HATIRLAMAK1_TID	1
HAYAT1_TID	1
HAZIR1_TID	2
HEMSIRE1_TID	2
HEP1_TID	2
HEPSI1A_TID	1
HEPSI1B_TID	3
HEPSI2_TID	4
HIRISTIYAN1_TID	1
HUZUREVI1_TID	1
IC1_TID	11
ICIN1_TID	23
ICMEK1_TID	1
ILK1_TID	9
IMZALAMAK1_TID	1
INCELEMEK1_TID	2
INGILTERE1_TID	1
INSAN1_TID	1
IS1_TID	5
ISARET1_TID	2
ISIM1_TID	2
ISTEMEK1_TID	2
ISTEMEMEK1_TID	1
IZLEMEK1_TID	4
KAC1_TID	1
KACMAK1_TID	1
KAFA1_TID	1
KAGIT1_TID	1
KALMAK1_TID	1
KAPAMAK1_TID	2
KAPI1_TID	1
KARDES1_TID	3
KARSILASMAK1_TID	1
KAYNAK1_TID	1
KAZANMAK1_TID	2
KEDI1_TID	1

Lexical Entries	Occurrence
KEL1_TID	1
KELIME1_TID	1
KENDI1_TID	10
KESMEK1_TID	3
KIRILMAK1_TID	2
KISI1_TID	6
KISKANMAK1_TID	2
KITAP1_TID	5
KIZ1_TID	19
KIZI1_TID	4
KOLEJ1_TID	1
KOLTUK1_TID	2
KOMSU1_TID	4
KONUSMAK1_TID	2
KOPYA1_TID	1
KORUMAK1_TID	1
KOYMAK1_TID	3
KRAL1_TID	1
KURBAN1_TID	1
KURTARMAK1_TID	1
KUS1_TID	1
KÖPEK1_TID	1
KÖTÜ1_TID	3
KÖY1_TID	2
KÜFÜR1_TID	2
LAZIM1_TID	1
LIMON1_TID	1
LÜTFEN1_TID	1
MAAS1_TID	2
MAC1_TID	1
MATBAA1_TID	2
MECBUR1_TID	2
MEKKE1_TID	1
MEKTUP1_TID	1
MELEK1_TID	2
MEMLEKET1_TID	1
METRE1_TID	1
MEVLÜT1_TID	1
MEZAR1_TID	1
MILYONER1_TID	1
MISAFIR1_TID	2
MODEL1_TID	3
MUAYENE1_TID	3
MUTLU1_TID	1
MÜJDE1_TID	2

Lexical Entries	Occurrence
MÜSLÜMAN1_TID	2
NE-YAPMAK1_TID	1
NE-YAPMAK2_TID	3
NE1_TID	1
NEDEN1_TID	1
NEREDE1_TID	1
NUMARA1_TID	1
NÜFUS-CÜZDANI1_TID	2
ODUN1_TID	2
OGLAN1_TID	7
OGUL1_TID	14
OKUL1_TID	8
OKUMAK1_TID	1
OKUMAK2_TID	1
OLMAK1_TID	7
OLMAK2_TID	2
OLMAMAK1_TID	1
OROSPU1_TID	1
ORTA1_TID	1
OTOBÜS1_TID	1
OTURMAK1_TID	3
OTURMAK2_TID	1
PAKET1_TID	1
PARA1_TID	7
PEYGAMBER1_TID	1
PIS1_TID	1
PLASTIK1_TID	2
POLIS1_TID	3
PROBLEM1_TID	1
PROFIL1_TID	2
RAHAT1_TID	3
SABAH1_TID	2
SAF1_TID	1
SAGIR1_TID	2
SAGLAM1_TID	1
SAHIT1_TID	3
SAKA1_TID	1
SANMAK1_TID	2
SAPKIN1_TID	1
SARILMAK1_TID	1
SASIRMAK1_TID	3
SEBZE1_TID	1
SEKER1_TID	1
SENELIK1_TID	1
SERT1_TID	5

Lexical Entries	Occurrence
SERVIS1_TID	1
SEVGILI1_TID	3
SEVINMEK1_TID	2
SEVMEK1_TID	3
SEYTAN1_TID	1
SICAK1_TID	3
SIGARA1_TID	1
SIGORTA1_TID	1
SIKILMAK1_TID	2
SIMDI1_TID	5
SISE1_TID	1
SOHBET1_TID	1
SOKAK1_TID	1
SON1_TID	1
SONRA1_TID	6
SORMAK1_TID	1
SORUSTURMAK1_TID	1
SU1_TID	8
SUC1_TID	1
SUSMAK1_TID	1
SÖYLEMEK1_TID	4
SÜNGER1_TID	1
TAM1_TID	1
TAMIR1_TID	2
TAPMAK1_TID	4
TAS1_TID	5
TASINMAK1_TID	1
TATIL1_TID	1
TEKRAR1_TID	1
TICARET1_TID	2
TOPLAMAK1_TID	1
TOPRAK1_TID	1
TOPUK1_TID	1
TÜRK1_TID	1
TÜY1_TID	1
UYUMAK1_TID	4
UZAK1_TID	3
UZAK2_TID	1
VAR1_TID	11
VAR2_TID	1
VAR3_TID	2
VARMAK1_TID	4
VE1_TID	1
VERMEK1_TID	3
VEYA1_TID	1

Lexical Entries	Occurrence
VURMAK-(SILAH)1_TID	2
YAKALAMAK1_TID	2
YANI1_TID	3
YAPMAK1_TID	4
YAPMAK2_TID	0
YARDIM1_TID	4
YARISMA1_TID	1
YASLI1_TID	2
YATMAK1_TID	1
YAYILMAK1_TID	1
YAZMAK1_TID	5
YEMEK1_TID	3
YENI1_TID	2
YENILMEK1_TID	1
YER1_TID	2
YILAN1_TID	1
YILDIZ1_TID	2
YOK1_TID	1
YOK2_TID	1
YUMUSAK1_TID	3
YÜKSELMEK1_TID	1
YÜRÜMEK1_TID	5
YÜZ1_TID	1
ÖBÜR1_TID	4
ÖGRENCI1_TID	1
ÖGRETMEN1_TID	1
ÖLMEK1_TID	5
ÖNCE1_TID	1
ÖPMEK1_TID	1
ÖZÜR-DILEMEK1_TID	1
ÜNIVERSITE1_TID	2
ÜNLÜ1_TID	1
ÜST1_TID	2
ÜZÜLMEK1_TID	2
ÜZÜLMEK2_TID	1

APPENDIX F: HEADNOUNS and THEIR POSITION

	Position of HN	Existence HN	HN
1. (010002):	HN in RC	yes	FILM
2. (010009):	HN in RC	yes	buoy
3. (010010):	HN in RC	yes	buoy
4. (010011):	HN in RC	yes	ÖBÜR
5. (010016):	HN in RC	yes	buoy
6. (010026):	HN in RC (*AS-YOU-KNOW*)	yes	CESME
7. (010028):	HN before RC	yes	ÖBÜR
8. (010049):	HN after RC	yes	KIZ
9. (010052):	HN before RC	yes	KIZ
10. (010054):	free	no (or pronoun)	
11. (010064):	HN in RC	yes	ASST
12. (010065):	HN in RC	yes	KAZI-CL
13. (010100):	HN after RC	yes	EV
14. (010101):	HN in RC cleft	yes yes	KIZ
15. (010102):	HN in RC/HN after RC	yes	ANNE
16. (010109):	HN in RC	yes	KADIN KOMSU
17. (020036):	HN in RC	yes	BANKA KART
18. (020058):	HN in RC	yes	KISIM-CL
19. (020065):	HN in RC (*AS-YOU-KNOW*)	yes	KART
20. (020077):	HN in RC	yes	KART

	Position of HN	Existence HN	HN
21. (020078):	HN in RC (*AS-YOU-KNOW*)	yes	KART
22. (030006):	HN in RC	yes	FILM
23. (030009):	HN in RC	yes	OGUL
	HN in RC	yes	SEVGILI
24. (030010):	HN in RC	yes	PARA-CL
25. (030020):	HN in RC	yes	PARA-CL
26. (030052):	HN in RC	yes	ADAM
	HN before RC	yes	ADAM
	free	no (or pronoun)	
27. (030060):	HN in RC	yes	ADAM
28. (030062):	HN in RC	yes	ADAM
29. (030064):	free	no	
30. (030065):	free	no	
31. (030067):	HN in RC	yes	BABA^ANNE
32. (030073):	HN in RC	yes	ESKI
33. (030086):	HN in RC	yes	ADAM
34. (030087):	HN in RC	yes	ALMANYA
35. (030112):	HN in RC	yes	ÖGRETMEN
36. (040025):	HN in RC	yes	ÖBÜR KIZ
37. (050016):	HN in RC	yes	HEPSI
38. (060034):	HN in RC	no (or pronoun)	
39. (070002):	HN in RC	yes	ETIKET
40. (070012):	HN in RC/HN before RC	yes	OKUL
41. (070012b)	HN in RC	yes	TERLIK

	Position of HN	Existence HN	HN
42. (070019):	HN before RC	yes	MATBAA BOYA
43. (070022):	HN in RC	yes	FABRIKA
44. (070035):	HN in RC	yes	FABRIKA
45. (070106):	HN before RC/HN after RC	yes	PARA-BOHCA
46. (070108):	free	no	
47. (070118):	HN before RC	yes	KIZ
48. (070138):	free	no	
49. (08a0011):	HN in RC	yes	Ibrahim
50. (08a0037):	HN in RC/HN before RC	yes	yildiz
51. (08a0108):	HN in RC	yes	BABA
52. (08a0109):	free	no	
53. (08a0110):	HN in RC	yes	ODA
54. (08a0175):	HN in RC	yes	IKI BALTA
55. (08a0182):	free	no	
56. (08a0185):	Free (*AS-YOU-KNOW*)	no (or pronoun)	
57. (08b0196):	HN in RC/HN before RC	yes	BAZI ADAM
58. (08b0199):	Free (*AS-YOU-KNOW*)	no (or pronoun)	
59. (08b0207):	HN before RC (or free)	yes	OGLAN KISI
60. (08b0222):	HN in RC	yes	ADAM
61. (08b0229):	HN in RC	yes	IBRAHIM ILK KADIN
62. (08b0242):	HN in RC	yes	KADIN

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	Position of HN	Existence HN	HN
63. (08b0255):	HN in RC	yes	KADIN
64. (08b0270):	HN in RC	yes	HEPSI
65. (08b0274):	HN in RC	yes	buoy
	HN in RC	yes	Ibrahim
66. (08b0289):	HN in RC	yes	KIZ
	HN in RC/HN before RC	yes	SAM
	free	no (or pronoun)	
67. (08b0295):	free	no	
68. (08b0298):	HN in RC	yes	SU
69. (08c0326):	HN in RC/HN before RC	yes	ADAM
70. (08c0340):	HN in RC	yes	ILK
71. (08c0342):	free	no	
	free	no	
72. (08c0344):	free	no	
73. (08c0357):	HN in RC	yes	OGUL
74. (08c0413):	HN in RC	yes	SEYTAN
75. (08c0416):	free	no (or pronoun)	
76. (08c0471):	free	no (or pronoun)	
77. (08c0473):	free	no (or pronoun)	
78. (090070):	HN in RC	yes	KITAP
79. (090102):	HN in RC	yes	KELIME
80. (090149):	HN in RC	yes	KITAP
81. (110001):	HN in RC	yes	KISI
82. (110068):	free	no (or pronoun)	

	Position of HN	Existence HN	HN
83. (120120):	HN before RC	yes	ADAM-ASMACA
84. (120159):	HN after RC	yes	ESRA
85. (120183):	HN in RC	yes	FATMA
86. (120204):	HN in RC	yes	ESRA
87. (120229):	free	no	
88. (120259):	HN in RC/HN after RC	yes	GÖZLÜK
89. (120272):	HN in RC	yes	ÖLÜ
90. (130005):	HN in RC	yes	KIZ
91. (130038):	HN in RC/HN before RC	yes	EV
92. (130053):	HN in RC	yes	OGUL
93. (130087):	HN in RC	yes	HEMSIRE KIZ
94. (140006):	HN before RC	yes	KOMSU
95. (140020):	HN in RC	yes	PARA
96. (140041):	HN in RC	yes	ANNEANNE
97. (150011):	HN in RC	yes	BEBEK
98. (150012):	HN in RC	yes	KAGIT
99. (160047):	HN in RC	yes	KIZ
100. (160054):	HN before RC (or free)	yes	ANNEANNE
101. (160074):	cleft	yes	OGLAN
102. (160083):	free	no (or pronoun)	
103. (160101):	HN in RC	yes	KAPI
104. (160168):	HN in RC	yes	ADAM
105. (160238):	HN in RC	yes	OGLAN
106. (170005):	HN before RC	yes	TOPUK

	Position of HN	Existence HN	HN
107. (170017):	HN before RC/HN in RC	yes	EV
108. (170018):	HN in RC	yes	HEPSI
109. (170019):	HN in RC	yes	KAGIT
110. (170020):	HN in RC	yes	SUNGER
111. (180011):	HN before RC/HN in RC	yes	SAHA

APPENDIX G: RELATIVIZATION STRATEGIES OF RCs in CORPUS

	Relativization strategy
1. (010002):	circumnominal
2. (010009):	circumnominal
3.(010010):	circumnominal
4.(010011):	circumnominal
5.(010016):	circumnominal
6.(010026):	AS-YOU-KNOW
7.(010028):	circumnominal
8.(010049):	circumnominal
9.(010052):	postnominal
10.(010054):	free
11.(010064):	circumnominal
12.(010065):	circumnominal
13.(010100):	circumnominal
14.(010101):	circumnominal
	cleft
15.(010102):	double HN
16.(010109):	circumnominal
17.(020036):	circumnominal
18.(020058):	circumnominal
19.(020065):	AS-YOU-KNOW
20.(020077):	circumnominal
21.(020078):	AS-YOU-KNOW
22.(030006):	circumnominal
23.(030009):	circumnominal
	circumnominal
24.(030010):	circumnominal
25.(030020):	circumnominal

	Relativization strategy
26.(030052):	circumnominal
	circumnominal
	free
27.(030060):	circumnominal
28.(030062):	circumnominal
29.(030064):	free
30.(030065):	free
31.(030067):	circumnominal
32.(030073):	circumnominal
33.(030086):	circumnominal
34.(030087):	circumnominal
35.(030112):	circumnominal
36.(040025):	circumnominal
37.(050016):	circumnominal
38.(060034):	circumnominal
39.(070002):	circumnominal
40.(070012):	circumnominal
41.(070012b)	circumnominal
42.(070019):	postnominal
43.(070022):	circumnominal
44.(070035):	circumnominal
45.(070106):	double HN
46.(070108):	free
47.(070118):	postnominal
48.(070138):	free
49.(08a0011):	circumnominal
50.(08a0037):	circumnominal
51.(08a0108):	circumnominal
52.(08a0109):	free
53.(08a0110):	circumnominal

	Relativization strategy
54.(08a0175):	circumnominal
55.(08a0182):	free
56.(08a0185):	AS-YOU-KNOW (free)
57.(08b0196):	double HN
58.(08b0199):	AS-YOU-KNOW (free)
59.(08b0207):	free
60.(08b0222):	circumnominal
61.(08b0229):	circumnominal
62.(08b0242):	circumnominal
63.(08b0255):	circumnominal
64.(08b0270):	circumnominal
65.(08b0274b):	circumnominal
	circumnominal
66.(08b0289):	circumnominal
	double HN
	free
67.(08b0295):	free
68.(08b0298):	circumnominal
69.(08c0326):	double HN
70.(08c0340):	Circumnominal
71.(08c0342):	free
	free
72.(08c0344):	free
73.(08c0357):	Circumnominal
74.(08c0413):	circumnominal
75.(08c0416):	free
76.(08c0471):	free
77.(08c0473):	free
78.(090070):	circumnominal

	Relativization strategy
79.(090102):	circumnominal
80.(090149):	circumnominal
81.(110001):	circumnominal
82.(110068):	free
83.(120120):	postnominal
84.(120159):	circumnominal
85.(120183):	circumnominal
86.(120204):	circumnominal
87.(120229):	free
88.(120259):	double HN
89.(120272):	circumnominal
90.(130005):	circumnominal
91.(130038):	double HN
92.(130053):	circumnominal
93.(130087):	circumnominal
94.(140006):	circumnominal
95.(140020):	circumnominal
96.(140041):	circumnominal
97.(150011):	circumnominal
98.(150012):	circumnominal
99.(160047):	circumnominal
100.(160054):	free
101.(160074):	cleft
102.(160083):	free
103.(160101):	circumnominal
104.(160168):	circumnominal
105.(160238):	circumnominal
106.(170005):	postnominal
107.(170017):	double HN
108.(170018):	circumnominal

	Relativization strategy
109.(170019):	circumnominal
110.(170020):	circumnominal
111.(180011):	double HN

APPENDIX H: STATUS OF NON-MANUALS of RCs in CORPUS

Browraise: br

Furrowed brows fb

Squint: sq

Headshake: hs

Head-nod: hn

Body lean: bl

	'br'	'fb'	'sq'	'hs'	'hn'	'bl'
1. (010002):			x			
2. (010009):			x	x		
3.(010010):			x			
4.(010011):		x	x			
5.(010016):			x		x	
6.(010026):			x	x		
7.(010028):	x		x			
8.(010049):			x			
9.(010052):			x		x	
10.(010054):			x			
11.(010064):			x		x	
12.(010065):			x		x	
13.(010100):			x	x		
14.(010101):			x			
14.(010101)b:						
15.(010102):			x			
16.(010109):			x	x	x	
17.(020036):			x			
18.(020058):			x			
19.(020065):			x	x		
20.(020077):	x		x			
21.(020078):			x	x		

	'br'	'fb'	'sq'	'hs'	'hn'	'bl'
22.(030006):	x					
23.(030009):			x			
23.(030009b):			x		x	
24.(030010):			x			
25.(030020):			x			
26.(030052):			x			
26.(030052)b:	x				x	
26.(030052)c:			x			
27.(030060):			x			
28.(030062):			x			
29.(030064):			x			
30.(030065):			x		x	
31.(030067):			x			
32.(030073):			x			
33.(030086):			x	x		
34.(030087):	x				x	
35.(030112):			x			
36.(040025):	x			x		
37.(050016):			x	x		
38.(060034):			x	x		
39.(070002):			x		x	
40.(070012):			x			
41.(070012b)			x	x		
42.(070019):			x	x		
43.(070022):	x		x			
44.(070035):			x		x	
45.(070106):			x			
46.(070108):			x			

	'br'	'fb'	'sq'	'hs'	'hn'	'bl'
47.(070118):			x	x		
48.(070138):			x			
49.(08a0011):			x		x	
50.(08a0037):	x		x			
51.(08a0108):			x			
52.(08a0109):			x			
53.(08a0110):			x			
54.(08a0175):			x			
55.(08a0182):			x		x	
56.(08a0185):	x		x		x	
57.(08b0196):						
58.(08b0199):			x			
59.(08b0207):	x					
60.(08b0222):			x	x		
61.(08b0229):			x			
62.(08b0242):			x			
63.(08b0255):			x			
64.(08b0270):	x					
65.(08b0274b)a:	x		x			
65.(08b0274b) b:			x			
66.(08b0289):			x			
66.(08b0289)b:						
66.(08b0289):	x					
67.(08b0295):			x			
68.(08b0298):			x			
69.(08c0326):			x			
70.(08c0340):			x			
71.(08c0342):			x			
71.(08c0342b):			x			

	'br'	'fb'	'sq'	'hs'	'hn'	'bl'
72.(08c0344):			x			
73.(08c0357):	x			x		
74.(08c0413):			x	x		
75.(08c0416):			x	x		
76.(08c0471):	x			x		
77.(08c0473):	x					
78.(090070):			x			
79.(090102):			x			
80.(090149):			x			
81.(110001):			x			
82.(110068):						
83.(120120):	x		x	x		
84.(120159):			x			
85.(120183):			x			
86.(120204):	x					
87.(120229):			x	x		
88.(120259):	x		x			x
89.(120272):			x	x		
90.(130005):			x			
91.(130038):			x			
92.(130053):			x	x		
93.(130087):			x	x		x
94.(140006):			x			
95.(140020):			x	x		
96.(140041):			x			
97.(150011):			x			
98.(150012):			x			
99.(160047):			x			
100.(160054):			x			
101.(160074):			x			

	'br'	'fb'	'sq'	'hs'	'hn'	'bl'
102.(160083):			x			
103.(160101):			x			
104.(160168):			x	x		
105.(160238):			x	x		
106.(170005):			x			
107.(170017):			x			
108.(170018):			x			
109.(170019):	x				x	
110.(170020):			x			
111.(180011):	x		x	x		

APPENDIX I: THE USE of RELATIVE ELEMENTS in RCs in CORPUS

	Initial IX	embedded IX	Final IX	Theme/Pointer buoy	AYNI 'SAME'
1. (010002):			1		1
2. (010009):					
3.(010010):			1		1
4.(010011):					1
5.(010016):			1		
6.(010026):			1		1
7.(010028):			1		1
8.(010049):		1			
9.(010052):					
10.(010054):			1		
11.(010064):	1	1	1		1
12.(010065):	1		1		
13.(010100):					1
14.(010101)b:			1		1
14.(010101):			1		
15.(010102):					
16.(010109):					
17.(020036):			1		
18.(020058):			1	Theme	
19.(020065):	1				
20.(020077):	1				
21.(020078):			1(sub.)		
22.(030006):	1(sub.)				
23.(030009):			1		
23.(030009)b:			1		

	Initial IX	embedded IX	Final IX	Theme/Pointer buoy	AYNI 'SAME'
24.(030010):					
25.(030020):			1		
26.(030052):	1				
26.(030052b):	1				
26.(030052)c:	1				
27.(030060):	1				
28.(030062):	1				
29.(030064):					
30.(030065):					
31.(030067):					
32.(030073):	1				
33.(030086):				Pointer	
34.(030087):			1		
35.(030112):					
36.(040025):			1		
37.(050016):					
38.(060034):	1				
39.(070002):					1
40.(070012):					
41.(070012b)					
42.(070019):					
43.(070022):	1		1		
44.(070035):			1		
45.(070106):	1				
46.(070108):					
47.(070118):				Pointer	
48.(070138):	1				
49.(08a0011):			1		
50.(08a0037):			1		

	Initial IX	embedded IX	Final IX	Theme/Pointer buoy	AYNI 'SAME'
51.(08a0108):					
52.(08a0109):			1		
53.(08a0110):			1		
54.(08a0175):			1		
55.(08a0182):					1
56.(08a0185):		1	1		
57.(08b0196):					
58.(08b0199):					
59.(08b0207):			1		
60.(08b0222):					
61.(08b0229):					
62.(08b0242):	1		1		
63.(08b0255):	1		1		
64.(08b0270):					
65.(08b0274b) a:			1		
65.(08b0274b) b:			1		
66.(08b0289):	1		1		
66.(08b0289c) a:			1		
66.(08b0289) b:					
67.(08b0295):			1		
68.(08b0298):					
69.(08c0326):					
70.(08c0340):			covert		
71.(08c0342):					
71.(08c0342)b					

	Initial IX	embedded IX	Final IX	Theme/Pointer buoy	AYNI 'SAME'
72.(08c0344):			1		
73.(08c0357):	1		1(sub.)		
74.(08c0413):					
75.(08c0416):			1		
76.(08c0471):			1		
77.(08c0473):	1		1		
78.(090070):		1			
79.(090102):			1		
80.(090149):	1		1		
81.(110001):			1		
82.(110068):			1		
83.(120120):					
84.(120159):			1		
85.(120183):		1			
86.(120204):	1		1		
87.(120229):					1
88.(120259):					
89.(120272):		1			
90.(130005):					
91.(130038):					
92.(130053):	1				
93.(130087):					
94.(140006):			1		
95.(140020):					
96.(140041):	1		1		
97.(150011):					
98.(150012):		1			
99.(160047):					
100.(160054):			1		

	Initial IX	embedded IX	Final IX	Theme/Pointer buoy	AYNI 'SAME'
101.(160074):			1		
102.(160083):	1			pointer	
	(pointer)				
103.(160101):					1
104.(160168):					
105.(160238):					
106.(170005):			1		
107.(170017):			1		
108.(170018):					
109.(170019):			1		
110.(170020):			1		
111.(180011):					

APPENDIX J: RESTRICTIVITY of RCs in CORPUS

	Relativization strategy	Existence HN	Semantic category	HN type
1. (010002):	circumnominal	yes	restrictive	noun
2. (010009):	circumnominal	yes	restrictive	ordinal
3.(010010):	circumnominal	yes	restrictive	ordinal
4.(010011):	circumnominal	yes	restrictive	pronoun
5.(010016):	circumnominal	yes	restrictive	ordinal
6.(010026):	AS-YOU-KNOW	yes		noun
7.(010028):	circumnominal	yes	restrictive	ordinal
8.(010049):	circumnominal	yes	restrictive	noun
9.(010052):	postnominal	yes	restrictive	noun
10.(010054):	free	no (or pronoun)	restrictive	
11.(010064):	circumnominal	yes	restrictive	noun
12.(010065):	circumnominal	yes	restrictive	noun
13.(010100):	circumnominal	yes	restrictive	noun
14.(010101):	circumnominal cleft	yes yes	restrictive	noun
15.(010102):	circumnominal /postnominal	yes	restrictive	noun
16.(010109):	circumnominal	yes	restrictive	noun
17.(020036):	circumnominal	yes	restrictive	noun
18.(020058):	circumnominal	yes	restrictive	noun
19.(020065):	AS-YOU-KNOW	yes		noun
20.(020077):	circumnominal	yes	restrictive	noun
21.(020078):	AS-YOU-KNOW	yes		noun

	Relativization strategy	Existence HN	Semantic category	HN type
22.(030006):	circumnominal	yes	restrictive	noun
23.(030009):	circumnominal	yes	restrictive	noun
	circumnominal	yes	restrictive	noun
24.(030010):	circumnominal	yes	restrictive	noun
25.(030020):	circumnominal	yes	restrictive	noun
26.(030052):	circumnominal	yes	restrictive	noun
	circumnominal	yes	nonrestrictive	noun
	free	no (or pronoun)	restrictive	
27.(030060):	circumnominal	yes	restrictive	noun
28.(030062):	circumnominal	yes	restrictive	noun
29.(030064):	free	no	restrictive	
30.(030065):	free	no	restrictive	
31.(030067):	circumnominal	yes	restrictive	noun
32.(030073):	circumnominal	yes	restrictive	noun
33.(030086):	circumnominal	yes	restrictive	noun
34.(030087):	circumnominal	yes	restrictive	proper place name
35.(030112):	circumnominal	yes	restrictive	noun
36.(040025):	circumnominal	yes	restrictive	NP
37.(050016):	circumnominal	yes	restrictive	quantifier
38.(060034):	circumnominal	no (or pronoun)	restrictive	
39.(070002):	circumnominal	yes	restrictive	classifier
40.(070012):	circumnominal	yes	nonrestrictive	noun
41.(070012b)	circumnominal	yes	nonrestrictive	noun
42.(070019):	postnominal	yes	nonrestrictive	NP
43.(070022):	circumnominal	yes	restrictive	noun
44.(070035):	circumnominal	yes	restrictive	noun

	Relativization strategy	Existence HN	Semantic category	HN type
45.(070106):	postnominal	yes	nonrestrictive	noun
46.(070108):	free	no	restrictive	
47.(070118):	postnominal	yes	restrictive	noun
48.(070138):	free	no	restrictive	
49.(08a0011):	circumnominal	yes	nonrestrictive	proper noun
50.(08a0037):	circumnominal	yes	restrictive	noun
51.(08a0108):	circumnominal	yes	restrictive	noun
52.(08a0109):	free	no	restrictive	
53.(08a0110):	circumnominal	yes	restrictive	noun
54.(08a0175):	circumnominal	yes	restrictive	NP
55.(08a0182):	free	no	restrictive	
56.(08a0185):	AS-YOU-KNOW	no (or pronoun)		
57.(08b0196):	circumnominal	yes	restrictive	quantifier noun
58.(08b0199):	AS-YOU-KNOW	no (or pronoun)		
59.(08b0207):	free	yes	nonrestrictive	NP
60.(08b0222):	circumnominal	yes	restrictive	noun
61.(08b0229):	circumnominal	yes	restrictive	NP
62.(08b0242):	circumnominal	yes	restrictive	noun
63.(08b0255):	circumnominal	yes	restrictive	noun
64.(08b0270):	circumnominal	yes	restrictive	quantifier
65.(08b0274b):	circumnominal	yes	restrictive	ordinal
	circumnominal	yes	nonrestrictive	proper noun
66.(08b0289):	circumnominal	yes	restrictive	noun
	circumnominal	yes	nonrestrictive	proper place name
	free	no	nonrestrictive	

	Relativization strategy	Existence HN	Semantic category	HN type
67.(08b0295):	free	no	restrictive	
68.(08b0298):	circumnominal	yes	restrictive	noun
69.(08c0326):	circumnominal	yes	restrictive	noun
70.(08c0340):	circumnominal	yes	restrictive	ordinal
71.(08c0342):	free	no	restrictive	
	free	no	restrictive	
72.(08c0344):	free	no	restrictive	
73.(08c0357):	circumnominal	yes	restrictive	noun
74.(08c0413):	circumnominal	yes	restrictive	noun
75.(08c0416):	free	no (or pronoun)	restrictive	
76.(08c0471):	free	no (or pronoun)	restrictive	
77.(08c0473):	free	no (or pronoun)	restrictive	
78.(090070):	circumnominal	yes	restrictive	noun
79.(090102):	circumnominal	yes	restrictive	noun
80.(090149):	circumnominal	yes	restrictive	noun
81.(110001):	circumnominal	yes	restrictive	noun
82.(110068):	free	no (or pronoun)	restrictive	
83.(120120):	postnominal	yes	nonrestrictive	proper noun
84.(120159):	circumnominal	yes	nonrestrictive	proper noun
85.(120183):	circumnominal	yes	nonrestrictive	proper noun
86.(120204):	circumnominal	yes	nonrestrictive	proper noun
87.(120229):	free	no	restrictive	
88.(120259):	circumnominal	yes	restrictive	noun
89.(120272):	circumnominal	yes	restrictive	noun

	Relativization strategy	Existence HN	Semantic category	HN type
90.(130005):	circumnominal	yes	restrictive	noun
91.(130038):	circumnominal	yes	nonrestrictive	noun
92.(130053):	circumnominal	yes	restrictive	noun
93.(130087):	circumnominal	yes	restrictive	noun
94.(140006):	postnominal	yes	restrictive	noun
95.(140020):	circumnominal	yes	restrictive	classifier
96.(140041):	circumnominal	yes	restrictive	noun
97.(150011):	circumnominal	yes	restrictive	noun
98.(150012):	circumnominal	yes	restrictive	noun
99.(160047):	circumnominal	yes	restrictive	noun
100.(160054):	free (?)	yes	nonrestrictive	noun
101.(160074):	cleft	yes		noun
102.(160083):	free	no (or pronoun)	restrictive	
103.(160101):	circumnominal	yes	restrictive	noun
104.(160168):	circumnominal	yes	restrictive	noun
105.(160238):	circumnominal	yes	restrictive	noun
106.(170005):	postnominal	yes	nonrestrictive	noun
107.(170017):	circumnominal	yes	nonrestrictive	noun
108.(170018):	circumnominal	yes	restrictive	quantifier
109.(170019):	circumnominal	yes	restrictive	noun
110.(170020):	circumnominal	yes	restrictive	noun
111.(180011):	circumnominal	yes	nonrestrictive	noun

APPENDIX K: SUBJECT/OBJECT RELATIVIZATION and ANIMACY of HEADS

	HN animacy	S/O relativization
1. (010002):	inanimate	OS
2. (010009):	animate	SS
3.(010010):	animate	SS
4.(010011):	animate	SS
5.(010016):	animate	SS
6.(010026):	inanimate	OO
7.(010028):	animate	SS
8.(010049):	animate	SS
9.(010052):	animate	SS
10.(010054):	animate	OS
11.(010064):	animate	SS
12.(010065):	inanimate	OS
13.(010100):	inanimate	SO
14.(010101):	animate	OS
15.(010102):	animate	SS
16.(010109):	animate	SS
17.(020036):	inanimate	OO
18.(020058):	inanimate	SO
19.(020065):	inanimate	SO
20.(020077):	inanimate	OO
21.(020078):	inanimate	OO
22.(030006):	inanimate	OO
23.(030009):	animate	SO
23.(030009)b:	animate	OO
24.(030010):	inanimate	SO
25.(030020):	inanimate	SO
26.(030052):	animate	SS

	HN animacy	S/O relativization
26.(030052)a:	animate	SS
26.(030052)b:	animate	SS
27.(030060):	animate	OS
28.(030062):	animate	OS
29.(030064):	animate	SO
30.(030065):	animate	SO
31.(030067):	animate	OS
32.(030073):	inanimate	OS
33.(030086):	animate	SO
34.(030087):	inanimate	OO
35.(030112):	animate	SS
36.(040025):	animate	OO
37.(050016):	animate	SS
38.(060034):	animate	OS
39.(070002):	inanimate	OS
40.(070012):	inanimate	OS
41.(070012b)	inanimate	OO
42.(070019):	inanimate	OS
43.(070022):	inanimate	SO
44.(070035):	inanimate	OS
45.(070106):	inanimate	OO
46.(070108):	inanimate	?
47.(070118):	animate	OO
48.(070138):	animate	SS
49.(08a0011):	animate	SS
50.(08a0037):	inanimate	OS
51.(08a0108):	animate	SS
52.(08a0109):	animate	SS
53.(08a0110):	inanimate	OO
54.(08a0175):	inanimate	OO
55.(08a0182):	inanimate	OO
56.(08a0185):	animate	SS
57.(08b0196):	animate	SS

	HN animacy	S/O relativization
58.(08b0199):	animate	OS
59.(08b0207):	animate	OS
60.(08b0222):	animate	OS
61.(08b0229):	animate	SS
62.(08b0242):	animate	OS
63.(08b0255):	animate	SS
64.(08b0270):	animate	SS
65.(08b0274b):	animate	OS
65.(08b0274bb):	animate	SS
66.(08b0289):	animate	OS
66.(08b0289)b:	inanimate	OS
66.(08b0289)c:	animate	OO
67.(08b0295):	inanimate	OO
68.(08b0298):	inanimate	SO
69.(08c0326):	animate	SS
70.(08c0340):	animate	OS
71.(08c0342):	inanimate	OO
71.(08c0342b):	inanimate	OO
72.(08c0344):	animate	SO
73.(08c0357):	animate	OO
74.(08c0413):	animate	SS
75.(08c0416):	inanimate	SO
76.(08c0471):	inanimate	OO
77.(08c0473):	inanimate	OO
78.(090070):	inanimate	OS
79.(090102):	inanimate	OO
80.(090149):	inanimate	OO
81.(110001):	animate	OS
82.(110068):	animate	OO
83.(120120):	inanimate	OS
84.(120159):	animate	SS
85.(120183):	animate	OS
86.(120204):	animate	SS

	HN animacy	S/O relativization
87.(120229):	inanimate	OO
88.(120259):	inanimate	OO
89.(120272):	inanimate	OO
90.(130005):	animate	SS
91.(130038):	inanimate	OS
92.(130053):	animate	SS
93.(130087):	animate	SS
94.(140006):	animate	SS
95.(140020):	inanimate	OO
96.(140041):	animate	SS
97.(150011):	animate	OS
98.(150012):	inanimate	OO
99.(160047):	animate	SS
100.(160054):	animate	SS
101.(160074):	animate	OO
102.(160083):	animate	OO
103.(160101):	inanimate	OO
104.(160168):	animate	SS
105.(160238):	animate	SS
106.(170005):	inanimate	SS
107.(170017):	inanimate	OS
108.(170018):	inanimate	OO
109.(170019):	inanimate	OS
110.(170020):	inanimate	OS
111.(180011):	inanimate	SS

APPENDIX L: DISCOURSE ANALYSIS of RCCs in CORPUS

	Mode of Discourse	Head	Modifying Clause
1. (010002):	Report	Reintroduction	Characterization
2. (010009):	Narrative	Reintroduction	Re-identification
3.(010010):	Narrative	Reintroduction	Re-identification
4.(010011):	Narrative	Reintroduction	Re-identification
5.(010016):	Narrative	Reintroduction	Re-identification
6.(010026):	Narrative	Introduction	Characterization
7.(010028):	Narrative	Reintroduction	Re-identification
8.(010049):	Narrative	Reintroduction	Re-identification
9.(010052):	Narrative	Reintroduction	Re-identification
10.(010054):	Narrative	Reintroduction	Re-identification
11.(010064):	Narrative	Reintroduction	Re-identification
12.(010065):	Narrative	Introduction	Characterization
13.(010100):	Narrative	Reintroduction	Re-identification
14.(010101):	Narrative	Reintroduction	Re-identification
15.(010102):	Narrative	Reintroduction	Re-identification
16.(010109):	Narrative	Reintroduction	Re-identification
17.(020036):	Narrative	Reintroduction	Re-identification
18.(020058):	Narrative	Reintroduction	Re-identification
19.(020065):	Narrative	Reintroduction	Re-identification
20.(020077):	Narrative	Reintroduction	Characterization
21.(020078):	Narrative	Reintroduction	Characterization
22.(030006):	Report	Re-introduction	Characterization
23.(030009):	Narrative	Introduction	Identification
23.(030009)b:	Narrative	Introduction	Identification
24.(030010):	Narrative	Reintroduction	Re-identification
25.(030020):	Narrative	Reintroduction	Re-identification
26.(030052):	Narrative	Introduction	Identification
26.(030052)a:	Narrative	Reintroduction	Re-identification
26.(030052)b:	Narrative	Introduction	Characterization
27.(030060):	Narrative	Reintroduction	Re-identification

	Mode of Discourse	Head	Modifying Clause
28.(030062):	Narrative	Reintroduction	Re-identification
29.(030064):	Narrative	Reintroduction	Re-identification
30.(030065):	Narrative	Reintroduction	Re-identification
31.(030067):	Narrative	Reintroduction	Re-identification
32.(030073):	Narrative	Reintroduction	Re-identification
33.(030086):	Narrative	Reintroduction	Re-identification
34.(030087):	Narrative	Introduction	Characterization
35.(030112):	Narrative	Introduction	Identification
36.(040025):	Narrative	Reintroduction	Re-identification
37.(050016):	Narrative	Reintroduction	Re-identification
38.(060034):	Narrative	Reintroduction	Re-identification
39.(070002):	Narrative	Introduction	Characterization
40.(070012):	Narrative	Introduction	Characterization
41.(070012b)	Narrative	Introduction	Characterization
42.(070019):	Narrative	Introduction	Characterization
43.(070022):	Narrative	Introduction	Identification
44.(070035):	Narrative	Reintroduction	Identification
45.(070106):	Narrative	Introduction	Identification
46.(070108):	Narrative	Introduction	Characterization
47.(070118):	Narrative	Reintroduction	Re-identification
48.(070138):	Report	Introduction	Identification
49.(08a0011):	Narrative	Introduction	Identification
50.(08a0037):	Narrative	Introduction	Characterization
51.(08a0108):	Narrative	Reintroduction	Re-identification
52.(08a0109):	Narrative	Reintroduction	Characterization
53.(08a0110):	Narrative	Reintroduction	Re-identification
54.(08a0175):	Narrative	Reintroduction	Re-identification
55.(08a0182):	Narrative	Reintroduction	Re-identification
56.(08a0185):	Narrative	Reintroduction	Re-identification
57.(08b0196):	Narrative	Reintroduction	Characterization
58.(08b0199):	Narrative	Reintroduction	Re-identification
59.(08b0207):	Narrative	Introduction	Identification
60.(08b0222):	Narrative	Reintroduction	Re-identification

	Mode of Discourse	Head	Modifying Clause
61.(08b0229):	Narrative	Reintroduction	Re-identification
62.(08b0242):	Narrative	Reintroduction	Re-identification
63.(08b0255):	Narrative	Reintroduction	Re-identification
64.(08b0270):	Narrative	Reintroduction	Re-identification
65.(08b0274b):	Narrative	Reintroduction	Re-identification
65.(08b0274b2):	Narrative	Reintroduction	Re-identification
66.(08b0289):	Narrative	Reintroduction	Re-identification
66.(08b0289)b:	Narrative	Reintroduction	Re-identification
66.(08b0289)c:	Narrative	Reintroduction	Re-identification
67.(08b0295):	Narrative	Reintroduction	Re-identification
68.(08b0298):	Narrative	Reintroduction	Re-identification
69.(08c0326):	Narrative	Reintroduction	Re-identification
70.(08c0340):	Narrative	Reintroduction	Re-identification
71.(08c0342):	Narrative	Reintroduction	Re-identification
71.(08c0342b):	Narrative	Reintroduction	Re-identification
72.(08c0344):	Narrative	Reintroduction	Re-identification
73.(08c0357):	Narrative	Reintroduction	Re-identification
74.(08c0413):	Narrative	Reintroduction	Re-identification
75.(08c0416):	Narrative	Reintroduction	Re-identification
76.(08c0471):	Narrative	Reintroduction	Re-identification
77.(08c0473):	Narrative	Introduction	Characterization
78.(090070):	Argument	Reintroduction	Characterization
79.(090102):	Argument	Introduction	Characterization
80.(090149):	Argument	Introduction	Identification
81.(110001):	Report	Introduction	Identification
82.(110068):	Narrative	Reintroduction	Re-identification
83.(120120):	Narrative	Reintroduction	Re-identification
84.(120159):	Narrative	Reintroduction	Re-identification
85.(120183):	Narrative	Reintroduction	Re-identification
86.(120204):	Narrative	Reintroduction	Re-identification
87.(120229):	Narrative	Reintroduction	Re-identification
88.(120259):	Narrative	Reintroduction	Re-identification
89.(120272):	Narrative	Reintroduction	Re-identification

	Mode of Discourse	Head	Modifying Clause
90.(130005):	Narrative	Introduction	Identification
91.(130038):	Narrative	Introduction	Identification
92.(130053):	Narrative	Reintroduction	Re-identification
93.(130087):	Narrative	Reintroduction	Re-identification
94.(140006):	Narrative	Introduction	Identification
95.(140020):	Narrative	Reintroduction	Re-identification
96.(140041):	Narrative	Reintroduction	Re-identification
97.(150011):	Narrative	Reintroduction	Identification
98.(150012):	Narrative	Reintroduction	Re-identification
99.(160047):	Narrative	Reintroduction	Re-identification
100.(160054):	Narrative	Reintroduction	Re-identification
101.(160074):	Narrative	Reintroduction	Re-identification
102.(160083):	Narrative	Reintroduction	Re-identification
103.(160101):	Narrative	Reintroduction	Re-identification
104.(160168):	Narrative	Reintroduction	Re-identification
105.(160238):	Narrative	Reintroduction	Re-identification
106.(170005):	Information	Introduction	Characterization
107.(170017):	Information	Introduction	Characterization
108.(170018):	Information	Introduction	Characterization
109.(170019):	Information	Introduction	Characterization
110.(170020):	Information	Introduction	Characterization
111.(180011):	Information	Introduction	Characterization

APPENDIX M: SUMMARY of DISSERTATION in GERMAN

RELATIVSATZKONSTRUKTIONEN IN DER TÜRKISCHEN GEBÄRDENSPRACHE (TİD)

1. Umriss der Forschungsarbeit und Aufbau der Dissertation

Diese Dissertation beschäftigt sich in erster Linie mit Relativsatzkonstruktionen (*relative clause constructions;* RCCs) in der Türkischen Gebärdensprache (*Türk İşaret Dili*; TİD). Untersucht wurden die unterschiedlichen Strategien, mithilfe derer Relativsatzkonstruktionen in der TİD realisiert werden – sowohl in Hinblick auf die linguistischen Eigenschaften dieser Strategien als auch auf die spezifischen Strategien innerhalb unterschiedlicher Diskursmodi. Unterschieden wurden hierbei narrative, deskriptive und informative Texte sowie Texte, die aus der Perspektive des Hier und Jetzt des Narrators von Ereignissen berichten (vgl. *Discourse modes* nach Smith 2003: *narrative*, *descriptive*, *information* und *report*[42]). Hierfür wurde ein kleines Sprachkorpus erstellt, anhand dessen sich sowohl Erscheinungsformen von RCCs in ihrer linguistischen Ausprägung untersuchen lassen als auch die Auswahl dieser Erscheinungsformen je nach Diskursmodus. Hierbei ist jedoch anzumerken, dass die Verteilung der Diskursmodi über das Korpus hinweg nicht gleichmäßig waren, wodurch die Analyse der narrativen Textteile deutlich stärkeres Gewicht hat.

Diese Dissertation ist folgendermaßen aufgebaut: Kapitel 2 stellt der/m Leser/in die Gemeinschaft der tauben Menschen in der Türkei vor und umreißt die Grammatik der TİD. Kapitel 3 liefert einen Überblick über Relativsatzkonstruktionen in unterschiedlichen Laut- und Gebärdensprachen. In Kapitel 4 werden die Methodik einschließlich der Annotationsrichtlinien dargelegt sowie manuelle und nonmanuelle Elemente von Gebärdensprachen erläutert. Kapitel 5 beschreibt die aus dem Sprachkorpus herausgefilterten RCCs in Hinblick auf ihre linguistischen Eigenschaften, während sie wiederum in Kapitel 6 auf der Diskursebene betrachtet werden. Hierfür bildet die *Segmented Discourse Representation Theory* (SDRT; Asher & Lescarides 2003) den theoretischen

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[42] Smith (2003) führt außerdem als fünften Modus den argumentativen an, der jedoch im hier untersuchten Korpus nicht vorkam und deshalb nicht weiter ausgeführt wird.

Rahmen. Kapitel 7 schließt die Dissertation ab, indem es die Ergebnisse noch einmal zusammenfasst und reflektiert sowie Beschränkungen und mögliche zukünftige Forschungsfragen in diesem Gebiet reflektiert.

2. Einführung in die Türkische Gebärdensprache und die Gemeinschaft der tauben Menschen in der Türkei

Die Türkische Gebärdensprache ist die meistgenutzte Sprache der tauben Menschen in der Türkei. Seit Beginn des 21. Jahrhunderts hat das Interesse an den linguistischen Strukturen der TİD enorm zugenommen. Arık (2013) liefert einen aktuellen und detaillierten Überblick über die Erforschung der TİD in den letzten fünfzehn Jahren.

2.1. Historische, soziolinguistische und politische Aspekte der TİD

TİD ist die meistgenutzte Sprache der Gemeinschaft der tauben Menschen in der Türkei, wobei die genaue Anzahl der *native signers* nicht bekannt ist. Sie ist in Unterabschnitt 5378 des am 1. Juli 2005 in Kraft getretenen Behinderungsgesetzes genannt („Gesetz zur Änderung des Behindertengesetzes und einige Gesetze und Verordnungen für rechtliche Entscheidungen" / „*Özürlüler ve Bazi Kanun ve Kanun Hükmünde Kararnamelerde Değişiklik Yapilmasi Hakkinda Kanun*"), was eines der Haupthindernisse für die Nutzung von TİD an türkischen Gehörlosenschulen beseitigte (Kubus 2010). Im April 2006 wurde die Verordnung über die „Festlegung der Methoden und Grundlagen der Struktur und der Umsetzung des Türkischen Gebärdensprach-Systems" / „*Türk İşaret Dili Sisteminin Oluşturulmasi Ve Uygulanmasina Yönelik Usul Ve Esaslarin Belirlenmesine İlişkin Yönetmelik*" erlassen. Diese Verordnung umfasst sowohl die Implementierung der Türkischen Gebärdensprache in die Gehörlosenbildung als auch die Ausbildung von Dolmetscher/innen und Lehrer/innen für Türkische Gebärdensprache. Die Wissenschaftliche Kommission zur Genehmigung der Türkischen Gebär- densprache (*Türk İşaret Dili Bilim ve Onay Kurulu* / *TİDBO*) bildet das verbindende Organ zwischen unterschiedlichen Ministerien und Organisationen, deren Zuständigkeitsbereiche im Zusammenhang mit TİD stehen.

Hier sei auf Kubus, İlkbaşaran und Gilchrist (im Erscheinen) verwiesen, die einen aktuellen Überblick über die Sprachplanung in der Türkei liefern.

2.2. Grammatikalischer Umriss der TİD und Literaturüberblick

Um auch LeserInnen die komplexeren grammatikalischen Strukturen der TİD nahebringen zu können, die nicht mit dieser und/oder anderen Gebärdensprachen vertraut sind, soll zunächst ein Umriss der Grammatik vorgenommen werden, der sich auf Alphabet, Phonologie, Morphologie und Syntax konzentriert.

Das Alphabet der TİD nutzt ein zweihändiges System (Kubus 2008; Kubus & Hohenberger 2011), im Gegensatz zu Fingeralphabetsystemen vieler anderer Gebärdensprachen, die einhändig ausgeführt werden, wie bspw. die der *American Sign Language* (ASL) und der Deutschen Gebärdensprache (DGS).

Gebärdensprachen beinhalten unterschiedliche phonologische Parameter, die als kleinste bedeutungsunterscheidende Untereinheiten von einzelnen Gebärden betrachtet werden (vgl. Stokoe 1960). Solche Parameter sind die Handform, Handflächenorientierung, Bewegung, Lokation und nonmanuellen Merkmale von Gebärden (vgl. Sandler & Lillo-Martin 2006). Diese Einteilung trifft ebenfalls auf die Türkische Gebärdensprache zu (Kubus 2008).

Gebärdensprachen nutzen auch morphologische Konstruktionen und Prozesse, unter anderem Flexion und Derivation (vgl. Sandler & Lillo-Martin 2006). Nur eine bestimmte Gruppe von Nomen der TİD kann flektiert werden, aber selbst diese können nur in Hinblick auf eine grammatikalische Kategorie markiert werden: den Numerus. Einige Verbgruppen der TİD jedoch weisen eine reiche Vielfalt an Flexionsmöglichkeiten auf, ebenso wie es bei Verbgruppen anderer bisher dokumentierter Gebärdensprachen der Fall ist. Auch Derivationsprozesse wie Kompositabildung, Affigierung und Zahleninkorporation sind in TİD zu beobachten. Genauere Informationen zu den Möglichkeiten und Beschränkungen der Flexion und Derivation in der TİD sind in Kubus (2008) zu finden.

Auch lexikalische Elemente in TİD wurden thematisiert, wobei die Frage, was ein Lexem im Falle von Gebärdensprachen überhaupt ausmacht, schon an sich eine sehr komplizierte Frage ist. Laut Brentari & Padden 2001 kann das Lexikon in der ASL in zwei Gruppen aufgeteilt werden: die der nativen und die der nonnativen Gebärden. Das native Lexikon enthalte die Gebärden, die sich gemäß bestimmter Beschränkungen (z.B. nach Battison 1978) entwickelt haben. Das nonnative Lexikon hingegen enthalte die Gebärden, die durch eine Lautsprache beeinflusst wurden. Das native Lexikon unterteilen sie weiter in das "core" native Lexikon, das konventionalisierte Gebärden umfasst, und das "noncore" native Lexikon, das die Gebärden in sich vereint, die weniger stark lexikalisiert seien und das Potenzial zu starker Produktivität trügen. Auf diesen Typus wird im folgenden Abschnitt eingegangen. Cormier, Quinto-Pozos, Sevcikova & Schembri (2012) bestätigen diese Möglichkeit einer Einteilung für BSL und Auslan, was nahelegt, dass sie auch für TİD einsetzbar sein könnte. Obwohl es bislang keine weitere Forschung über das Lexikon in TİD an sich gibt, sind doch schon einige Vorstöße zu den Übergängen zwischen dem Fingeralphabet und dem Lexikon der TİD unternommen worden, in denen es zu Lexikalisierungsprozessen kommt (z.B. Kubus 2008, Kubus & Hohenberger 2011 und Taşçı 2012, 2013).

Gebärdensprachen verfügen über ein Inventar an Möglichkeiten, um Objekte aus der realen Umwelt auf bildliche, ikonisch motivierte Art und Weise zu repräsentieren. Dieses Inventar setzt sich aus den phonologischen Parametern Handform, Bewegung und Handflächenorientierung zusammen (Emmorey 2003, Sandler & Lillo-Martin 2006). Eines von weiteren ikonisch motivierten Phänomenen sind die Klassifikatorkonstruktionen, die ein crosslinguistisch auftretendes, aber der visuell-gestischen Modalität eigenes Vorkommen zu sein scheinen – näheres zu Klassifikatorkonstruktionen in TİD ist in Zeshan (2002) und Kubus (2008) zu finden. Aufgrund ihrer visuell-räumlichen Modalität nutzen Gebärdensprachen den Raum als Möglichkeit, Inhalte auf räumliche Art und Weise zu realisieren. Diese räumlichen Konstruktionen machen einen überaus bedeutenden Teil von Gebärdensprachen aus und finden Eingang in die meisten linguistischen Ebenen, unter anderem in Phonologie, Morphologie, Syntax und

Diskurs. Formen dieser Realisierung sind unter anderem bei der Beziehung zwischen Gebärdenraum und indexikalischen Zeigegebärden (Britische Gebärdensprache/BSL: Cormier 2012), zeitlichen Referenzen (Amerikanische Gebärdensprache/ASL: Emmorey 2002), lokative Ausdrücke (TİD: Özyürek et al. 2010), Hold-Morphemen (Dänische Gebärdensprache/DT: Engberg-Pedersen 1993), *buoys*/Bojen (ASL: Liddell 2003) zu beobachten. Es ist zu erwarten, dass sich diese Phänomene ebenfalls in der TİD finden lassen.

Sevinç (2006) Analyse der Syntax zeigt, dass es unterschiedliche Möglichkeiten der Wortstellung in TİD gibt. Er bemerkte, dass die Belebtheit beider Argumente und ihre Beziehung zueinander, ihr *agreement*, entscheidende Faktoren für die Realisierung dieser Wortstellung sind. Negationsformen der TİD wurden ebenfalls untersucht, vgl. hierzu Zeshan (2003, 2004, 2006) und Gökgöz (2009, 2011). Açan (2007), Göksel et al. (2009, 2010), Gökgöz & Arık (2011) und Zeshan (2003, 2004, 2006) untersuchten Interrogativsätze in TİD. Weitere komplexe Strukturen wie Topikalisierung, Nutzung von Modalverben, Konditionalsätze, Relativsätze und untergeordnete und eingebettete Satzstrukturen sind Bereiche, die bisher in der TİD nicht oder kaum untersucht wurden.

3. Relativsatzkonstruktionen: Linguistische Typologie

Die Arbeitsdefinition von Relativsatzkonstruktionen, die für diese Dissertation genutzt werden soll, ist die von Branchini (2006, S. 57) formulierte, die wiederum aus der Auseinandersetzung mit de Vries' (2002) und Grosus (2002) Einordnungen hervorging:

(1)

    a. A relative clause is a dependent clause.

    b. A relative clause is connected to the matrix clause by a syntactically and semantically shared pivotal element. Such pivot can be overtly realized in either one of the two clauses, in both of them or in neither one of them.

Im dritten Kapitel wird zunächst unter 3.1 eine Übersicht über die unterschiedlichen Relativierungsstrategien in gesprochenen Sprachen gegeben. In 3.2 wird untersucht, inwieweit sich Relativsätze in die Discourse Representation Theory (Kamp & Reyle 1993) einfügen. Unterkapitel 3.3 stellt RCCs aus unterschiedlichen Gebärdensprachen vor und erörtert, ob sie sprachspezifisch unterschiedlich gebildet werden oder ob maßgeblich die Modalität den Aufbau bestimmt.

3.1. Typologie von RCCs

Relativsatzkonstruktionen lassen sich in Hinblick auf unterschiedlichste Aspekte untersuchen. Diese Dissertation konzentriert sich hauptsächlich auf drei Betrachtungsschwerpunkte, die auch in Andrews' (2007) und de Vries' (2002) Auflistungen von Kategorisierungsmöglichkeiten vorkommen:

(2)

        a. Syntaktische Klassifizierung

        b. Semantische Klassifizierung

        c. Umgang mit NP_{rel}[43]

3.1.1. Syntaktische Klassifizierung von RCCs

RCCs lassen sich in zwei Unterkategorien aufteilen – in die der Konstruktionen mit eingebetteten *relative clauses*/RCs (Andrews 1985) und die mit angeschlossenen RCs (Halle 1976, zitiert in Andrews 2007).

Es gibt in der Gruppe der Konstruktionen mit eingebetteten RCs wiederum drei Unterkategorien: Kopf-interne, Kopf-externe und freie RCs. Bei Kopf-externen RCs liegt das Kopfnomen außerhalb des Relativnebensatzes. Wenn es sich vor dem Relativnebensatz befindet, wird dies als postnominale Stellung bezeichnet, steht es hinter dem Relativnebensatz, als pränominale Stellung. Bei

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[43] Andrews (2007) unterscheidet zwischen der Nominalphrase (NP) des Matrixsatzes (NP_{mat}), die er kursiv hervorhebt, und der NP des Relativsatzes (NPrel). Den Relativsatz (S_{rel}) setzt er in Klammern. In dem Satz „*Somebody* lives nearby [who has a CD-burner]" (Andrews 2007, S. 206) ist NP_{mat} „somebody" und NPrel „who".

Kopf-internen RCs, auch zirkumnominale RCs genannt, befindet sich das Kopfnomen innerhalb des Relativnebensatzes. Im Gegensatz zu diesen Satztypen verfügen freie RCs über kein Kopfnomen.

Bei angeschlossenen RCs, also korrelativen oder extraponierten RCs, ist der Relativnebensatz nicht vom Matrixsatz umschlossen; sie sind also nicht eingebettet. Bhatt (2005b) beschreibt den Unterschied zwischen korrelativen und eingebetteten RCs: In korrelativen Konstruktionen benötigt der Hauptsatz ein Demonstrativpronomen, deren Einsatz bei eingebetteten RCs nicht möglich ist.

3.1.2. Semantische Klassifizierung von RCCs

In Bezug auf die semantische Struktur sollen drei Haupttypen von RCCs vorgestellt werden: appositive, restriktive und maximalisierende RCCs. Grosu & Landman (1998) schlagen vor, unterschiedliche semantische Strukturen von RCs auf einem Spektrum anzuordnen (Grosu & Landman 1998, S.126):

(3)

Simplex XPs – Appositives – Restrictives – Maximalizers – Simplex CPs
1   2   3   4   5

Auf diesem Spektrum besitzen Simplex XPs kein realisiertes relativierendes Material, also kein internes Material, und Simplex CPs sind keine Relativsatzkonstruktionen und besitzen somit kein externes Material.

Appositive und restriktive RCCs können externe Materialien aufweisen, so lässt sich bspw. der Inhalt des Kopfnomens aus dem Inhalt des Relativsatzes ableiten. Der wichtige Unterschied zwischen appositiven und restriktiven Formen ist jedoch, dass in den appositiven dem Kopfnomen eine zentralere Rolle zukommt als dem Relativsatz. In restriktiven Formen sind sowohl externes (hier: Kopfnomen oder Antezedent) als auch internes Material (Relativnebensatz) essentiell. Deshalb stehen die restriktiven RCs in der Mitte des Spektrums. In maximalisierenden Strukturen, der später hinzugefügten Gruppierung, ist das

interne Material im Gegensatz zu appositiven und restriktiven Formen der entscheidendste Bestandteil.

3.1.3. Der Umgang mit NP_{rel}

Andrews (2007) liefert einen Überblick über die Strategien, die im Umgang mit NP_{rel} in RCs beobachten werden können: Markierung, Reduktion zu einem Pronomen, Bewegung, Omission/Weglassung und NP_{rel} als Full NP. Relativpronomen wie bspw. „who" im Englischen sind eine Möglichkeit, NP_{rel} zu markieren. In einigen Fällen kann NP_{rel} auf ein gewöhnliches Personalpronomen reduziert werden (bspw. genutzt im Hebräischen, Keenan 1985). Eine weitere Strategie ist die Bewegung von NP_{rel} an die am weitesten links oder am weitesten rechts gelegene Position im Relativsatz (ebenfalls genutzt im Hebräischen, Borer 1984). Bei der Strategie der Omission hingegen, die auch als *gap strategy* bezeichnet wird, gibt es kein Element, das NP_{rel} repräsentiert. Bei der letzten Strategie, NP_{rel} als Full NP, besitzt der Relativsatz selbst Nominalstatus (genutzt im Tibetanischen, Keenan 1985).

Zusätzlich zu Andrews' Einteilung liefert de Vries (2002) einen Überblick über Relativelemente: Relativpronomen, relative Komplementierer / *Complementizer,* relative Marker, relative Affixe und resumptive Pronomen. „Who" als Relativpronomen im Englischen ist ein Beispiel für die erste Kategorie. Das persische „ke" ist ein Beispiel für das Relativelement des Komplememtierers. Die dritte Kategorie der relativen Marker kann eine Kongruenz mit dem Kopfnomen aufweisen. Relative Affixe werden bspw. an Verben angefügt, um Relativierung anzuzeigen. Resumptive Pronomen sind Demonstrativ- oder Personalpronomen, die sich bei korrelativen Strukturen üblicherweise im Hauptsatz befinden und Referenzen zum Relativsatz anzeigen.

3.2. RCCs in der Discourse Representation Theory (DRT, Kamp & Reyle, 1993)

Für die Untersuchung der semantischen Repräsentationen innerhalb von RCCs ist es hilfreich, einen Theorierahmen hinzuzuziehen, der die unterschiedlichen Interpretationsmöglichkeiten von Satzgefügen sichtbar macht.

Die *Discourse Representation Theory*, die auf der wegweisenden Arbeit von Kamp (1981) aufbaut und von Kamp & Reyle (1993) weiterentwickelt wurde, wurde für diese Arbeit ausgewählt, um RCCs zu repräsentieren. DRT arbeit mit einer zweistufigen Strategie: zuerst werden *Discourse Representation Structures* (DRS) konstruiert und dann die Interpretationsmöglichkeiten, die aus diesen DRS hervorgehen. Dadurch wiederum wird das Satzsystem mit seinen Zusammenhängen sichtbar gemacht.

3.3. RCCs in Gebärdensprachen

Dieser Abschnitt wirft einen genaueren Blick auf RCCs und ihre Eigenschaften in unterschiedlichen Gebärdensprachen. Die erste Studie zu RCCs in ASL wurde von Liddell (1978) durchgeführt. In der Zwischenzeit wurden auch detaillierte Analysen von RCCs in DGS (Pfau & Steinbach 2005b) und Italienischer Gebärdensprache (LIS; Cecchetto et al. 2006, Branchini 2006, Brunelli 2011) veröffentlicht. 2007 veröffentlichten Perniss, Pfau & Steinbach eine vergleichende Arbeit zu Variationen zwischen unterschiedlichen Gebärdensprachen. Ein Ergebnis hierbei war, dass non-manuelle Markierungen in diesen drei Gebärdensprachen ein übliches Mittel zur Kommunikation von RCCs sind, u.a. *raised eyebrows* (S. 21). 2014 veröffentlichte Branchini drei wiederholt auftretende Merkmale von Relativisierungen in Gebärdensprachen: (i) die Existenz und Markierung von nonmanuellen Mitteln in Relativsatzkonstruktionen, (ii) das Auftreten eines (optionalen) Nominalizers and (iii) die Ähnlichkeit der nonmanuellen Mitteln in Fällen von Topikstrukturen und Relativsätzen (S. 172 - 175). Sie betonten allerdings auch, dass die manuell realisierten Elemente, also die syntaktischen Strukturen der RCCs, durchaus unterschiedlich sein können. Zum Beispiel zeigten Pfau & Steinbach (2005), dass DGS möglicherweise Kopf-externe RCCs präferiert. Es kann also vermutet werden, dass sich die Relativierungsstrategien in den oben genannten Gebärdensprachen sehr unterschiedlich gestalten, was cross-linguistische Studien innerhalb der gebärdensprachlichen Modalität in diesem Bereich weiterhin zu einem fruchtbaren Forschungsbereich macht.

Hier soll ein Überblick über Relativsätze in Gebärdensprachen in Hinblick auf ihre Relativierungsstrategien, Relativelemente, Stellung der RCCs und begleitende non-manuelle Marker gegeben werden. Es muss jedoch darauf hingewiesen werden, dass die unterschiedlichen Studien natürlich mit unterschiedlichen Herangehensweisen und teilweise auch unterschiedlichen Kategorien gearbeitet haben. Die Gegenüberstellung der Ergebnisse ist entsprechend in diesem Wissen zu betrachten. Die Abkürzung „n.d." weist darauf hin, dass ein Bereich in der jeweiligen Studie nicht dokumentiert wurde. Man muss sich bewusst darüber bleiben, dass Ergebnisse, die aus Forschungsvorhaben mit unterschiedlicher Methodik stammen, unter Umständen nicht vergleichbar sein können. Für konkrete Vergleiche bräuchte man eine größere Datenmenge zu unterschiedlichen Gebärdensprachen unter Heranziehung einer deckungsgleicheren Methodik.

Drei Relativierungsstrategiem wurden bisher beobachtet: Kopf-externe (EHRCs), Kopf-interne (IHRCs) und korrelative Strukturen. Die großen Ähnlichkeiten, die zwischen IHRCs und korrelativen RCs bestehen, bringen jedoch auch Herausforderungen für die Analyse mit sich. So konnten Branchini & Donati (2009) und Brunelli (2011) zeigen, dass die (kor)relativen Strukturen, die Cecchetto et al. (2006) meinten, in LIS festgestellt zu haben, tatsächlich IHRCs sind. Deshalb ist die Analyse der korrelativen Strukturen in Tabelle 1 mit einem Fragezeichen versehen. Ähnlich verhält es sich bei Galloway (2011), die das Auftreten von korrelativen Strukturen in ASL statuierte, jedoch in ihrer Studie nicht deutlich machte, wie sie genau IHRCs von diesen abgegrenzt hat. Wenn wir davon ausgehen, dass diese Strukturen tatsächlich wie im obigen Beispiel IHRCs waren, bleiben zwei Hauptstrategien, derer sich Gebärdensprachen bedienen: EHRCs und IHRCs. Interessanterweise wurden keine Vorkommen von pränominalen EHRCs dokumentiert – postnominale EHRCs werden offenbar präferiert, so wie es für DGS (Pfau & Steinbach 2005b), Brasilianische Gebärdensprache (LIBRAS; Nunes & Quadros 2004) und Niederländische Gebärdensprache (NGT; Brunelli 2011) ebenfalls dokumentiert wurde. Brunelli (2011) allerdings führte auch aus, dass einige appositive Strukturen in der LIS

postnominale EHRC-Strukturen aufwiesen, analysiere man die non-manuellen Marker separat und betrachte den *brow raise* als Topikalisierungsmarker und *tensed eyes/cheeks* als Marker für Restriktivität. Analog stellten Sandler (2011) und Dachkovsky & Sandler (2009) Überlegungen dazu an, dass *brow raise* nicht unbedingt ein Marker für restriktive Relativsätze in der Israelischen Gebärdensprache (ISL) sein müsse. Die Beziehung zwischen Relativierungsstrategien und (Non-)Restriktivität sollte nicht missachtet werden, da bspw. appositive Relativsätze EHRC-Konstruktionen präferieren, während restriktive Relativsätze im allgemeinen Kopf-intern aufgebaut sind. Wenn die Korrelationen zwischen den Typen von Relativsätzen und ihren semantischen Klassifizierungen als korrekt angenommen werden, ergibt sich ein Bild wie in Tabelle 1 dargestellt. Hier sehen wir bspw., dass postnominale RCs auch non-restriktive Konstruktionen zulassen (siehe hierzu de Vries 2002). DGS scheint keine Kopf-internen Relativsätze aufzuweisen. Die hohe Frequenz an IHRCs in den anderen untersuchten Gebärdensprachen lässt jedoch die Vermutung zu, dass auch in DGS die zirkumnomiale Strategie zu finden gefunden werden könnte. Um dies zu bestätigen, wäre jedoch weitere Forschung und eine größere Datenmenge notwendig.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
Postnominal	+	+	-/+	+	-	n.d.	+?	+
Pränominal	-	-	-	n.d.	-	n.d.	n.d.	n.d.
Zirkumnominal	+	-	+	+	+	+	+?	n.d.
Korrelativ	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.

Tabelle 1 – Gebärdensprachen und ihre primären Relativierungsstrategien[44]

Tabelle 2 führt auf, welche Relativelemente bisher für unterschiedliche Gebärdensprachen dokumentiert wurden. Hier werden relative Partikeln (relative Komplementierer, Relativmarker und Relativaffixe) nicht aufgeführt, weil sie

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[44] LSC = Katalanische Gebärdensprache
HKSL = Hongkong Gebärdensprache

offenbar nicht auftreten. Aus Tabelle 1 lässt sich entnehmen, dass in DGS mit ihren postnominalen EHRCs das Vorkommen von Relativpronomen nachweisbar ist, wobei die Entscheidung, welches Relativpronomen gewählt wird, offenbar davon abhängt, ob das Kopfnomen eine menschliche oder nicht-menschliche Entität bezeichnet (Pfau & Steinbach 2005b). In den anderen Sprachen, die postnominale Kopf-externe RCs produzieren, scheint es keine obligatorischen Relativpronomen zu geben; Cecchetto et al. (2006) jedoch merken in ihrer korrelativen Analyse von LIS an, dass (kor)relative Strukturen Relativpronomen beinhalten können. Branchini (2006) und Branchini & Donati (2009) bringen hingegen an, dass PE-Gebärden obligatorische, Determinativen ähnliche Elemente in RCCs seien. Auch ASL verfügt über die Relativkonjunktion THAT (Liddell 1978), die als Determinativ fungiert. Galloway (2011) weist auch darauf hin, dass ASL möglicherweise außerdem resumptive Pronomen und spezielle Elemente einsetzt, wie SELF. Mosella Sanz (2011) beschreibt den Nominalisator MATEIX in LSC. Analog nutzt HKSL den Index (IX) zu Beginn und Ende des Relativsatzes (Tang et al., 2010). Bis auf DGS können alle dokumentierten Sprachen eine Zero-Strategie für die Konstruktion von Relativsätzen nutzen.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
Relativ-pronomen	n.d.	+	-/+	n.d.	-	n.d.	n.d.	n.d.
Resumptive Pronomen	+?	-	+?	n.d.	-	n.d.	n.d.	n.d.
Zero-Strategie	+	-	+	+	+	n.d.	+	+
Spezielle Elemente	THAT	n.d.	PE	n.d.	MATEIX	IX	n.d.	n.d.

Tabelle 2 – Der Einsatz von Relativelementen in unterschiedlichen Gebärdensprachen

Auch die Position des Relativsatzes innerhalb des Satzgefüges wird in unterschiedlichen Gebärdensprachen auf verschiedene Weisen realisiert (s. Tabelle 3). Postnominale EHRCs kommen mitunter in situ vor, während Kopf-interne RCs eine Positionierung des Relativnebensatzes und Kopfnomens vor dem Matrixsatz präferieren (*fronted*), wie in LIS und LSC. Branchini et al. (2007) und Mosella Sanz (2011) zeigten jedoch auch auf, dass die nachgestellte Positionierung des Relativnebensatzes (*extraposed*/*postposed*) in LIS und LSC zu beobachten sind, allerdings scheine dies nicht die präferierte Form zu sein.

	ASL	DGS	LIS	LIBRAS	LSC	HKSL	ISL	NGT
In situ	EHRC	+	-/+	+	-	+	EHRC	+
Fronted	IHRC	+	+	n.d.	+	+	IHRC	n.d.
Extraposed /*postposed*	?	+	+	n.d.	+	n.d.	n.d.	n.d.

Tabelle 3 – Positionierung des Relativsatzes in unterschiedlichen Gebärdensprachen

Tabelle 4 fasst zusammen, welche nonmanuellen Marker Relativsätze begleiten. LIBRAS ist hier nicht aufgeführt, weil die nonmanuellen Marker für diesen Satztypen für diese Sprache noch nicht dokumentiert worden sind. Das Merkmal der hochgezogenen Augenbrauen/*brow raise* scheint im allgemeinen ein vielgenutztes Element zu sein, es kommt jedoch nicht in ISL vor. Dachkovsky und Sandler (2009) stellten jedoch fest, dass in ISL Relativsätze ohne *squint* durch den *brow raise* begleitet würden. Brunelli (2011) vermutete, dass der *brow raise* in LIS Topikalisierung markiere, während Restriktivität durch *tensed eyes/cheeks* angezeigt werde. Anders als in DGS sind in LSC, HKSL und NGT *tensed lips*, *tensed cheeks*, *tensed eyes* oder *squint* die am häufigsten zu beobachtenden nonmanuellen Merkmale von Relativsätzen. Meiner Meinung nach weisen diese vier nonmanuellen Marker große Ähnlichkeiten auf und alle vier hängen eng mit der Markierung bereits bekannter Referenzentitäten zusammen (*shared information*, s. Dachkovsky & Sandler 2009). Kopf- und Körperhaltung können

ebenfalls wichtige nonmanuelle Marker sein, sie werden jedoch nicht gebärdensprachübergreifend genutzt. Des Weiteren scheint es teilweise unterschiedliche Marker für appositive Strukturen und EHRCs zu geben, wie bspw. in DGS (Brunelli 2011).

	ASL	DGS	LIS	LSC	HKSL	ISL	NGT
Eyebrow raise	+	+	+	+	+	?	+
Tensed lips	+					+	
Tensed cheeks			+				
Tensed eyes / Squint			+	+		+	
Back head tilt	+						
Head forward					+	+	
Body lean		+		+			

Tabelle 4 – Nonmanuelle Marker (nicht-)restriktiver Relativsätze[45]

4. Methodik

Dieses Kapitel beschreibt, wie durch Datensammlung und –annotation ein kleines Korpus geschaffen wurde, um zu überprüfen, wie Relativsätze in unterschiedlichen Diskursmodi realisiert werden.

4.1. Datensammlung

Die Datensammlung, die für die Erstellung dieser Dissertation genutzt wurden, wurde durch Elizitation von Sprachmaterial und Nutzung von öffentlich zugänglichen Videos erstellt. Durch Elizitation wurden die gebärdensprachlichen Texte dreier TİD-kompetenter Personen gesammelt (eine Person *native signer*, zwei *near-native signers*). Die Altersspanne der drei Personen reichte von 32 bis 47 Jahren. Das Sprachmaterial, das durch Elizitation, hier durch das Nacherzählen von Geschichten, entstand, enthielt neun potentielle Relativsätze, was angesichts

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[45] Die freigelassenen Flächen zeigen nicht an, dass die jeweiligen nonmanuellen Elemente für die jeweilige Sprache ausgeschlossen wurden, sondern nur, dass ihre Existenz bisher nicht überprüft wurde.

einer Gesamtlänge von ca. 30 min. deutlich hinter der erwarteten Menge zurückblieb. Um verlässliche Rückschlüsse zu ziehen, bedurfte es einer deutlich größeren Menge an Sprachbeispielen. Deshalb wurden einige Videos hinzugefügt, die gebärdende Personen von sich selbst gemacht und dann im Internet veröffentlicht hatten. Diese Aufnahmen umfassten vor allem monologische Texte und wurden von elf Personen gebärdet (sechs weiblich, fünf männlich). Insgesamt besteht die Datensammlung aus 21 Filmen mit einer Gesamtlänge von ca. drei Stunden.

4.2. Annotation der Daten

Biber et al. (2007, S. 2) stellten fest, dass Korpuslinguistik immer auch eine From von Diskursanalyse ist, weil sie die Funktionen bestimmter linguistischer Konstrukte und Elemente in ihren jeweiligen Kontexten untersucht. Laut Biber et al. nehmen korpusbasierte Studien eine von zwei Perspektiven ein – sie konzentrieren sich entweder auf die Distribution und Funktion von an der Oberfläche realisierten linguistischen Merkmalen oder auf die interne Organisation von Texten. Sie merkten an, dass überraschenderweise bisher in der Forschung nicht der Versuch unternommen wurde, diese beiden Perspektiven zu kombinieren. Die vorliegende Arbeit ist ein Versuch ebendieser Kombination und der Bewältigung der Herausforderungen, die sich aus dieser neuen Verknüpfung ergeben.

Wie Biber et al. folgt auch diese korpusbasierte Studie zu RCCs in TİD dem *top-down*-Ansatz, wobei zu sagen ist, dass diese Entscheidung aufgrund der gegebenen Modalität auch Schwierigkeiten mit sich bringt und einige Modifikationen vorzunehmen waren. Der Vorteil dieses Ansatzes ist, dass sich nicht nur die Diskursfunktionen von RCCs herausfiltern lassen, sondern anhand der linguistischen Formen auch unterschiedliche Strategien der Bildung von RCCs. Auch eine Analyse der nonmanuellen Elemente, die keine unabhängige linguistische Funktion haben, profitiert wie in dieser Arbeit vom *top down*-Ansatz.

Das Gebärdensprachkorpus wurde in iLex („integrated Lexicon", Hanke 2002) annotiert. iLex ist ein komplexes Programm, mit dem Texte der

gebärdensprachlichen Modalität transkribiert werden können. Annotiert wurde anhand von Merkmalen auf 13 *tiers*/Ebenen (Tabelle 5).

	Label	Funktion
1	Chunks	ID-Nummer des jeweiligen *chunks*
2	MC	Grenzen des Matrixsatzes/*Matrix Clause* (MC)
3	RC	Grenzen des Relativnebensatzes/*Relative Clause* (RC)
4	Token	Glossen der Einzelgebärden von Matrix- und Relativnebensatz
5	INDEX	Markierung des Index' oder anderer Relativelemente
6	NMM-MC	Nonmanuelle Marker des Matrixsatzes (allgemein)
7	NMM-RC1	Nonmanuelle Marker des Relativnebensatzes 1 (*head movements*)
8	NMM-RC2	Nonmanuelle Marker des Relativnebensatzes 1 (*eyebrow*)
9	NMM-RC3	Nonmanuelle Marker des Relativnebensatzes 1 (*squint*)
10	Mouth	Mundbilder/Mundgesten, die RC spezifizieren
11	Chunk Type	Liste der Satztypen (deklarativ, interrogativ, etc.)
12	Tr	Übersetzung ins Türkische als inhaltliches Äquivalent des Relativsatzes
13	Eng	Übersetzung ins Englische als inhaltliches Äquivalent des Relativsatzes

<div align="center">Tabelle 5 - Liste der tiers</div>

Für diese Dissertation wurden nicht alle Gebärden annotiert; nur die *chunks*, die potenzielle RCCs enthielten (n=119), wurden gemäß des *top down*-Ansatzes markiert und dann detailliert betrachtet und annotiert. Es wäre zu zeitaufwändig und nicht zielführend gewesen, alle Elemente der Äußerungen ebenso detailliert zu transkribieren und annotieren, da die Forschungsfragen der Arbeit klar umreißen, was der Fokus dieses Arbeitsschrittes sein muss.

Die Auswertung des Videomaterials in iLex erfolgte in sieben Schritten. Zunächst wurden die Grenzen der Diskursabschnitte/*chunks*, festgelegt. Im zweiten Schritt wurden die Satztypen, die in diesen *chunks* enthalten waren, hinzugefügt und die *chunks*, die potentielle RCCs enthielten, markiert.

Dann wurde für jeden *chunk* eine Token-/Type-Struktur konstruiert, um die potentiellen Relativsätze weiter aufzuschlüsseln. Vor der Festlegung der Grenzen von Matrix- und Relativsätzen wurden die begleitenden nonmanuellen Marker annotiert. Im sechsten Schritt wurden die *chunks*, die die RCCs enthielten, sinngemäß ins Türkische und Englische übersetzt. Im letzten Schritt wurden die Referenzen der RCs festgestellt und ihr Bekanntheitsgrad zum jeweiligen Zeitpunkt der Äußerung, also vor allem, ob die Referenzen bereits eingeführt worden waren oder nicht.

4.3. Forschungsfragen

Diese Dissertation beschäftigt sich mit den folgenden Forschungsfragen:

1. Weisen RCCs in TİD unterschiedliche Relativierungsstrategien auf?
   a. Wie wird die Positionierung des Kopfnomens realisiert?
   b. Welche nonmanuellen Elemente sind bei RCCs in TİD zu beobachten?
      i. Gibt es einen Zusammenhang zwischen bestimmten Gruppen von nonmanuellen Elementen und Relativierungsstrategien in TİD?
   c. Welche Relativelemente nutzt TİD bei der Produktion von RCCs?
   d. Variieren die Positionen von RCs in TİD?
   e. Gibt es einen Zusammenhang zwischen Relativierungsstrategien und dem Belebtheitsgrad des Kopfnomens?
   f. Lassen sich semantische Kategorien für RCCs in TİD finden?

2. Wie werden RCCs in TİD im Diskurs gestaltet?
   a. Welche Funktion haben RCCs im jeweiligen Textabschnitt?
   b. Wie werden die Referenzen zu den Relativnebensätzen hergestellt?

5. Ergebnisse

Dieser Abschnitt analysiert die Positionen des Kopfnomens (*head noun*/HN), also des Nomens oder der Phrase, das bzw. die in dem jeweiligen Satz relativiert wird. Die häufigste Frequenz wiesen Kopfnomen innerhalb der RC auf (n=77), also IHRCs, dies war jedoch nicht die einzige verwendete Strategie. HN wurde in 14 Fällen außerhalb der RC realisiert. Dazu kommen zehn Fälle, in denen zwei Kopfnomen produziert, eines davon innerhalb der RC und das andere außerhalb. In 21 Fällen wurde offenbar kein Kopfnomen produziert. Fünf potenzielle RCCs stellten sich als AS-YOU-KNOW-Konstruktionen heraus und wurden deshalb aus der Gruppe der RCCs entfernt, ebenso wie zwei *Clefts*.

In Tabelle 6 werden die möglichen Relativierungsstrategien in TİD zusammengefasst. Sie umfasst keine AS-YOU-KNOW-Konstruktionen und Clefts. TİD favorisiert offenbar zirkumnominale Relativierungsstrategien; gedoppelte HNs oder Vorkommen von HN außerhalb der RC waren jedoch ebenfalls zu beobachten. TİD neigt nicht dazu, pränominale Strategien zu nutzen.

Relativierungs-strategie	Vorkommen
Zirkumnominal	77
Postnominal	5
Doppeltes HN	9
Kein HN/*Free*	21

Tabelle 6 - Distribution von RCCs

In der Realisierung von RCCs in TİD spielen nonmanuelle Marker eine entscheidende Rolle. Tabelle 7 bildet die jeweiligen Häufigkeiten von nonmanuellen Markern in der untersuchten Datenmenge ab, wobei hier anzumerken ist, dass die korrekte Summe sich erst aus der Auflistung der Fälle ergibt, in denen mehrere Marker in einer einzigen RC vorkamen. *Squint* weist die höchste Frequenz auf, gefolgt von *headshake* und *brow raise*. *Head nod* und *body lean* kommen im Vergleich hierzu relativ selten vor, scheinen aber dennoch

wichtige Funktionen für die Bildung von RCCs zu erfüllen. *Body lean* wurde noch seltener genutzt als *head nod*, wobei hier anzumerken ist, dass den gebärdenden Personen, die sich in Form von veröffentlichten Videoclips äußerten, recht kleine Gebärdenräume zur Verfügung standen und sie möglicherweise mehr *body leans* produziert hätten, wären sie in einer natürlichen Gesprächssituation gewesen. *Furrowed brow* wird hier nicht weiter analysiert, da dieses nonmanuelle Element nur einmal vorkam und dem emotionalen Ausdruck des Textabschnitts zuzurechnen ist.

Nonmanuelle Marker in RCs	Vorkommen
Squint „sq"	103
Headshake „hs"	27
Brow raise „br"	21
Head nod „hn"	15
Body lean „bl"	2
Furrowed brows „fb"	1

Tabelle 7 - Distribution nonmanueller Elemente

Im nächsten Schritt wird dargestellt, ob in TİD Relativelemente genutzt werden, um die RC zu spezifizieren, und, wenn ja, welche Arten von Relativelementen zu beobachten sind. Tabelle 8 listet die im Korpus enthaltenen Vorkommen von potentiellen Relativelementen auf. 41 RCCs wiesen keine overten potentiellen Relativelemente auf. Diese Ergebnisse lassen vermuten, dass die Nutzung von Relativelementen für RCCs in TİD optional ist. Die vorherrschenden Relativelemente sind IX (*index*) und AYNI („dasselbe"). In wenigen Vorkommen fungierten POINTER-Bojen (POINTER *buoys*) als Relativelemente.

Potentielle Relativelemente und Kombinationen	Vorkommen
Kein potentielles Relativelement	41
Clause-final IX	35
Clause-initial IX	13
Clause-initial IX + *Clause-final* IX	9
AYNI	6
Within-clause IX	5
Clause-final IX + AYNI	5
POINTER *buoy*	3
Within-clause IX + *Clause-final* IX	1
Clause-initial IX + *Within-clause* IX + *Clause-final* IX + AYNI	1

Tabelle 8 – Vorkommen potentieller Relativelemente

In diesem Abschnitt wird gezeigt, welche Positionen RCs in TİD einnehmen können (s. Tabelle 9). In 86 Fällen standen die RCs vor der MC, was eine klare Präferenz abbildet. Vorkommen von RCs in oder nach der MC waren ebenfalls zu beobachten, jedoch deutlich seltener.

Reihenfolge der Satzteile	Vorkommen
RC+MC	86
MC+RC+MC	23
MC+RC	8

Tabelle 9 – Positionen der RCCs

Zum Zusammenhang zwischen Relativierungsstrategien und dem Belebtheitsgrad des Kopfnomens ist anzumerken, dass sowohl das Subjekt als auch das Objekt des

Matrixsatzes relativiert werden kann. Hierneo gibt es vier unterschiedliche Möglichkeiten, wobei der erste Buchstabe der Kennzeichnung anzeigt, ob Subjekt oder Objekt relativiert wird, und der zweite die Position des Kopfnomens innerhalb des Relativnebensatzes.

(4)

Subjektrelativierung

SS: *The man who wears red glasses loves the woman.*
SO: *The woman, who(m) the man loves, wears red glasses.*

Objektrelativierung

OS: *The man loves the woman who wears red glasses.*
OO: *The man loves the man who(m) the children love.*

Die Daten zeigen, dass die Relativierung des Subjekts in TİD häufiger vorkommt als die Relativierung des Objekts. Ein Kopf, der belebte Entitäten umfasst, favorisiert Subjektrelativierung (82%), während ein Kopf mit unbelebten Entitäten üblicherweise mit Objektrelativierung (81%) einhergeht.

	SS	OS	SO	OO	Gesamt
Belebt	38	16	5	8	67
Unbelebt	2	15	8	26	51

Tabelle 10 – Beziehung zwischen Belebtheit des Kopfnomens und Subjekt-/Objektrelativierung

Für die semantische Kategorisierung von RCs in TİD, also die Entscheidung, Sätze als restriktiv oder nonrestriktiv einzuordnen, wurden folgende Kriterien, die Branchinis (2006, S. 88-90) Auflistung entnommen wurden, angelegt:

(5)

   a. Restrictive RCs require a non-specific antecedent.

   b. Restrictive RCs form a constituent with their antecedent.

   c. Restrictive RCs are transparent for binding.

In den hier untersuchten Datensätzen wurden 19 nonrestriktive und 93 restriktive RCs identifiziert.

Zusammenfassend lässt sich also feststellen, dass TİD zwei Hauptrelativierungsstrategien für sich nutzt: die zirkumnominale und die postnominale. Diese Konstruktionen enthalten nicht zwingend ein Relativelement, aber sie erfordern den Gebrauch des nonmanuellen Markers *squint*. Je nach Kontext kommen auch andere nonmanuelle Marker wie *brow raise*, *headshake*, *head forward* und *body lean* vor. TİD verzichtet nicht vollständig auf Relativelemente. Ähnlich wie in HKSL (Tang et al. 2010) kann auch in TİD ein *clause-final* IX als nominalisierendes Determinativ eingesetzt werden. Die zirkumnominale Strategie favorisiert deutlich eine *fronted*-Stellung, also die Positionierung des Relativsatzes und Kopfnomens vor dem Matrixsatz, die postnominale Strategie hingegen zieht in situ-Konstruktionen vor.

6. Diskursfunktionen von RCCs in TİD

Dieses Kapitel konzentriert sich auf die Funktionen von Relativsatzkonstruktionen in unterschiedlichen Diskursmodi. Hierfür soll die *Segmented Discourse Representation Theory* (SDRT; Asher & Lascarides 2003) als Theorierahmen dienen. Die Passagen eines Diskurses umfassen kleinere sprachliche Einheiten wie Haupt- und Nebensätze. SDRT stellt eine Möglichkeit dar, die Beziehungen und Verbindungen zwischen diesen kleineren Diskurseinheiten zu untersuchen. Laut Smith (2003) können diese Einheiten fünf Hauptdiskursmodi entstammen, namentlich *narrative*, *description*, *report*, *information* und *argument*. Jeder dieser Modi ist durch bestimmte linguistische Eigenschaften charakterisiert. Smith beschreibt, dass es zwei entscheidende

Faktoren für die Unterscheidung der Diskursmodi gebe: *types of situation* und *principles of text progression* (s. Smith 2003, S. 14)

6.1. Diskursmodi und RCCs

Sätze erfordern Kontext. Erst durch den Kontext wird über den reinen Informationsgehalt eines Satzes hinaus sein Ursprung und seine Absicht klar. Smith (2003) geht davon aus, dass Kontextinformationen uns ermöglichen, warum ein Satz in einer bestimmten Weise konstruiert wurde. Jeder neue Satz, der sich in den Diskurs einreiht, enthält bestimmte Repräsentationsregeln, die ihn in den bisherigen Diskurs und den herrschenden Kontext einbinden. Smith (2003) wurde in ihrer Arbeit von der kontextuellen Repräsentation von Diskurseinheiten inspiriert: der *Discourse Representation Theory* (DRT; Kamp 1981 und Kamp & Reyle 1993).

Wie bereits beschrieben lassen sich Diskursmodi aus Texten herauslesen, wenn man seine sprachlichen Eigenschaften dahingehend untersucht. Texte sind nicht unbedingt nur einem Diskursmodus zuzuordnen; so mag beispielsweise ein narrativer Text auch beschreibende Passagen und Einheiten beinhalten. Die vier Diskursmodi, die in den für diese Studie analysierten Texten vorkamen, *narrative*, *information*, *report* und *argument*, haben RCCs in unterschiedlicher Menge für sich genutzt (s. Tabelle 11), wobei zu sagen ist, dass die narrativen Anteile in der Datenmenge insgesamt auch stark überwogen.
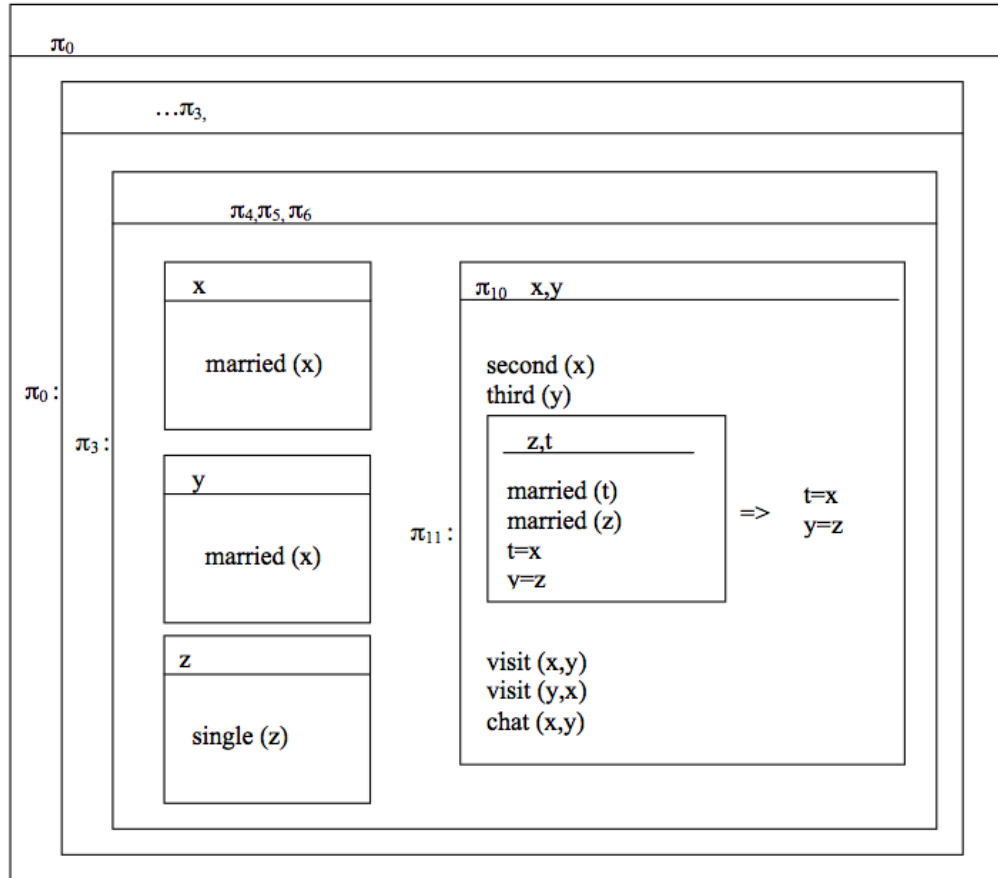
Diskursmodus	Vorkommen RCC
Narrative	105
Information	6
Report	4
Argument	3

Tabelle 11 – Vorkommen von RCCs in unterschiedlichen Diskursmodi

6.2. Segmented Discourse Representation Theory (Asher & Lascarides 2003)

Die *Segmented Discourse Representation Theory* ist ein Theorierahmen, um Strukturen wie Anaphern und andere semantisch ambige Gebilde zu analysieren. Sie wurde aus der *Discourse Representation Theory* (DRT; Kamp & Reyle 1993) entwickelt. SDRT bietet eine Möglichkeit, die Beziehungen zwischen den Referenten abzubilden, wie die zweite und dritte Frau in π_{10} in (6). SDR-Strukturen, SDRS, sind durch rhetorische Verknüpfungen (*narration*, *elaboration*, *parallel*, *contrast*, *explanation*, *background*, etc.; Asher & Lascarides 2003, S. 145; Mann & Thompson 1988) untereinander verbunden und verändern nur auf der Verknüpfungsebene ihren Zusammenhang, der Inhalt der einzelnen Entitäten, Referenten und Segmente bleibt modular und wird durch die Verknüpfungen nicht beeinflusst.

(6) Repräsentation innerhalb der *Segmented Discourse Representation Theory*

π_0

$\quad \ldots \pi_{3,}$

$\quad\quad \pi_{4,}\pi_{5,}\,\pi_6$

$\pi_0:$

$\pi_3:$

x
married (x)

y
married (x)

z
single (z)

$\pi_{10}\quad$ x,y

second (x)
third (y)

$\pi_{11}:$

z,t
married (t)
married (z)
t=x
y=z

=> t=x
y=z

visit (x,y)
visit (y,x)
chat (x,y)

6.3. Referenz zu Kopfnomen und Modifying Clause im Zusammenhand mit dem jeweiligen Bekanntheitsgrad

Dieser Abschnitt stellt dar, in welcher Form Kopf und *modifying clause* als Referenzen genutzt werden, um den Diskurs zu gestalten. Smith (2003, S. 123) beschreibt, dass die linguistischen Formen dieser beiden sogenannten *expressions* einen Hinweis darauf beinhalten, was für eine Referenz sie herstellen. Referenten verändern zudem je nach Grad ihrer Bekanntheit im bisherigen Diskurs ihre Form (bspw. Prince 1981 und Gundel et al. 1993).

Aksu-Koç & Erguvanlı-Taylan (1998, S. 277, inspiriert durch Fox & Thompson 1990) spezifizieren zwei unterschiedliche Referenzen zu Kopf und *modifying clause*: der Kopf könne entweder zum ersten Mal in den Diskurs eingeführt (*Introduction*) oder wiedereingeführt werden (*Reintroduction*), wenn

der Referent im bisherigen Diskurs bereits einen gewissen Grad an Bekanntheit erreicht hat und nun wieder in den Fokus des Bewusstseins gerückt werden solle.

Die Information der *modifying clause* kann in dreierlei Weise gestaltet sein: Wenn sie konstruiert wird, um den ambigen Inhalt des Kopfes aufzuklären, hat sie eine Identifikationsfunktion, sie soll dann den Referenten etablieren. Wenn der Inhalt der *modifying clause* bereits vorher in den Diskurs eingeführt wurde und jetzt noch einmal eingeführt wird, handelt es sich um eine Re-Identifikation. In anderen Fällen kann die modifying clause dazu dienen, zusätzliche Information zu einem bereits bekannten Kopf zu liefern; in diesem Fall handelt es sich um eine charakterisierende *modifying clause*.

6.4. Die Funktionen von RCCs in den vier Diskursmodi

Die Bekanntheitsgrade von Kopf und *modifying clause* im Zusammenhang mit den jeweiligen Diskursmodi in der untersuchten Datenmenge wird in Tabelle 12 sichtbar.

	Kopf		Modifying Clause		
	Introduced	*Reintroduced*	*Identified*	*Re-identified*	*Characterized*
Narrative	22	83	13	81	15
Report	2	2	2	-	2
Information	6	-	-	-	6
Argument	2	1	1	-	2

Tabelle 12 – Distribution der RCCs auf Diskursmodi und Funktionen im Diskurs

Die Funktionen von RCCs in TİD, die bisher zu beobachten waren, sind folgendermaßen zusammenzufassen:

(7)

(a) Einführen eines Referenten mit seiner identifizierbaren Information innerhalb einer *modifying clause* (neue Information)

(b) Einführen eines Referenten mit seiner identifizierbaren Information innerhalb einer *modifying clause*, so dass der Angesprochene die Information über den Referenten versteht (geteilte Information)

(c) Einführen eines Referenten mit zusätzlicher, charakterisierender Information innerhalb einer *modifying clause*

(d) Wiedereinführung eines Referenten mit Hilfe der bereits zur Identifikation genutzten modifying clause, um die Referenten zu disambiguieren

(e) Wiedereinführung eines Referenten mit neuer, zusätzlicher Information innerhalb einer *modifying clause*.

6.5. Zusammenfassung

Dieses Kapitel hat gezeigt, dass RCCs in TİD im narrativen Diskursmodus vor allem dazu eingesetzt werden, um Referenzen zu bereits eingeführten Entitäten herzustellen (Wiedereinführung, Re-Identifizierung). Im Gegensatz hierzu werden RCCs in den Diskursmodi *narrative* und *information* eher dazu eingesetzt, zu disambiguieren und den Inhalt des Kopfes klarzustellen. Der Kopf wird in diesen Modi im Allgemeinen zum ersten Mal eingeführt (Identifikation oder Charakterisierung). Die in 6.4. beschriebenen Ergebnisse untermauern die Arbeit von Clark & Haviland (1977, S. 9):

Given–New Contract: Try to construct the given and new information of each utterance in context (a) so that the addressee is able to compute from memory the unique antecedent that was intended for the given information, and (b) so that he will not already have the new information attached to that antecedent.

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7. Fazit und Ausblick

In diesem Kapitel sollen einige wichtige Punkte angesprochen werden, die sich aus den Resultaten dieser Dissertation ergeben. Es stellt sich die Frage, warum TİD so unterschiedliche RCC-Strategien nutzt. Die Antwort auf diese Frage mag in Grammatikalisierungsprozessen der RCCs in TİD liegen. Natürlich muss in jedem Fall bedacht werden, dass die Ergebnisse eines kleinen Sprachkorpus' nicht auf die gesamte Sprache übertragen werden können. Im letzten Kapitel soll angerissen werden, in welchen Bereichen weitere Forschungsbemühungen überaus fruchtbringend sein könnten, um den Einsatz und die Bildung von RCCs in TİD noch besser verstehen zu lernen.

7.1. Grammatikalisierungsprozesse und RCCs in TİD

Es gibt drei Bereiche, in denen die Beobachtung von Grammatikalisierungsprozessen in Bezug auf RCCs in TİD denkbar scheinen: *eyebrow raise* in RCCs, der Wandel von *squint* in AS-YOU-KNOW-Konstruktionen zu einem nonmanuellen Marker restriktiver RCCs und die konkurrierenden Relativmarker AYNI und *clause-final* IX.

Die für diese Dissertation ausgewerteten Daten haben gezeigt, dass *brow raise* über den gesamten Relativnebensatz hinweg ausgeführt werden kann. Dieses Phänomen ist jedoch nicht so häufig zu beobachten wie bei dem nonmanuellen Marker *squint*. Die Konstruktionen mit *squint* stehen in der *Topic*-Position am Satzanfang und wie Brunelli (2011) für LIS vermutete, können RCs, die von *brow raise* begleitet werden, als appositive Strukturen eingeordnet werden. *Brow raise*, der am häufigsten bei zirkumnominalen Strategien zu beobachten ist, kann die Betonung auf HN oder RC legen. Dies zeigt eine enorme Ähnlichkeit zwischen *Topic*- und RCC-Markierungen und veranschaulicht die Beziehung, die diese beiden Konstruktionen zueinander haben. Das macht dieses Feld zu einem fruchtbaren und spannenden Forschungsgebiet, da es denkbar ist, dass hier ein Grammatikalisierungsprozess zu beobachten ist, der *brow raise* mit appositiven Strukturen verknüpft.

Was den *squint* anbelangt, wobei anzumerken ist, dass diese Bezeichnung auch *tense cheeks* und *tense lips* umfasst, haben Dachkovsky & Sandler (2009) bereits beschrieben, dass dieser Marker im Diskurs mit dem Wiederaufrufen von Information, die beiden Sprecher/innen bekannt ist, zusammenhängt. Gesten in Lautsprachen haben einen Einfluss auf die Kommunikation, indem sie die Strukturen der Äußerung betonen und Sprecherabsichten verdeutlichen (u.a. Kendon 1995; Özyürek 2002). Ein Sprecher kann *squint* während einer *demonstrating*-Passage nutzen, um Information abhängig von ihrer Wichtigkeit in den oder aus dem Fokus zu bewegen (Bavelas & Chovil 2000, S. 104, die Autorinnen beziehen sich hier auf Clark 1996). Auch wenn der gestische/nonverbale Akt des *eye-squinting* noch nicht ausreichend erforscht ist und auch Ungläubigkeit und Skepsis ausdrücken kann (ebd.), ist es doch denkbar, dass *eye-squinting* eine spezielle Diskursfunktion bzw. pragmatische Funktion hat (s. metakognitive Analyse in Proust 2013). Wenn wir davon ausgehen, dass die nonmanuelle Geste eine spezifische Funktion hat, ist auch vorstellbar, dass der Marker sich herausgebildet hat, um in RCCs in TİD Restriktivität auszudrücken. Hierzu lässt sich die Hypothese aufstellen, dass *shared information* der Gesprächspartner/innen und das Bestreben, bereits etablierte Information wieder in den Diskurs zu heben (s. bspw. Wilkin & Holler 2011), entscheidende Faktoren sind. Ein potentieller Hinweis hierauf könnten die AS-YOU-KNOW-Konstruktionen sein, die im hier untersuchten Korpus vorkommen. Die Daten ergaben, dass Konstruktionen, die das Verb KNOW beinhalten, oft durch *squint* begleitet werden. Mit der Zeit mögen AS-YOU-KNOW-Konstruktionen den KNOW-Teil verloren, aber die begleitende nonmanuelle Komponente, bspw. den *squint*, beibehalten haben. Um festzustellen, ob *squint* in einer Geste der türkischen Kultur verwurzelt ist, ist weitere Forschung notwendig.

Der dritte Grammatikalisierungsprozess ist der der Relativelemente, die im Bereich RCCs in TİD zu beobachten sind. Mosella Sanz (2011) erwähnte bereits ein ähnliches Phänomen – MATEIX („dasselbe") in RCCs in LSC. Mosella Sanz vermutet, dass MATEIX durch einen Grammatikalisierungsprozess eine nominalisierende Funktion angenommen habe. Interessanterweise ist AYNI

(„dasselbe") analog in RCCs in TİD zu beobachten, wenn auch in geringer Frequenz. Der häufigste optionale Relativmarker in TİD ist *clause-final* IX. In diesem Zusammenhang wird ein weiteres Beispiel für Grammatikalisierungsprozesse interessant, das von Pfau & Steinbach (2006) und Pfau (2011) vorgeschlagen wurde. Sie vermuten, dass gestische Zeigegebärden Teil des Sprachsystems seien und als Demonstrativpronomen fungierten. Sie beschreiben weiter, dass diese Pronomen sich auch zu Personalpronomen oder Relativpronomen entwickelt haben und schließlich zu *agreement markers* oder *agreement auxiliary* werden oder geworden sein könnten (Pfau & Steinbach 2006, S. 61 und Pfau 2011, S. 155). Obowhl RCCs in TİD nicht zwingend Kopf-externe Konstruktionen sind, scheint sich *clause-final* IX in TİD mit der Zeit zu einem Relativmarker entwickelt zu haben. Die Tatsache, dass der Einsatz von *clause-final* IX optional ist, weist darauf hin, dass ein Prozess entweder in die Richtung von mehr oder in die Richtung von weniger Grammatikalität im Gange ist. Ohne historische Dokumente und longitudinale Daten, die einer diachronischen Analyse unterzogen werden könnten, ist es jedoch überaus schwer einzuschätzen, in welche Richtung sich der Prozess aktuell bewegt.

Drei unterschiedliche Bereiche, in denen Grammatikalisierung zu beobachten sein könnte, wurden hier vorgestellt, wobei der hervorspringendste Bereich der der restriktiven zirkumnominalen Relativierungsstrategie ist, die einen optionalen Relativmarker mit Nominalisierungseffekt nutzen kann.

7.2. Beschränkungen und Überlegungen zu zukünftigen Forschungsansätzen

Während diese Dissertation einen Versuch darstellt, eine korpusbasierte Analyse der Relativierungsstrategien in der Türkischen Gebärdensprache vorzunehmen, bleiben doch einige wichtige Fragen zu Relativsatzkonstruktionen in Gebärdensprachen bestehen.

Diese Forschungsarbeit hat eine Vielzahl an unterschiedlichen Relativierungsstrategien ans Licht gebracht. Um jedoch die grammatikalischen Eigenschaften dieser RCCs vollständig zu durchdringen, ist Introspektion nötig, bspw. in Form von *Grammaticality Judgment Tasks*, sowie psycholinguistische

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Experimente. Die vorliegenden Daten nutzend könnte dann ein genauerer Blick darauf gerichtet werden, ob es eine klare Trennlinie zwischen appositiven und restriktiven Strukturen gibt. Andere Möglichkeiten wären eine vertiefende Erforschung der Optionalität von Relativmarkern oder der Vergleich mit subordinierenden Satzstrukturen in TİD, die ebenfalls noch nicht geforscht wurden.

Diese Studie enthält keine syntaktische Analyse von RCCs. Beispielsweise bleibt die Unterscheidung von zirkumnominalen und angeschlossenen (*adjoined*) RCs ein zu untersuchender Punkt. Ein weiterer fruchtbarer Forschungsgegenstand wären *Topic-Comment*-Strukturen in TİD und ihre potentiellen Unterschiede zu RCCs. Cross-linguistische Vergleiche könnten weitere wertvolle Hinweise auf die modalitätsspezifischen und sprachspezifischen Eigenschaften von RCCs liefern.

Diese Dissertation nutzt einen Ansatz, der neben allen Vorteilen auch den Nachteil mit sich bringt, potentielle andere Relativierungsstrategien nicht zu erfassen. Deshalb wäre die Analyse eines größeren Korpus' anhand eines *bottom-up*-Ansatzes könnten einen erweiterten Einblick in Relativierungsstrategien in TİD erreichen. Hierbei ist außerdem zu bedenken, dass eine solche Datenmenge sowohl in Bezug auf die Diskursmodi mehr Varianz aufweisen als auch dialogische Texte enthalten sollte, da diese Arbeit zeigt, dass RCCs kontextabhängig sind.

Ein anderer wichtiger Punkt, der in dieser Dissertation nicht behandelt werden konnte, ist die Schnittstelle von und Beziehung zwischen Prosodie und Syntax. Die Beispiele aus der vorliegenden Arbeit könnten daraufhin weiter analysiert werden, welche non-manuellen Elemente syntaktische oder prosodische Funktionen haben können.

Eidesstattliche Erklärung

Hierdurch versichere ich an Eides Statt, dass ich die Arbeit selbständig angefertigt, andere als die von mir angegebenen Quellen und Hilfsmittel nicht benutzt und die den herangezogenen Werken wörtlich oder inhaltlich entnommenen Stellen als solche kenntlich gemacht habe.

Hamburg, den 15. Februar. 2016

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