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ANALYSING BRITISH SIGN LANGUAGE THROUGH THE LENS OF SYSTEMIC FUNCTIONAL LINGUISTICS

LUKE ANDREW RUDGE

A thesis submitted in partial fulfilment of the requirements
of the University of the West of England, Bristol
for the degree of Doctor of Philosophy

Faculty of Arts, Creative Industries and Education, University of the West of England, Bristol

March 2018

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Acknowledgements

The past three years can be summarised in one word: transition. Many things have changed during this time, including aspects of my environment and of myself. Yet, despite these changes, there are many people around me who have been a constant. It is here that I wish to thank them.

To my supervisors, Jeanette Sakel and Anna Piasecki: thank you for guiding me and pushing me further; for being there when I needed you; for supporting the many opportunities I've had over the past three years; for being honest about the world of academia; and for providing direction while encouraging flexibility in my own decisions.

To James Murphy: thank you for your honesty and your wit, your advice and your humour, your analytical perspectives and your 'moderate cynicism' (and for the lifts to and from Frenchay when the bus wasn't an option!).

To John Mancini, Martin Hughes, and the staff of ICS Bristol: thank you for helping me to improve my fluency in BSL, for your assistance during data collection, and for the opportunities to share my knowledge with your students.

To the participants and data assistants of this study: thank you for giving me your time, and for allowing me to work with your language.

To the administrative and library staff of UWE: thank you for always guiding me to the answer that I needed, without fail.

To Lise Fontaine and the many systemic functional linguists and around the world: thank you for your guidance, your invitations to take part in events, and for the resources that you have made available to promote a greater awareness of SFL.

To my undergraduate students: thank you for showing your passion and intrigue for the study of languages and linguistics (which I hope that you maintain for a very long time).

To Victoria Punch: thank you for our lunchtime meet-ups filled with hot chocolate and signing, and for the regular check-ups to see how I was getting on.

To Becci and Kelly: thank you for the relaxing evenings and weekends filled with food, drinks and adventure, and for having the appropriate meme at the ready to share on WhatsApp at any given moment!

To the many academics in the Twitterverse: thank you for your knowledge, advice, humour and praise, despite the differences between time zones.

To my parents, Linda and Andy Rudge: thank you for being the most supportive and caring parents anyone could ask for, and for knowing exactly what to say or do no matter what the situation.

And last but by no means least, to David: thank you for always bearing with me, for coping with my late-night panicking, for encouraging me to keep going, and for being a smiling face, a big hug, and a warm heart to return home to every day. TQM.

Abstract

Approaches to understanding language via Systemic Functional Linguistics (SFL) have resulted in a compendium of literature focussing on language as a 'social semiotic.' One such area of this literature comprises systemic functional grammars: descriptions of various languages and the way in which they create meaning. Despite the application of SFL to numerous languages and the creation of systemic functional grammars, a common thread is that of modality: SFL has been applied to numerous languages in the spoken and written modalities, but not in any detail to languages in the visual-spatial modality.

My thesis presents an initial attempt at analysing British Sign Language (BSL) through the systemic functional lens. Calling on various theories and methods found in sign linguistics and SFL, I perform an analysis on a sample of BSL clauses (N = 1,375) from three perspectives: how BSL manages exchanges of communication (the interpersonal metafunction); how BSL encodes aspects of experience and reality (the experiential metafunction); and how BSL may be organised to produce a coherent text with variance in information prominence (the textual metafunction). As a result, I present three sets of system networks based on these three metafunctions, complete with realisation statements and examples.

This thesis provides considerable impact. From an academic perspective, this is the first in-depth systemic functional description of a language in the visual-spatial modality, providing insight both into how such languages function, and how analyses of these languages may feed back into those of spoken and written languages. From a social perspective, the BSL system networks can assist language learners of any level as a point of reference in clause construction. Furthermore, intermediate and higher BSL qualifications stipulate knowledge of sign linguistics as a required component, yet these assessments are based on resources that have not been updated in nearly twenty years. As such, the products of this thesis may go towards informing future BSL assessments.

Word count: 75,833

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Appendix I - Aggregated features of context according to three systemic functional theorists.

Appendix II - Inter-rater reliability (Krippendorff's α) data.

Appendix III - A tri-metafunctional analysis of a BSL text.

Abbreviations and sign language short-codes

ABSL	-	Al-Sayyed Bedouin Sign Language
ASL	-	American Sign Language
Auslan	-	Australian Sign Language
BANZSL	-	British, Australian and New Zealand Sign Language
BSL	-	British Sign Language
CA	-	Constructed Action
CD	-	Constructed Dialogue
CI	-	Cochlear implant
CLU	-	Clause-like unit
DC	-	Depicting Construction
DGS	-	Deutsche Gebärdensprache / German Sign Language
FinSL	-	Suomalainen Viittomakieli / Finnish Sign Language
ISL	-	Israeli Sign Language
IrSL	-	Irish Sign Language
IPSL	-	Indo-Pakistani Sign Language
JSL	-	Nihon Shuwa / Japanese Sign Language (see also NS)
Libras	-	Língua Brasileira de Sinais / Brazilian Sign Language
LH	-	Left hand
LSC	-	Llengua de signes catalana / Catalan Sign Language
LSF	-	Langue des Signes Française / French Sign Language
LSQ	-	Langue des Signes Québécoise / Québec Sign Language
NGT	-	Nederlandse Gebarentaal / Sign Language of the Netherlands
NMF	-	Non-manual features
NS	-	Nihon Shuwa / Japanese Sign Language (see also JSL)
NZSL	-	New Zealand Sign Language
RH	-	Right hand
RRG	-	Role and Reference Grammar
SFL	-	Systemic Functional Linguistics

Conventions used in this thesis

Glosses

WORDS IN SMALL CAPS	-	English gloss of BSL sign
words in lowercase	-	articulatory information
Hyphen-separated letters (-n-o-)	-	instances of fingerspelling
Subscript letters and arrows ($_{X \rightarrow Y}$)	-	locations and movements in signing space

System networks

WORDS IN UPPERCASE	-	system network name
words in lowercase	-	entry condition / network options / NMF
Capitalised Words	-	functional elements
↘	-	realisation statement
+	-	add element to clause
A^B	-	concatenate A, then B
#^A	-	place A clause-initially
A^#	-	place A clause-finally
A:B	-	select B from class A
A/B	-	A conflates with B
Networks with { or } operators	-	select all (AND function)
Networks with [or] operators	-	select one (OR function)

1. Introduction

This thesis is an exploration into the structures and functions of British Sign Language (BSL) from the perspective of Systemic Functional Linguistics (SFL). Within this work, I present the findings of my research that I performed over the course of my time as a doctoral student, namely an in-depth analysis of BSL from the systemic functional perspective, using data that I collected first-hand. I performed this work not only to demonstrate that SFL can be applied to languages in the visual-spatial modality, but also to show that new insights into the nature of sign languages can be achieved from this process, alongside the theoretical 'feedback' that can be presented to systemic functional theory.

In this introduction, I provide a brief explanation of why I decided to research this area, based on factors including current trends in sign linguistics and the applicability of SFL to other domains. I then present a short overview of the following seven chapters in this thesis, each containing a rationale for their inclusion, and an overview of the contents for each one. I finalise this introduction by identifying the general scope of my work, alongside a brief statement clarifying both my position as a hearing researcher amongst users of BSL, and the terminology that I employ in this thesis.

1.1. Research rationale

For many years, linguistic studies have focussed predominantly on languages that operate in the spoken and/or written modalities. For example, in works which focus on specific linguistic questions, such as Haug and Mann's (2008) review of sign language assessment, they note difficulties in cross-linguistic comparison due to "the overall lack of sign language research in most countries" (p.143). This issue may also be found in larger works, such as Velupillai's (2012) introduction to linguistic typology, who states that "sign languages occur all over the world, but the majority are still poorly described or not described at all" (p.29). Even a cursory glance at the works available in the linguistics section of most libraries reveals a similar pattern: a range of literature on the scientific study of communication, from broad overviews of linguistics to specific

phenomena within a language. Yet, only a small proportion of these works will contain any substantial reference to languages that operate outside of the spoken and/or written modalities. In short: the study of communication in the visual-spatial modality has often fallen by the wayside, resulting in a vast area of linguistic study remaining to be explored, and leading to the neglect of a set of rich and complex languages from descriptions of human communication as a whole.

Despite records dating back centuries noting the worldwide use of sign languages, the domain of sign language linguistics is fledgling in comparison to that of spoken language linguistics. Since the latter half of the twentieth century, sign linguistics has gradually started to expand and become noticed in the wider linguistic community, due to factors including sociocultural developments and advances in technology (see Chapter 2). However, approaches to sign linguistics have been selected mostly from the area of formal linguistics, while functional approaches have had very little input into the debate. For instance, Sandler and Lillo-Martin's (2006) extensive presentation of the phonology, morphology and syntax of American Sign Language (ASL), and their suggested universals of sign languages, is performed from a primarily generative perspective. More recent works, such as Pfau, Steinbach and Woll's (2012) edited volume that covers a broad scope of linguistic subdomains, and Napoli and Sutton-Spence's (2014) analysis of the syntactic structures of over 40 sign languages, are also presented from formal viewpoints. In addition, the most recent work with a pure focus on the linguistics of BSL is that of Sutton-Spence and Woll (1999), who once again use formal terminology throughout.

While the approaches taken in the above works (amongst many others) offer one perspective on sign languages, this is not to say that these are the *only* ways to approach the study of sign languages. Such approaches may prove difficult for linguists from other backgrounds to use and to process, and questions arise with regards to the application of linguistic theories borne from spoken and written language analysis being used with languages in a completely different modality.

Furthermore, it suggests that there are approaches to the study of sign languages that have yet to be adopted. Whereas formal approaches focus on the rules and forms of language, a set of 'opposing' approaches are found among the functional theories of language, wherein the role of language is understood to contribute to social functions within contexts of use. One approach out of several (see Butler, 2003a) is known as Systemic Functional Linguistics (SFL).

SFL boasts an extensible model of analysing, describing and theorising language, made obvious from the range of languages studied from an SFL perspective, and its varying applications over time (see, e.g., the assorted chapters Caffarel, Martin and Matthiessen, 2004, and those of Halliday and Webster, 2009). The founder of SFL, Michael Halliday, sees the SFL model as "one that seeks to be "appliable"" (Halliday, 2009a, p.vii). However, there is very little SFL literature regarding the analysis or description of languages operating in the visual-spatial modality, with perhaps Johnston (1996), and to an extent Dreyfus (2012), acting as the exceptions. Given that other semiotic systems outside of human language (in its strictest sense) have also been analysed via SFL, such as visual design (Kress and van Leeuwen, 2006), questions may be raised regarding whether SFL is truly as extensible as it claims when it comes to the analysis of languages such as BSL. Additionally, given the abovementioned applicability of SFL, alongside recent changes in the legal recognition of BSL in parts of the UK (De Meulder, 2015) and the surge in research in the area of sign linguistics, it seems appropriate that this combination of SFL and BSL should be pursued.

The research I present in this thesis therefore seeks first and foremost to understand how BSL can be analysed through the lens of SFL, and in turn, how SFL may be 'adapted' to suit the analysis and description of a visual-spatial language.

1.2. Chapters: overviews, contributions and notes

My thesis is split into eight chapters, including this introduction. To familiarise the reader with BSL, particularly as this thesis may be read by those who are not familiar with a sign language, I begin by observing the cultural and linguistic aspects of sign

languages in Chapter 2. I present a brief history of sign languages and Deaf communities, with a focus on the sociocultural developments and changes regarding BSL in the UK over recent centuries. I do this to frame BSL in its historical context, allowing the reader to be aware of important events that have shaped Deaf communities, their respective sign languages, and even government policy. I then move on to provide an overview of the linguistics of sign languages. While I focus on BSL in this section, I also call on examples from other sign languages where appropriate. I place emphasis on the phonology, morphology and syntax of BSL in this chapter, given that they are imperative to be aware of over the remainder of the thesis. This also familiarises the reader with the many on-going debates in the field of sign linguistics.

While Chapter 2 assists readers who are not familiar with BSL, there may also be readers who are (sign) linguists and who are not acquainted with systemic functionalism. In Chapter 3, therefore, I present an overview of SFL. I begin with a brief introduction to the development of systemic functionalism, commencing with Halliday's influences from sources such as his mentor, John Firth, and functional theorists including Bronisław Malinowski. I also review the development of SFL, from Halliday's scale-and-category grammar to the systemic functional approaches in use today, to demonstrate the roots of this approach and how they have advanced over time. Then, I move on to explain the five dimensions observed in human semiotic systems: stratification, metafunction, instantiation, rank and system (see Caffarel, Martin and Matthiessen, 2004). The first three of these are known as the theoretical dimensions that are common between languages, and I present explanations for each. The latter two dimensions are the descriptive dimensions which vary, often greatly, between languages. I focus on these descriptive dimensions in detail, ending the chapter with the presentation of the lexicogrammatical rank scale for BSL. I also propose that it is possible to create system networks for the metafunctions identified in the theoretical dimensions – the interpersonal, experiential and textual metafunctions – but that prior to any system network schematisation, further data is required.

Given this need for data, in Chapter 4 I present my methodology of this study, wherein I compiled and analysed a corpus of data gathered from presentations given by members

of the local Deaf community. I split the chapter into two broad sections: how I collected the data, and how I performed the analysis. In the first section, I present anonymised data of the participants of my study, including how I selected them, how they were filmed, and how anonymity was preserved during filming and analysis (i.e. the whole upper body of the signer needs to be viewed to understand BSL communication in its entirety, thus anonymity may be easily compromised). In the second section, I review the notion of the 'clause' in BSL, drawing on studies of other sign languages and of other methods of discourse segmentation. I present a composite approach that uses semantic and prosodic elements to identify units of discourse, and I explain how I used ELAN to assist in the annotation of my data. Finally, I clarify how I increased the reliability of my analysis by using 'data verifiers' to observe and confirm the accuracy of random samples of my annotated data.

The three chapters following the methodology present the results of my analysis of the dataset, split into the interpersonal (Chapter 5), experiential (Chapter 6) and textual (Chapter 7) metafunctions. For each chapter, I provide an overview of the theories regarding each metafunction, alongside examples of how these metafunctions are lexicogrammatically realised in other languages where appropriate. In some instances, certain theoretical elements are adapted to fully account for the effects seen in BSL, such as the adaptation of the 'Finite' element into the 'Quasi-Finite' element (see Section 5.3 below). I then explain each system network that I have schematised to reflect the functions observed in my BSL data. I provide clarifications of these systems, including explanations of the realisation statements (i.e. the 'instructions' for how each option in the system can be formed lexicogrammatically), alongside glossed examples from my data and discussions of the effects seen within and between metafunctions. To finalise each chapter, I analyse a 26-clause example from my dataset to demonstrate how one instance of linguistic data can be observed from three distinct yet complimentary perspectives.

Chapters 5, 6 and 7 contain my principal contributions to knowledge as required for a thesis of this type: the schematisation of the interpersonal, experiential and textual system networks of BSL, coupled with instances of data analysis, to demonstrate that

SFL does indeed have the capability to work with languages in the visual-spatial modality. Nonetheless, it must be remembered that these system networks are 'elementary' in comparison to those of other languages, due to factors such as the amount of data analysed. However, while the system networks I present are low in delicacy, they are nonetheless high in accuracy and in their applicability to further data. In other words, these system networks may not yet be particularly complex, but future studies would certainly be able to expand on these foundations with confidence.

I conclude my work in Chapter 8, re-confirming my contributions and the impact of my thesis, alongside recommendations for future research, and some personal closing thoughts on this thesis and the research process during my time as a doctoral student.

Throughout each chapter, I provide written glosses of BSL examples from my dataset. However, given the visual-spatial nature of BSL, such glosses often oversimplify the representation of the language, and can often miss out vital articulatory information. To address this issue, I provide links to signed videos of these glosses, which can be accessed by following the URL associated with the gloss, and located either underneath the gloss or in an associated footnote. However, it must be noted that these videos are not directly extracted from my dataset. As I note in Section 4.2.4 below, there are specific methodological and ethical concerns that must be considered when working with visual-spatial data, including the 'impossibility' of anonymity. The participants of this study agreed to their data being seen by a limited number of people only (i.e. myself and those verifying the data), so to use these recordings in a publically-accessible thesis would be breaking the terms of this agreement. As such, I have recorded both myself and a third-party signer producing these glosses as closely as possible to the original recordings. The advantages of this include solving the issue of anonymity, and allowing for isolation and focus on specific instances (e.g. providing a clear stretch of BSL with obvious start and end points, rather than splicing halfway through partially-articulated signs). Also, given that participants signed at native speed, this replication allows for speed modulation, which is particularly useful for readers who may not be familiar with BSL.

1.3. Areas outside of the scope of my thesis

Despite attempting to present a thorough (albeit initial) analysis of BSL via SFL, there are certain elements that I have not included due to factors including space constraints, time constraints, and the requirement for this work to act as a 'base' before further research can be pursued. For instance, as I explain in Section 4.2.1 below, the data that I collected covers one register of BSL, namely monologic, prepared presentations. As such, there is no opportunity for inter-register nor intra-register analysis and comparison. Furthermore, my analysis is predominantly based on the clause simplex (i.e. the components of one clause) as the interpersonal, experiential and textual metafunctions may be investigated via this unit of text. I chose not to focus on the clause complex because of the wealth of unanswered questions regarding clause coordination and subordination, particularly in BSL (see Pfau, Steinbach and Herrmann, 2016), and because having an initial focus on simplexes rather than complexes seems to be a more logical approach. As such, I do not analyse relationships between clauses (i.e. the logical metafunction) *per se,* although I do make references to this metafunction and ideas regarding clause complexing where appropriate. Finally, the type of SFL analysis I use in this work is based on the Hallidayan tradition (Halliday, 1978). However, other approaches also exist, such as the Cardiff Grammar approach (see Fawcett, 2008). I chose the Hallidayan approach as this is the 'standard' and more widely known version of SFL.

1.4. A note on cultural labels

As with many sociocultural divisions, there are on-going discussions regarding the most appropriate nomenclature for the group of language users in question in my thesis. Multiple proposals have been made, but political and cultural issues exist for each. For instance, it is not specific enough to refer to those who use BSL as 'sign language users,' as this does not take audiological status into account and does not state which sign language is being used. Conversely, using 'deaf' foregrounds the idea of an audiological impairment, rather than a community of language users. In addition, some who identify as 'deaf' may not use a sign language, or may be more accurately defined as 'deafened'

depending on how hearing loss occurred. Other terms that have been used include 'sign language peoples' (e.g. Batterbury, Ladd and Gulliver, 2007; Batterbury, 2012) and 'people of the eye' (McKee, 2001).

It must also be remembered that there is not a binary distinction between those who use a sign language and those who do not. In fact, there are many subdivisions of sign language users, often resulting in impassioned discussions. For example, mention of the cochlear implant (CI) within certain communities may stir feelings of resentment or anger, rather than the apparent joy as seen in online viral videos of 'a child hearing for the first time.' Cherney (1999) notes that CIs can be viewed as an overt negative social marker, showing "that the disabled body does not properly fit in society, and that it is the body – not society – which must be remade to rectify this "problem"" (pp.27-28). Montgomery (1991) also stands opposed to the CI, stating that their use is "thus committing the casual genocide of the deaf community and its language" (p.104). Although brief, it is hopefully clear from these examples that caution and care must be taken with regards to studies and labels within these communities.

Although fallible, in this thesis I use the distinction found in various items of sign language literature, specifically the use of 'Deaf' and 'deaf,' as initially proposed by Woodward (1975). The definition of the former is summarised neatly by Napier and Leeson (2016) as "those who do not identify with the wider (dominant) society based on their hearing status" (p.21). Conversely, 'deaf' refers to those who do not identify as part of the Deaf community, and while they may know some sign language, they prefer to use a 'dominant' spoken/written language as a primary method of communication.

I emphasise here that one term is not intended to supersede the other, that they are not finite values (i.e. someone may fall 'in-between' the groups or identify as neither), and that ambiguity remains (e.g. does a hearing child of Deaf parents who uses BSL daily identify as 'Deaf?'). Woodward's (1975) division is presented purely as an academic means to distribute different language users into different categories. It is certainly not intended to act as a defining taxonomy, as the realities of identification and group membership are far more complex.

1.5. My position as a hearing researcher

I believe that it is also important to situate myself within the wider field of Deaf studies, or to 'explain myself' in terms of why someone outside of the Deaf community has performed this research. In Sections 2.2 and 2.3 below, I explain that over the past century and a half there have been a great number of disservices brought to bear by those in the Deaf community. These have usually been invoked and exacerbated by the surrounding, dominant hearing community. As such, there is often uncertainty from within the Deaf community when a hearing researcher wants to study the community, its language and its people.

My statement to any reader of this thesis is as follows: this thesis reflects my interest in a captivating and fascinating language and culture. My work serves both to provide another point of view regarding how BSL functions, and to encourage further work in this area in the future. I do not, however, claim to provide a guide on 'the way BSL users should sign,' as was so often the case from audist viewpoints in the past.

To paraphrase a statement offered by the World Federation of the Deaf (2014), it is pivotal that any work regarding Deaf communities is performed actively with Deaf communities, summarised by the short phrase 'no research about us without us.' Working closely with the target community allows for the fair representation of research, and it also permits those within the community to play their part in creating meaningful work about themselves. In addition, performing research without the help of those within the community creates serious issues of reliability and accuracy. This inclusion is something I have strived to achieve throughout my research, from my on-going learning of BSL, to explaining my research to the various communities within which I have made myself known.

Nonetheless, no matter my involvement nor the outcomes of my research, it is still the case that I am not a member of the Deaf community. While aspects of my own identity may resonate with the struggles of the Deaf community, the difference is greater than simply being able to re-label myself to suit the conditions. However, I do not see myself

as completely 'other' to the Deaf community, as I possess linguistic, sociocultural and historical awareness. Napier and Leeson (2016) suggest the term "hearing interloper" (p.66) as those who work within the Deaf community but not as part of the Deaf community itself. This term may be imbued positively or negatively depending on the individual in question, based on "whether they have the correct attitude, if they align with the values of the signing community and if they give something *to* the community as well as *take*" (ibid., original emphasis). Based on feedback that I have received from many members of the worldwide Deaf community, I adopt the term in its positive sense.

With these considerations regarding nomenclature and my position as a researcher in mind, I now move on to the first part of my thesis, wherein I introduce the sociocultural and linguistic aspects of BSL.

2. Sociocultural and linguistic aspects of British Sign Language

2.1. Introduction

Sign languages are systems of communication that are principally used by members of a Deaf community. Despite evidence of their use and development over several centuries, the linguistic study of sign languages has only started to gather momentum in recent decades. Today, we have access to some descriptions of languages in the visual-spatial modality, and there is currently no shortage of academic work focused on understanding how sign languages 'work' (although this is primarily from the formal linguistic perspective, with functional approaches to sign language analysis remaining rare; see Section 1.1 above).

I begin this chapter by providing a short history of the languages of Deaf communities around the world. This includes the first known records of sign language in use, their development, their subsequent prohibition from 1880 onwards, and their resurgence in popularity and use in the mid-1900s. Then, prior to an in-depth review of sign language literature, I briefly overview manual communication systems that are *not* classed as sign languages (e.g. Makaton, Cued Speech, etc.). This is provided because sign languages may be grouped into the same category as non-natural systems of communicative support or natural languages that do not have the same linguistic status as BSL, thus a distinction is required. Following this, I present the main linguistic aspects of sign languages overall and of BSL, focussing on phonology, morphology, syntax, and specific elements that are unique to languages in the visual-spatial modality (e.g. the use of signing space). I cover these areas specifically to assist readers with the analyses that I present in later chapters, and to provide an insight into some of the debates currently found within the discipline of sign linguistics.

As I noted in Section 1.2 above, written examples of BSL are supplemented with links to videos of BSL, as there are many visual-spatial elements of sign languages that cannot be accurately or fully represented in written form.

Prior to commencing, it is important to note that this chapter serves two purposes. Most obviously, it provides an insight into sign languages – and into BSL in particular – from historical and linguistic viewpoints, in order to demonstrate how attitudes and knowledge have changed over time. Secondly, it allows for readers who have little to no knowledge of sign languages and Deaf communities to understand how these languages display similar rules and patterns as spoken and written languages, *and* to provide a brief glimpse into the sociocultural challenges experienced by those in the Deaf community, alongside the resultant effects on sign languages. While it certainly would have been possible to write this chapter from a linguistic perspective alone, this would be doing a great disservice to members of the Deaf community. In other words, historical events have had a large impact on both sign languages and Deaf culture, and both must be intertwined to provide a holistic and fair view.

2.2. A brief history of the languages of Deaf communities [1]

Sign languages are visual in their nature. While the ubiquity of image capture devices available today presents no issue for the recording and preservation of sign language data, this task would have been difficult to perform even as recently as a few decades ago. As Jackson (2001) notes for early examples of BSL, "unless it is written about in other people's writings or preserved in art form, no record exists" (p.25). Tracing the history and development of sign languages is therefore problematic, but it is not impossible. Jackson states that communication systems akin to sign languages date back as far as 422BC, specifically mentioning the work of Socrates. Also, he specifies that the first documented use of a sign language in Britain dates back to February 1576, namely a marriage record from St Martin's Church in Leicester. This record indicated that proceedings occurred with gestures instead of speech, and it is widely regarded as "the first known written record of the acceptance of the use of sign language in a church ceremony" (p.5). From a more academic perspective, John Bulwer is said to have published several works during the 17th century, including *Chirologia*, *Chironomia* and

[1] For a more in-depth history, I encourage readers to refer to Chapter 3 of Kyle and Woll (1988) who review educational and linguistic developments from before the industrial revolution to more a contemporary era.

Philocophus: or the Deafe and Dumb Man's friend (Kendon, 2004). Although these works address aspects of visual communication systems, both linguistic studies and a more explicit acknowledgment of sign languages in academia "did not begin [their] major expansion until after 1975" (p.63). In 2003, the British government formally recognised BSL as a minority language, although its legal status remains uncertain to this day (British Deaf Association, 2015). In late 2014, Scottish Parliament introduced the British Sign Language Bill, which gained Royal Assent in late 2015, hoping to bring further recognition and use of BSL throughout Scotland (British Sign Language (Scotland) Act, 2015). Nevertheless, the power that this bill contains regarding linguistic recognition and social equality remains disputed (De Meulder, 2015).

From the establishment of the first British school for the Deaf in 1760, the use of sign language thrived in Britain (Jackson, 2001). However, as Ladd (2003) extensively details, one of the most pertinent setbacks for worldwide Deaf communities occurred in 1880, during the Second International Congress of Instructors of the Deaf and Dumb. 'Oralism' – "an all-encompassing set of policies and discourses aimed at preventing [the Deaf community] from learning or using sign languages to communicate" (Ladd, 2003, p.7) – was deemed the preferred and only way to teach Deaf children, in an attempt to remove the use of sign languages altogether. Kendon (2004) notes that the reasoning given for this superiority of oralism included arguments such as "if the deaf could be taught to speak they could much more easily fit in with everyday life" (p.64). Jackson (2001) identifies similar points, stating that sign language use was deemed as "the root cause of perpetuating a lower class leading to stigmatisation" (p.33). In short, sign languages were viewed "as a last option for those considered 'not intelligent enough' to speak" (Napier and Leeson, 2016, p.75).

To exemplify the extreme negativity surrounding the Deaf community during this era, Sicard (1984) states that a Deaf person was viewed as

> a mere ambulatory machine whose constitution (as regards his behaviour) is inferior to that of animals. In saying that he is primitive, we are still

> underestimating his pitifulness, for he is not even the equal of primitive man in morality or in communication (p.85).

Oralism remained as the preferred method for nearly a century. However, the work of Tervoort (1953) and Stokoe (1960) played pivotal roles in reversing this negative trend, being some of the first pieces of modern research to demonstrate linguistic structures in Nederlandse Gebarentaal (NGT; Sign Language of the Netherlands) and American Sign Language (ASL) respectively. It was these two works that heralded the start of modern sign linguistics studies, with that of BSL commencing from a meeting of the International Congress on the Education of the Deaf held in Manchester in 1985 (Jackson, 2001).

Today, there is much more research and recognition of sign languages worldwide, with nearly 140 sign languages recognised globally, ranging from stable and developing, to those close to extinction (Ethnologue, 2016). The wealth of knowledge that is currently available is thanks to linguists and activists alike, both within and outside of Deaf communities. For example, work in cognitive linguistics and language acquisition produce a markedly different tone to what was found during the early to mid-twentieth century:

> sign languages seem to function just like spoken languages, are acquired by children just as automatically and on the same timetable as spoken languages [...], have much neurological overlap [...] and emerge spontaneously whenever a community of deaf people has an opportunity to form (Dachkovsky, Healy and Sandler, 2013, p.244).

As for the recognition of BSL as a language, Sutton-Spence and Woll (1999) successfully apply Hockett's (1960) thirteen design features of human languages. This includes qualities such as the transitory nature of communication, labelled as "rapidly fading signals" (Sutton-Spence and Woll, 1999, p.10), arbitrariness, duality of patterning and productivity. While influence from English is present in BSL, (Sutton-Spence, 1999),

both BSL and English operate independently, and BSL is indeed classed a separate language.

2.3. Contemporary BSL

Despite the recognition of BSL by the British government in 2003, statistics surrounding the language are often vague. For instance, the number of BSL users is challenging to ascertain. Prior to the turn of the millennium, it was stated that there were "between 30,000 and 50,000 deaf BSL users in the United Kingdom," (Sutton-Spence, 1999, p.364). Recent figures from the Royal Association for Deaf people (2013) estimate a far more numerous population of roughly 156,000 users. However, the British Deaf Association present other figures, demonstrating conflicting data within their own publications. For example, the British Deaf Association (2012) mention that a patients' survey counted 122,000 BSL users, but the accompanying financial report stated that there were "105,000 Deaf children and adults who use BSL as their first or preferred language" (p.2). Later, the British Deaf Association (2013) revised this number to only 15,000 users across England and Wales, while further figures as interpreted by Napier and Leeson (2016) state that "250,000 use BSL daily in the UK, 70,000 of whom are deaf" (p.54). Finally, the Office for National Statistics (2013) refers to the UK Census of 2011, settling with a figure of 22,000 sign language users in the UK, of which 15,000 use BSL. This variation may be accounted for in the methodologies of the surveys (e.g. questions written using English structures that may have proven difficult for BSL users to accurately comprehend) or certain sociocultural values (e.g. stigma or prestige attached to identifying as a sign language user).

The development of sign languages intertwining with other historical events help to explain why BSL, Australian Sign Language (Auslan) and New Zealand Sign Language (NZSL) are similar to one another despite their geographical distance. Some claim that all three are in fact varieties of one overall sign language: British, Australian, and New Zealand Sign Language (BANZSL; Johnston, 2003). In addition, while the dominant spoken language in the UK and the USA is English, ASL presents greater similarities to Langue des Signes Française (LSF; French Sign Language) than it does to BSL, due to

historical developments in Deaf education (Bayley and Lucas, 2011). So, while influence exists from spoken languages on sign languages in the same geographic location (Sutton-Spence, 1999), the influence found between geographically proximal spoken languages do not necessarily mimic the differences found between sign languages.[2]

Due to the history and legal status of BSL, alongside the isolation of Deaf communities in previous centuries prior to developments in infrastructure, BSL is subject to highly marked regional variation in the lexicon. Quinn (2010) indicates that such variation is due in part to 'schoolisation,' stating that "distinct regional variations found in BSL correspond to the geographical locations of the main schools for deaf children" (p.476). This variation includes, but is not restricted to, signs for colours, numbers and place names, as observed by Stamp et al. (2014). However, this variation may be undergoing 'levelling:' "the reduction in use of regionally marked variants [due to] regular face-to-face interactions between speakers of differing linguistic repertoires" (p.1). Research suggests that sociolinguistic factors are a key indicator, with younger signers less likely to use regional variants, due to factors including "political correctness, changing attitudes towards lexical borrowing, and greater international mobility and transnational contact" (p.12). It may also be argued that online social networking is contributing to this effect (i.e. Deaf people across the world are in communication with one another, resulting in various language contact scenarios), but this has yet to be analysed in any detail.

Lexical variation and the lexicons of sign languages have been studied extensively, with online visual dictionaries being developed, alongside corpus-driven signbanks such as those created for BSL (Cormier et al., 2015), NGT (Crasborn et al., 2015), and Auslan (Johnston, 2014).[3] Prior to digital corpora, the main reference point for signs were visual printed dictionaries, of which one was produced for BSL (Brien and Brennan, 1992). Digital resources remove obvious hindrances of attempting to represent dynamic

[2] The 'Deaf Sign Language' section of the Glottolog website (available from http://glottolog.org/resource/languoid/id/deaf1237) presents an up-to-date list and map of sign languages and their families based on published research.

[3] One such online dictionary can be found at http://www.spreadthesign.com/.

languages via static images, and can be updated far quicker than their printed counterparts, yet the curation of online corpora is not without its difficulties. For instance, questions surrounding sign lemmatisation and conventions for transcription are now under scrutiny as the aforementioned signbanks grow (Fenlon, Cormier and Schembri, 2015).

Finally, as I noted above, the study of sign languages has gained both in popularity and legitimacy over the past few decades. However, an important consideration for BSL (and for many other sign languages) is that there is "no standard form or ultimate authority to which one can appeal for judgments of "correctness"" (Sutton-Spence, 1999, p.365). More recent research also reaffirms that many sign languages exist "without well-developed community-based standards of correctness" (Napoli and Sutton-Spence, 2014, p.2). While these sentiments have implications for research on BSL as a whole, a lack of 'ultimate authority' does not withhold the potential for linguistic study, as will be seen by the sample of literature that I review in the following sections.

2.4. Linguistics in the visual-spatial modality

The study of sign languages has led to the discovery of various insights, challenging commonly-accepted linguistic doctrines. However, this area of study is still comparatively young, and there are many debates about the exact workings of sign languages. In this section, I review prominent and current literature on a number of sub-disciplines in the field, but I begin by identifying systems of manual communication that are *not* classed as sign languages, to provide a clearer picture of different visual-spatial communication systems.

2.4.1. What is not BSL?

While BSL is a language found in the visual-spatial modality that employs elements of the body for successful communication, and is typically associated with communication between Deaf people, there are a number of other systems that are not – in the strict sense – sign languages. For example, certain manual systems exist to assist

communication between interlocutors with specific needs. These systems act as a "visual form of a spoken languages [wherein] the grammatical rules of the spoken language are followed" (Baker, 2016, p.7). Unlike BSL, these systems have a "conscious derivation" (Kyle and Woll, 1988, p.34), rather than having developed naturally. One such system is Cued Speech, wherein English is spoken while one hand produces complementary shapes and movements to one side of the mouth. This manual addition assists in disambiguating, for instance, a /p/ from a /b/, as these look identical in their articulation when no voice is heard (Bayard, Colin and Leybaert, 2014). By its definition, Cued Speech therefore requires spoken English in order to carry meaning and use, and cannot be used solely as a form of manual communication. Hence, it falls under the classification of an assistive method of communication, rather than a natural language.

There are a number of communicative systems that call on visual-spatial elements which, if viewed without any prior knowledge of sign languages, may appear to be sign languages. However, these systems fall under the umbrella term of "manually coded English" (Pickersgill, 1998, p.90; Grimes, Thoutenhoofd and Byrne, 2007, p.541). One such system is Makaton: "a graded system of word-sign translations arranged in a vocabulary acquisition sequence" (Kyle and Woll, 1988, p.33), developed in 1972 by Margaret Walker. Makaton can be found in schools as an assistive tool for pupils with specific educational needs or for pupils who are learning English as an additional language. Mistry and Barnes (2013) defined Makaton as "a multi-modal language programme based on the principles of signing, symbols and speech" (p.604), while also providing evidence for its merits in developing spoken English. Given that the 'signs' used in Makaton form only one of the main communicative components in the overall system (i.e. there is also a strong focus on the use of visual symbols), and the fact that this is a system of communication designed for a specific purpose, it is therefore not a naturally-occurring sign language such as BSL.

Similar systems include the Paget-Gorman Sign System, again adopting word-sign translations, and having been created in such a manner "to avoid BSL structures" (Pickersgill, 1998, p.90). Again, while useful in English language-learning contexts, it is still viewed as "artificial" (Wehrmeyer, 2014, p.2). In addition, the systems of Signed

English, Signed Exact English and Sign Supported English are also classed as manually coded English systems. These latter three systems include "BSL vocabulary [...] deliberately used in English word order, with English morphology" (Sutton-Spence, 1999, p.389). They may be co-articulated alongside English speech, once again assisting in English language development (Pickersgill, 1998, p.90).

One final communicative system, however, cannot arguably be called a system of manually coded English, nor can it be classed fully as a sign language in the same way that BSL is classed as such. Homesign commonly arises in households where a Deaf child is born to hearing, non-signing parents, which occurs an estimated 90% to 95% of the time (Napier and Leeson, 2016). Homesign develops in these situations so that Deaf individuals may "communicate with the hearing people in their worlds" (Applebaum, Coppola and Goldin-Meadow, 2014, p.182), resulting in what Kendon (2004) calls "a repertoire of gestures" (p.287). Despite its highly iconic and gestural nature, Applebaum, Coppola and Goldin-Meadow (2014), alongside Abner, Cooperrider and Goldin-Meadow (2015) identify that Homesign systems contain features found in natural languages, such as prosodic marking. They also note that most Homesign utterances are short, with the components of these utterances containing semantic relations rather than syntactic relations, despite the existence of rudimentary syntactic structures (Franklin, Giannakidou and Goldin-Meadow, 2011). As such, while Homesign does not fall under the definition of a sign language in the stricter sense, it is still a language that develops naturally. In terms of its use, development, levels of variability and its linguistic structures, it would be better classed as a pidgin (see Bakker, 2008).

The abovementioned manual communication systems may therefore be placed on a cline, ranging from systems that have been developed for specific purposes, to those that have developed naturally but do not share the same linguistic status as a sign language. Indeed, the linguistic structures that are found in a language such as BSL are arguably more complex. This is stated succinctly by Kyle and Woll (1988, p.248) who present the morphosyntactic differences between the abovementioned systems and BSL. Given this complexity, the linguistic features of BSL require much greater elaboration, and I begin to do so with the phonology of BSL.

2.4.2. Phonology

Research into the phonological structures of sign languages began in the mid-twentieth Century, with Tervoort's (1953) dissertation on the structure of NGT in Europe, and Stokoe's (1960) work on ASL in North America. During this time, the term 'cherology' was used rather than 'phonology,' given the use of the hands to create manual units ('cheremes') instead of spoken units ('phonemes'), although this has now largely fallen out of use. While phonology may seem an unusual term to employ for a language which does not exist in the auditory medium, a more suitable definition of phonology is posited by Sandler and Lillo-Martin (2006): "the level of linguistic structure that organises the medium through which language is transmitted" (p.114). By using this definition, phonology may be used as appropriate terminology independent of the medium or modality of communication. Either way, sign languages contain sub-lexical structures consisting of a "duality of patterning: a meaningful level of structure, as well as a level that is made up of a list of meaningless, yet linguistically significant elements" (p.113).

Several researchers (e.g. Cormier, Schembri and Tyrone, 2008; Orfanidou, et al., 2015; Baker, 2016) agree that there are four phonological parameters in manual signs: handshape, orientation, location and movement.[4] Van der Kooij and Crasborn (2016) go into detail about each of these parameters, but I provide a brief overview of their definitions here.

Firstly, the handshape is defined by the number of extended fingers and their configuration, otherwise known as "selected fingers" (Van der Kooij and Crasborn, 2016, p.255). Many of these handshapes are common between sign languages, although there are handshapes that are unique to only a few sign languages, or not found to be in use at all. Those which are more common are physiologically easier to produce (e.g. a 'flat

[4] Sandler and Lillo-Martin (2006) organise these concepts differently, classifying "orientation as subordinate" (p.156) to handshape, location and movement due to assimilatory constraints in sign language production.

hand' or an extended index finger), whereas rarer handshapes are physiologically trickier to articulate (e.g. middle and ring fingers extended).

Secondly, the orientation of a manual sign is defined with regards to the direction that the palm is facing (e.g. 'palm up' or 'palm down'). It may also be defined with regards to "the part of the hand that points towards the location of the sign" (Van der Kooij and Crasborn, 2016, p.260).

Thirdly, the location is observed relative to the part of the body where the sign is produced. Van der Kooij and Crasborn (2016) identify four principal areas between sign languages: "the head, the upper body, the non-dominant (or weak) hand, and the neutral space," (p.262), the latter of which is located in front of the body, roughly in-line with the chest.

Finally, the parameter of movement may be split into two categories: movements that occur within the configuration of the sign (i.e. the movement of fingers and the wrist, leading to handshape and orientation changes), or movements that displace the hand (i.e. overall movements, leading to location changes).

Similar to what is found in spoken languages, the four phonological parameters of sign languages are subject to phonological processes, including assimilation, reduction, and deletion. This is due to factors including signing style, diachronic evolutions of signs, and the use of compounding in morphologically complex signs (see Section 2.4.3 below).

While the four phonological parameters present a large potential of combinations, it must be remembered that sign languages are also subject to phonotactic restrictions. Battison (1978) identifies these constraints in ASL, although they may be applied to other sign languages including BSL. These constraints include: the constraint of dominance (i.e. in two-handed signs with one active and one passive hand, the passive hand may only use certain handshapes); the constraint of place (i.e. one area of the body is used per sign); and the constraint of symmetry (i.e. when hands move independently in a sign, they must have the same location, handshape and movement, with identical

or symmetrical orientation). Further constraints are also suggested, such as the selected fingers constraint (Mandel, 1981) wherein the extended fingers of a sign cannot change within the hand-internal movement of the sign. For instance, a sign could comprise of the index finger flexing and extending two or three times, but it could not have a flexing-extending alternation between the index finger and the middle finger. These constraints are true for the majority of signs, but there are instances wherein these constraints may be violated in BSL, particularly in morphologically complex signs, as I discuss below.

Regarding phonological parameters, Kyle and Woll (1988) note that "a change in one of the significant elements [...] results in a change of meaning" (p.90). Thus, minimal pairs as understood in spoken languages (e.g. /p/ and /b/ in 'pat' and 'bat') are also present in BSL, via modification of one the phonological parameters with all other parameters remaining unchanged. For instance, SISTER and EVIL differ manually in the handshape parameter, while orientation, location and movement remain equal.[5] However, it is important to note that certain non-manual features (NMF) such as mouthing (i.e. a 'silent production' of the equivalent English word on the lips) are also required to fully identify a sign in BSL (Sutton-Spence and Woll, 1999; Marshall, 2010). This effectively presents mouthing as a fifth phonological parameter, and while some researchers challenge this claim, Petitta et al. (2013) insist that NMF "can by no means be considered non-essential" (p.149). For instance, BSL uses identical manual phonological parameters to produce UNCLE, AUNT, NIECE and NEPHEW.[6] To disambiguate these meanings, mouthing is required, as observing only the manual components is not sufficient for an accurate understanding of the sign. In such instances, I argue that mouthing forms a phonological parameter of BSL, with the difference in mouthing acting as the disambiguating parameter between minimal pairs.

A signer's hands thus form only part of sign language production. In fact, there are multiple articulators that are used in BSL. Apart from the hands and the mouth, other articulators include the eyes, eyebrows, torso and head (Sutton-Spence and Woll, 1999).

[5] Video: tinyurl.com/bslsfl2-1

[6] Video: tinyurl.com/bslsfl2-2

They may occur in unison with other articulators or in isolation, with the potential to create simultaneous instances of meaning, rather than relying primarily on sequential meaning as seen in spoken languages (see Kendon, 2004). Cross-linguistically, there is a "striking similarity of form and function at the non-manual level" (Leeson and Saeed, 2012. p.260), and I return to NMFs in further detail below, as they have the ability to carry syntactic (Sandler and Lillo-Martin, 2006), prosodic (Ormel and Crasborn, 2012) and pragmatic (Mapson, 2014) information.

Focussing on the mouth as an articulator in BSL, Lewin and Schembri (2011) split mouth actions in two broad categories: mouthing, "the full or partial articulation [...] of the corresponding spoken word" (p.95); and mouth gestures, "actions of the mouth that are deemed part of the signed language and are not derived from the ambient spoken language" (ibid.). Mouthing most frequently co-occurs with noun signs, often helping to clarify the manual components of the sign (as seen above regarding the disambiguation of UNCLE, AUNT, NIECE and NEPHEW). Mouth gestures, however, generally add adverbial and adjectival information to the manual articulation. For example, THIN accompanied by a sucking-in of the cheeks produces VERY-THIN.[7]

Attempts to codify the structure of sign language phonology have resulted in different systems of annotation. Some of the more regularly used systems found in earlier works (e.g. Brien and Brennan, 1992) include Stokoe Notation (Stokoe, 1960) and the Hamburg Notation System (Hanke, 2004), both of which use symbols to represent phonological parameters. When these are used alongside supplementary visual data, they could be said to act as a 'written form' of sign languages. However, when used on their own, they are cumbersome to read and write, and cannot convey the complexity produced from the multiple articulators. It would also appear that these notation systems are being used less frequently in research, as more recent publications appear to use other methods of demonstrating sign language in action (see, e.g., Orfanidou, Woll and Morgan, 2015; Stamp et al., 2015; Cormier, Smith and Sevcikova Sehyr, 2016).

[7] Video: tinyurl.com/bslsfl2-3

Before moving on from phonology, it is necessary to identify that prosody is observed in sign languages including BSL (Sutton-Spence and Woll, 1999). Prosody may be produced manually (e.g. the rhythm of the hands) and non-manually (e.g. changes in eyebrow position), and as in spoken languages, prosodic marking may be segmental (i.e. applying to one unit) or suprasegmental (i.e. spreading across multiple units). Most work in sign language prosody focuses on the non-manual aspects, exemplified by Sandler and Lillo-Martin (2006) who identify that "sign languages have intonational phrases and intonational tunes [...] expressed through facial expression [or] changes in head or body position" (pp. 253-254). Dachkovsky, Healy and Sandler (2013) state that intonation via NMF presents greater complexity than what is available in spoken languages:

> the position of the head, the eyebrows and the eyelids can all vary independently and simultaneously to provide different intonational meanings [...]. In this way, the intonational system has a much larger inventory of potentially distinct action units (tones) than is the case for spoken language (p.245).

Furthermore, prosody has influence at various levels including the semantics and pragmatics of a sign language, as it does in spoken languages (Sandler and Lillo-Martin, 2006). However, unlike spoken languages, Pfau and Quer (2010) state that "there is a tendency for prosodic constituents to be isomorphic with syntactic ones" (p.398). I return to this later in the syntax section of this chapter, and I explore this in greater detail in Section 4.3.3 below.

2.4.3. Morphology

The morphology of languages in the visual-spatial modality can be analysed both inflectionally and derivationally (Sutton-Spence and Woll, 1999; Sandler and Lillo-Martin, 2006; Pfau, 2016a), and it is possible to identify minimal meaning-bearing components within sign languages. In a similar vein to observations of other languages around the world, the inflectional morphology of sign languages focuses on grammatical properties such as agreement and plurality, whereas derivational

morphology centres around lexical meaning. In this section, I briefly overview both varieties of morphology in sign languages, beginning with the inflectional morphology of verb signs.

In BSL, there are three divisions of verb signs: 'plain', 'agreement' and 'spatial,' the latter two of which may also be referred to as 'indicating verbs' (Sutton-Spence and Woll, 1999; Cormier, Fenlon and Schembri, 2015). As a general rule, plain verbs do not display syntactic agreement within their production. Rather, a plain verb communicates an action in isolation from its arguments (if any), which are produced as other signs preceding or following the verb sign. Conversely, indicating verbs encode additional information by movement in the signing space: agreement verbs identify agent-patient relations based on where the verb sign starts and ends with relation to the signer and the signing space; spatial verbs identify source-goal relations, again indicated by the start and end points of the verb sign, and the manner that the movement of the verb sign takes. For example, GIVE is an indicating verb and contains a movement parameter between its participants. In formal terms, movement starts from the subject and moves towards the object. So, I-GIVE-HER begins from the signer (1st person; subject) and moves to the point in the signing space that is allocated to 'her' (3rd person; object).[8] If the sign were altered to SHE-GIVES-ME, the movement reverses to reflect the change in subject and object.[9] All three formal components – subject, verb and object – are therefore incorporated into one sign, each of which can be identified morphemically via location and movement.[10]

Movement modification of signs within the signing space can include "different rates, rhythms, degrees of tenseness, and pauses" (Sandler and Lillo-Martin, 2006, p.47). As seen above, indicating verbs "can be modified for person or number" (Cormier, Fenlon

[8] 'First, second and third-person' is disputed in sign languages, referred to as the "listability problem" (Pfau, 2016a, p.215). The traditional distinction is supported by Berenz (2002), but Sandler and Lillo-Martin (2006) and Thompson et al. (2013) support a first and non-first system, as only first-person indication (i.e. pointing to oneself) can be reliably be distinguished from all other grammatical persons.

[9] Video: tinyurl.com/bslsfl2-4

[10] While this holds true for most signs, some agreement verbs can be classed as 'backwards verbs,' wherein movement occurs from the object to the subject (see Johnston and Schembri, 2007).

and Schembri, 2015, p.687), and for aspect (Pfau, 2016a). For instance, the agreement verb TEACH produced from the signer towards a conversational partner may be glossed as I-TEACH-YOU. If this were performed towards the conversational partner and another locus (i.e. an established reference point in the signing space), the meaning could be glossed as I-TEACH-YOU-BOTH. Likewise, if performed with a sweeping or arcing motion towards multiple loci, it may be glossed as I-TEACH-ALL-OF-YOU. If this arcing motion were repeated several times, aspectual information would be added: I-TEACH-ALL-OF-YOU-CONTINUOUSLY. Slowing down the arcing motion may indicate greater intensity or difficulty in teaching – I-STRUGGLE-TO-TEACH-ALL-OF-YOU-CONTINUOUSLY.[11] Additionally, as I noted in Section 2.4.2 above, non-manual components can be used alongside manual signs to add further meaning. As the video for these examples show (see Footnote 11), NMFs are used to greater extents as the English glosses becomes more complex.

The polarity of the clause, specifically its negation, may also be expressed by the use and combination of manual signs and NMFs. Sandler and Lillo-Martin (2006) state that "all sign languages employ a negative head-shake in basic negative sentences" (p.364), alongside Atkinson et al. (2014) who note that "facial negation is an obligatory feature of negation in sign language, whereas manual negation is optional" (p.215). However, Pfau and Bos (2016) distinguish two categories of sign languages based on how negation is marked: non-manual dominant and manual-dominant. Sign languages that fall into the former category are those wherein "the headshake is obligatory [and] the negative particle is optional, and in fact, it is often omitted" (p.137), and vice-versa for the latter category. If Pfau and Bos' distinctions are considered, BSL is classed as a non-manual dominant system. For example, REPLY in BSL can be negated by the co-articulation of a headshake at the same time as the production of the sign, thereby creating NOT-REPLY.[12] In addition, specific negation signs may also be used after signs, such as BROTHER NONE

[11] Video: tinyurl.com/bslsfl2-5

[12] Video: tinyurl.com/bslsfl2-6

to carry the meaning of 'without a brother.'[13] I discuss negation in further detail in Section 5.5 below.

However, in the majority of cases, tense is not marked inflectionally in BSL. Other than the lexicalised exceptions of WIN and WON provided by Pfau (2016a), information regarding temporality is provided prior to the production of the verb sign. According to Sutton-Spence and Woll (1999), a time adverbial is often signed at the start of a new utterance, indicating the temporal frame of reference for the following signs. I look at the impact of this effect in greater detail in Section 5.3 below when discussing the interpersonal components of BSL.

As for derivational morphology, several processes found in spoken languages are also present in sign languages. For example, compounds are formed in BSL via the sequential 'affixation' of manual signs. These compounds may have semantic relations to their component parts (e.g. MOTHER^FATHER = PARENTS), or they can be subject to semantic drift (e.g. RED^FLOW = BLOOD). Sutton-Spence and Woll (1999) identify that the form of some BSL compounds may be the result of borrowing from English (e.g. –g-g-^PIG as 'guinea pig') and that they undergo phonological manipulation for quicker production via "blending, smoothing, elimination of transition, loss of repetition, and compression of the first sign" (p.102)[14] In addition, due to these compounds employing "striking phonological changes" (Pfau, 2016a, p.202), they can violate the abovementioned phonotactic constraint of place (Battison, 1978) if compounds are understood as one sign rather than two (i.e. both PARENTS and BLOOD start at the face and finish in front of the torso).[15]

[13] Video: tinyurl.com/bslsfl2-7

[14] Video: tinyurl.com/bslsfl2-8

[15] This is only true for PARENTS in certain regions of the UK, e.g. Derby. Other regions produce MOTHER and FATHER in front of the body.

A more complex aspect of sign morphology is the combination of handshapes and movements that create depicting constructions.[16] These constructions identify "spatial relations and motion events" (Sandler and Lillo-Martin, 2006, p.76), as well as "position, stative description (size and shape), and how objects are handled manually" (Marshall et al., 2015, p.241). Although studied in detail (e.g. Emmorey, 2003), debates continue regarding their terminology, analysis and classification (Cormier et al., 2012). This is because depicting constructions are "anomalous in many ways with respect to the rest of the linguistic structure of sign languages, but paradoxically [...] central to fully understanding them" (Sandler and Lillo-Martin, 2006, p.82).

An example of a simple motion event – namely a person walking around a parked car – can be used to demonstrate depicting constructions. In such an instance, both hands take the shape of a proform representing an object in the motion event. Thus, an upright index finger (representing long, thin objects) would represent PERSON. In contrast, a flat hand with the palm facing downwards (representing flat surfaces or vehicles) may be glossed as CAR. By using these proforms together in the signing space, movement and interaction between the hands can then be used, with the potential to produce extensive meaning from relatively little productive effort. For example, the movement of PERSON around CAR depicts the way that someone walks around a vehicle, with movement within the signing space encoding information such as whether the person moves to the left or right of the car, and how quickly they are moving.[17] Equally, if CAR were to move forward repeatedly and PERSON were to remain static, this may instead represent a motion event wherein someone cannot cross a busy road due to the volume and speed of traffic. Consequently, depicting constructions can result in lengthy English glosses in an attempt to retain accuracy (e.g. HEAVY-TRAFFIC-RAPIDLY-PASSING-AS-SOMEONE-WAITS-TO-THE-LEFT-HAND-SIDE).[18]

[16] These are also known as 'classifier constructions' (e.g. Sutton-Spence and Woll, 1999; Emmorey, 2003) or 'polycomponential signs' (Slobin et al., 2003).

[17] Video: tinyurl.com/bslsfl2-9

[18] Video: tinyurl.com/bslsfl2-10

As I noted above, depicting constructions may also be used for other functions. Sutton-Spence and Woll (1999) demonstrate that handshapes and movements may also represent how an object is handled, and its dimensions and surface area in mid-air. For instance, WHEEL can be modified using different depicting constructions: both hands (with the thumb and forefinger close to touching) tracing a circular path may be glossed as THIN-WHEEL, as the handshapes depict a small surface area. If the handshapes were changed to include all fingers in a C-shape following the same circular path, it would instead represent THICK-WHEEL, as the handshapes represent a much larger surface area. Furthermore, NMFs can be co-articulated, such that THICK-WHEEL can be accompanied by puffed cheeks and raised eyebrows to convey the meaning of VERY-THICK-WHEEL.[19]

In summary, morphological processes that have been found in various spoken languages are also observed in sign languages including BSL, although the difference in modality creates a difference in their realised form. Many other morphological phenomena exist within sign languages, such as allomorphy (see Pfau, 2016a), but this section provides sufficient surface detail regarding some of the more frequent processes. In addition, an intertwining relationship between morphology and syntax (i.e. morphosyntax) is also observed in sign languages, to the extent that Jepsen et al. (2015) insist that "the high use of simultaneity and heavy inflection makes the separation of morphology and syntax very difficult, if not artificial" (p.11). In the following section, I therefore move on to sign language syntax.

2.4.4. Syntax

Although the syntax of sign languages has been investigated for many years, firm conclusions on the syntax of BSL are yet to be established (cf. ASL; Sandler and Lillo-Martin, 2006). A prominent area of on-going debate is that of sign order. Sutton-Spence and Woll (1999) identify that "there is no full description of correct sign order in BSL" (p.50), although some developments have been made since the publication of their work. As I discuss below, BSL is understood to order signs in certain instances. However, if

[19] Video: tinyurl.com/bslsfl2-11

'order' is assumed in the same manner as when studying the syntax of spoken and written languages (i.e. sequential, concatenated elements), then the previous sections of this chapter will hint as to why 'sign order' is a problematic concept to work with. This is confirmed by Pfau and Bos (2016) who note that simultaneous productions in sign languages are "a challenge [when presented] in a mainly linear structure" (p.99), such as traditional syntactic parse trees or X-bar schema.

There appears to be more work into 'unmarked' syntactic order in languages such as ASL rather than BSL, but the former findings are not without dispute. In their assessment of ASL syntax from a formal perspective, Sandler and Lillo-Martin (2006) state that "ASL is an SVO language with the hierarchical structure of an SVO language" (p.318), although the authors later mention that "constituents do tend to move around a lot" (p.473). Later work by de Quadros and Lillo-Martin (2010) reaffirm an unmarked SVO structure in ASL and Língua Brasileira de Sinais (Libras; Brazilian Sign Language), coupled with indications that VSO is not possible, and that other combinations of subject, verb and object are permissible, albeit "with restrictions" (p.227). Cross-linguistically, opinions appear divided, with most arguments falling on a continuum between two points. On the one side, Leeson and Saeed (2012) state that "no clear claims regarding a typology of word order in sign languages can yet be made" (p.260), whereas Napoli and Sutton-Spence's (2014) review of 42 sign languages claim that "SOV and SVO should be the prevalent orders" (p.12).

However, an alternative viewpoint is held by some linguists: sign order is "not always so important" (Sutton-Spence and Woll, 1999, p.57), and that "attempts to discover one basic, underlying sign order in sign languages [...] lead to difficulty, and may be inappropriate" (Lutalo-Kiingi, 2014, p.120). From this point of view, the production of clear, unambiguous meaning is favoured over element order. This stance is further supported by Bouchard and Dubuisson (1995) in their work on sign order in Langue des Signes Québécoise (LSQ; Québec Sign Language):

> since there are other means that a language can use to indicate what elements combine, a language does not have to have a specific order that reflects these

> combinations. We therefore conclude that not all languages have a basic order: only languages in which word order has a high functional role will exhibit a basic order (p.132).

A thorough review of sign order performed by Hodge (2013) similarly suggests that "it is not certain whether constituent order is relevant to investigations of signed language structure or signed language use" (p.13). Nevertheless, Hodge's literature review correlates with the findings of Napoli and Sutton-Spence (2014): from a formal perspective, most sign languages follow an SVO or SOV unmarked order, and from a functional perspective, an AVp (actor, verbal-predicate) or an AUVp (actor, undergoer, verbal-predicate) patterning.

Regardless of whether there is or is not an unmarked sign order in BSL, certain syntactic patterns have been attested, initially by Sutton-Spence and Woll (1999), and which continue to be confirmed in more recent research. Firstly, Sutton-Spence and Woll note that there is optionality in the production of certain components, especially when the first-person singular pronoun is in subject position (cf. McKee et al., 2011, regarding Auslan and NZSL). Secondly, Sutton-Spence and Woll identify a relationship between the semantics and syntax of BSL, specifically the order of predicated elements. This relationship depends on whether the verb in question is effective or affective: "effective verbs make something exist" (p.55) and follow a VO pattern, whereas "affective verbs act on something that already exists" (ibid.) and follow an OV pattern. Thirdly, the authors state that 'pronoun copy' may occur, where a pronominal pointing sign that has been used within a statement is repeated at the end of the statement. Although they do not elaborate further on this, the authors mention that these additional indexes are "often accompanied by a head nod, especially if the sentence is emphatic" (p.54), suggesting that pronoun copy may be used for pragmatic purposes (see Mapson, 2014). Pronoun copy is also observed in other sign languages (Cormier, Schembri and Woll, 2013), including Suomalainen Viittomakieli (FinSL; Finnish Sign Language). Jantunen (2007) claims that these occurrences in FinSL "[strengthen] the interconnectedness of topic and comment" (p.130) and identify "the end of the sentence" (p.131).

Other sequential patterns in BSL have been researched in finer detail. For instance, Marshall et al. (2015) found that noun signs and their proforms are ordered so that "the noun is articulated first, followed immediately by a corresponding [depicting] handshape." (p.241). While proforms are not obligatory in every utterance, their use allows for further linguistic information to be added via movement and interaction in the signing space (see 'depicting constructions' in Section 2.4.3 above). However, linking noun signs and proforms generally occurs anaphorically: information is initially given via lexical noun signs, and then later referred to using proforms. In other words, using a proform or depicting construction without first establishing a referent will produce ambiguous, if not unintelligible, communication. These patterns have resulted in researchers suggesting that BSL is a topic-comment language (Deuchar, 1984; Sutton-Spence and Woll, 1999; Dachovsky, Healy and Sandler, 2013; Marshall et al., 2015), wherein an 'established-productive' (or 'fully lexical – partly lexical') sequence is required.

Looking at larger units of discourse in BSL, there are again a handful of patterns that have been identified. Interrogative constructions in BSL that request new information use wh- signs such as WHO, WHAT, WHERE, WHY, WHICH and HOW (among others).[20] Sutton-Spence (1999) notes that these must be produced at the end of an utterance and must co-occur with furrowed eyebrows, although Pfau and Bos (2016) comment that wh- signs may also appear at the start of an utterance, known as 'wh-doubling.' If the interrogative construction requires clarification of previously understood information (i.e. a yes/no response), the aforementioned wh- signs are not used, and instead the question is marked by raised eyebrows at the end of the utterance.

Wh- signs are also found in other constructions in BSL. It is known that numerous sign languages have no copula (Pfau, 2012) and in BSL, certain constructions are permitted that use wh- signs in the place of a copula. These structures have been given numerous labels, including wh-clefts (Sutton-Spence, 1999; Sandler and Lillo-Martin, 2006),

[20] Video: tinyurl.com/bslsfl2-12

rhetorical questions (Rosenstock, 2008) and pseudoclefts (Cecchetto, 2012). In these constructions, a 'question' is posed by the signer using a wh- sign, immediately followed by the 'answer.' For example, DOG NAME WHAT -m-a-x- may be glossed as 'the dog's name is Max'.[21] In this case, WHAT co-occurs with raised eyebrows, rather than furrowed eyebrows as observed in interrogative constructions. This alerts conversational partners that the use of the wh- sign is not to request information, rather that the information is about to be provided.

The use of different eyebrow positions to identify the function of an utterance is likewise found in other constructions. For instance, from the perspective of topic-comment structures, raised eyebrows are said to identify the topic of the utterance, while the comment is produced after the eyebrows return to a neutral position (Sutton-Spence and Woll, 1999). Dachkovsky, Healy and Sandler (2013) note similar patterns in conditional constructions: most sign languages mark the boundary between the 'if' statement (the protasis) and the 'then' statement (the apodosis) via the eyebrows. The protasis is marked by raised eyebrows while the apodosis is marked by a neutral eyebrow position, with possible accompaniment by other NMFs.

Other syntactic constructions in BSL are less understood. Cecchetto (2012) identified that "no study has been exclusively dedicated to imperatives or exclamatives in any sign language" (p.293), but this does not mean that their structure has not been hypothesised. Johnston and Schembri (2007) briefly describe instances of both imperative and exclamative structures in Auslan. For imperatives, "the actor is often omitted, [...] the signs may be produced with stress, and the non-manual signals may include direct eye gaze at the addressee and frowning" (p.201), whereas exclamatives "are primarily signalled [...] by stress and non-manual features" (ibid.). Additionally, Maier, de Schepper and Zwets (2013) identified similar syntactic, manual and non-manual features that denote imperative structures in NGT. This includes subject omission, frowning, and quicker or more abrupt manual articulation. Although there is little research in

[21] Video: tinyurl.com/bslsfl2-13

imperative and exclamative structures in BSL, it may be argued that similar features could be found.

A final point to briefly consider here concerns longer strings of signs and how they may be delimited into comparable units. For example, although the typical understanding of a 'clause' in spoken languages is not completely without fault (see Fontaine, 2013), the definition and identification of 'clauses' in signed utterances is not always straightforward. According to Johnston et al. (2007), who use data from various sign languages to identify 'clauses,' "the nucleus of each clause should be some kind of predicating element, often a verb […]. Each individual verb represented a separate clause, even if there were no explicit and separate signs for the various arguments of the verb" (pp. 169-170). Other sign linguists have used the term 'clause' in their work, such as Dachkovsky, Healy and Sandler (2013) who mention that conditional statements in sign languages must have a minimum of two clauses – the protasis and the apodosis. However, more recent corpus-based studies have encountered issues with this unit (e.g. Hodge and Johnston, 2014). Hodge (2013) states that "very few linguists have investigated how clause-level constructions may be linked in a signed language" (p.17), although Hodge (2013) and Meier (2002) demonstrate that sign languages can use "embedding to form relative and complement clauses" (p.2). Hodge (2013) also coins the term 'clause-like unit' (CLU), given the difficulties in clause identification and differences in communicative modality. I discuss CLUs in further detail in Section 4.3.1 below, where I revisit and discuss further possible units in BSL.

In summary, the numerous approaches that may be taken when studying syntax, coupled with the requirement to incorporate modality-specific resources into any such account, has led to "much controversy" (Sandler and Lillo-Martin, 2006, p.472). While syntax is a crucial linguistic element for understanding the meaning and function of utterances, it is not my aim in this thesis to present something such as a universal or unmarked sign order for BSL. However, it suffices to say that the order of individual signs, their co-occurrence with non-manual features, and the segmentation of longer strings of signs, are important to bear in mind when analysing BSL data.

2.5. Further linguistic notes on BSL

The above overview of phonology, morphology and syntax in sign languages shows various similarities to that which is seen in spoken and written languages. In other words, some aspects are modality independent: meaningless phonological units combine to create meaningful signs; compounds may be formed by the concatenation of two elements and may undergo phonological reduction; and signs may be ordered in certain ways to indicate a particular function (e.g. interrogative vs. indicative). Nonetheless, sign languages operate in a different modality to spoken and written languages, and there are certain modality-specific elements that also need to be considered. In this section, I observe some modality and language-specific elements of BSL. This includes the notion of the two lexicons, the lexical status of different signs, the form and function of signing space, the use of constructed action/constructed dialogue, the system of fingerspelling, and how sign language and gesture interact.

2.5.1. The two lexicons of BSL and their sign types

BSL has access to two lexicons, referred to by Sutton-Spence and Woll (1999) as "the established and productive lexicons" (p.197). The former of these lexicons contains signs that are conventionalised (Kaneko and Mesch, 2013), whereas the latter uses combinations of meaningful visual-spatial elements but are not 'conventionalised,' such as the handshapes used in depicting constructions (see Section 2.4.3 above). Other researchers such as those of Auslan (e.g. Johnston and Schembri, 2007) follow similar terminological conventions, but refer to the established lexicon as the "core native [or] frozen lexicon" (p.159). However, due to the ever-developing nature of signs found in the established lexicon from historical and social influences (see Stamp et al., 2014), I do not use 'frozen' as I wish to avoid the implication of unchanging signs.

The signs forming the established lexicon are those that may be found in a printed dictionary (e.g. Brien and Brennan, 1992) or in an online sign bank (e.g. Cormier et al., 2015). Sutton-Spence and Woll (1999) state that established signs are mostly nouns, and possess meanings that may be understood regardless of the context, such as CAR.

However, when comparing the lexicon of English to the established lexicon of BSL, "there is no doubt that [the established lexicon] is relatively small" (p.197). I noted above that BSL can convey complex meaning, facilitated by the productive lexicon, which helps to vastly expand the communicative potential of BSL users. For instance, depicting constructions call on the productive lexicon to add further meaning to established signs by exploiting handshapes and movement in three-dimensional space. Following the 'established-productive' order noted above, the BSL equivalent of 'I opened the window' may be expressed by the established sign WINDOW followed by productive signs in a depicting construction. This information can include: where the window was in topographic space (via signing location and orientation); how quickly or slowly the window was opened (via handshape, movement and non-manual features); and the type of locking mechanism that the window possesses (via handshape and movement). Consequently, despite a small established lexicon, the productive lexicon allows for greater linguistic and communicative complexity. Nevertheless, the productive lexicon is not wholly conventional; signers "combine the components from the productive lexicon in a systematic way that is understood by other signers" (Schermer, 2016, p.181).

Manual productions found in both lexicons may be split into a finer categorisation. In researching BANZSL, Johnston (2012) explains that there are two major classes of signs: lexical signs and grammatical signs, similar in their definition to the 'content words' and 'function words' found in spoken and written languages. Signs in the lexical category may be further subdivided into fully lexical, non-lexical and partly lexical signs. Fully lexical signs carry "the conventionalized minimal form/meaning pairings found in a language" (e.g. CUP, RED, WINDOW; p.166), and are therefore the 'established' signs. A non-lexical sign, in its simplest terms, can be viewed as a gesture, or "any intentional communicative bodily act [...] with little or minimal conventionalization of meaning and form" (ibid.). Partly lexical signs, however, may be conventionalised to an extent, but generally require further contextual, co-textual or background information to be fully understood. Partly lexical signs themselves may be further distinguished into pointing signs (e.g. pronouns, locatives, possessives, etc.) and into proforms (found in depicting constructions).

2.5.2. *The signing space and productive simultaneity*

The manual components of sign languages are produced in the signing space: the three-dimensional area in front of a signer wherein meaning is made and referents are established and manipulated. In BSL, this space may take two forms. The first is topographic space: "a spatial layout [...] of representations of things as they really are" (Sutton-Spence and Woll, 1999, p.129). This is the space in which depicting constructions occur, as partly lexical handshapes move and interact in a manner representative of 'real world' interactions. The second type of signing space is syntactic, wherein "grammatical structures [...] move in space between grammatically defined points" (p.130), and I presented examples using syntactic space with variations on TEACH in Section 2.4.3 above. More recent research describes these respective spaces as 'motivated' and 'arbitrary,' based on how referents are identified and how interactions are performed within these spaces (see Cormier, Fenlon and Schembri, 2015).

The size of the signing space varies from person to person, although Marshall (2010) approximates the limits of the signing space "from the hips to just above the head" (p.255), and may theoretically extend left and right, and front to back, as far as the arms can reach (Baker, 2016). Uyechi (1996) agrees with these spatial measurements, referring to the maximum dimensions as the global signing space, wherein local signing (i.e. signing of individual signs) and discourse signing (i.e. strings of signs) occurs.

The potential for complex communication is heightened when a signing space is used effectively. Valentine and Skelton (2007) explain this linguistic potential as follows:

> unlike verbal languages that are essentially linear, visual languages such as BSL can simultaneously convey different pieces of information and layers of meaning. For example, different hands might be used to make subject and object signs within a signing space which can be employed to indicate location, while facial expressions are being used to show intensity, and head movements used to indicate whether this is positive or negative (p.107).

Simultaneity in BSL production is more prevalent than sequentiality, as identified by Johnston (1996) who observes "the number of, and clear preference for, simultaneous elements" (p.3). From a biological and evolutionary perspective, Marshall (2010) explains this modality-specific difference as follows:

> the eyes have excellent spatial resolution [but] poor temporal resolution: whereas the human ear can distinguish two stimuli presented only 2 milliseconds apart, two visual stimuli need to be presented a minimum of 25-30 milliseconds apart if they are to be distinguished (p.256).

Simultaneous visual actions are therefore interpreted more efficiently, when compared to individual sequences of signs. Furthermore, it is this simultaneity in signing space that gives signers a range of choices when producing language. While I provide a more in-depth review of Johnston (1996) in Section 4.3 below, for now it suffices to say that simultaneity in signing space puts previously-mentioned attempts at syntactic analysis via generative frameworks (i.e. Sandler and Lillo-Martin, 2006) into question. In other words, if a framework focussing on the sequential concatenation of elements is used with a language that has such communicative complexity via simultaneity, numerous productive elements of the language may not be given enough attention, or perhaps ignored completely.

2.5.3. *Constructed action and constructed dialogue*

Constructed action and constructed dialogue are discourse strategies found in sign languages. They are also known as role shift (Sutton-Spence and Woll, 1999) or referential shift (Johnston and Schembri, 2007). Sutton-Spence and Woll (1999) define instances of constructed action and constructed dialogue as "when a signer shifts into the role of someone (or something) else" (p.207). In other words, a signer can sign from their own perspective or that of a 'character,' whether it be another person, an animal or even an inanimate object. Quer and Steinbach (2015) are more specific in their definition, referring to this discourse strategy as a "mechanism to report utterances and actions of other individuals […] through an array of non-manual markers" (p.159). As

such, when performing constructed action or constructed dialogue, the signer changes certain aspects of their appearance and/or signing style, including posture, direction of eye-gaze and facial expression, to represent someone or something other than the signer themselves (Kaneko and Mesch, 2013). Given this effect, during role shift, "all indexicals in the discourse stretch [...] are expected to refer to the displaced frame of reference, as in indexical shifting in spoken language reported discourse" (Quer and Steinbach, 2015, p.160). Therefore, when a signer points to themselves during such instances, they are referring to whoever or whatever is being enacted instead of themselves. To return to narration, the signer may readopt a neutral position and posture, and return eye-gaze back to co-present communicators.

When using constructed action and constructed dialogue, it is possible to embody various characters throughout the discourse, potentially leading to confusion as to 'who' is signing at which point. In order to keep track of this, Cormier, Smith and Zwets (2013) note that characters can be identified or maintained: when introducing or reintroducing a character, they are identified in the discourse via some kind of overt referencing (e.g. use of a pronominal point in the signing space). However, during maintenance (i.e. a continued action interspersed with additional information), the researchers found that overt referencing is omitted.

2.5.4. Fingerspelling

Fingerspelling is "the use of a particular set of "signs" where each corresponds to a different letter of the written alphabet of the surrounding spoken language" (Cormier, Schembri and Tyrone, 2008, p.4). The authors of this quote highlight 'signs' because the categorisation of fingerspelling remains contested. For example, Sutton-Spence and Woll (1999) state outright that "fingerspelling is not BSL" (p.16), while Schembri and Johnston (2007) propose that it is "a unique outcome of language contact between the signed languages of deaf communities, and the spoken and written language of literate hearing communities" (p.322). As such, it is not BSL in the strictest sense, similar to the systems that I discussed in Section 2.4.1 above. Nonetheless, fingerspelling is integrated

fully into multiple sign languages including BSL, to the point that certain sequences of fingerspelling can undergo lexicalisation, as I explain below.

Some sign languages use two-handed fingerspelling (e.g. BSL, Auslan, NZSL), while others use one-handed fingerspelling (e.g. ASL, LSF, DGS). No matter how many hands are used, fingerspelling remains the visual representation of the written form of the surrounding spoken language. For instance, there are 26 handshapes in BSL referring to the 26 individual letters of the English alphabet, whereas fingerspelling in Japanese Sign Language (Nihon Shuwa; NS or JSL) uses nearly 50 handshapes (alongside handshape combinations and added 'diacritics') to represent the morae of the Japanese syllabary. Nevertheless, as these are visual representations of the written elements of another language, it is not possible to 'just fingerspell' whenever an equivalent sign or concept is unknown to the signer, as the knowledge of the word being spelled may be inaccessible to other communicators.

However, fingerspelling is found frequently in BSL. Diachronically, it has been observed that fingerspelled items ranging from single letters to entire words that can become lexicalised (Cormier, Schembri and Tyrone, 2008). For instance, CLUB as a lexical sign is produced by fingerspelling -c-l-u-b- with the elision of -u-. As such, it looks like a 'quick' fingerspelling of the English word 'club,' but has instead become a fully lexical sign. Other lexicalised signs from fingerspelling include days of the week (e.g. -t-t- is TUESDAY) and family members (e.g. -g-f-f- is GRANDFATHER), to name a few.[22]

2.5.5. *Manual gestures and manual signs*

One final aspect to consider is the distinction between gestures and signs. Kendon (2004) studies this distinction in-depth, defining gestures as "actions that have the features of manifest deliberate expressiveness" (p.15). Manual gestures may co-occur with speech, signing, or be used on their own. However, unlike Johnson's (2012) abovementioned definition of non-lexical signs, gestures are not necessarily viewed as

[22] Video: tinyurl.com/bslsfl2-14

integral parts of sign languages. From a multimodal perspective, Kress and van Leeuwen (2006) and Kress (2010) identified gesture as a separate mode of communication that may be used alongside other modes. However, more recent work by Kendon (2016) notes that gestures and gestural systems may eventually become signs and sign languages respectively when they "reach a certain level of complexity and generality of use" (p.33), similar to the lexicalisation of fingerspelled items.

While the implication is that systems of gesture are not as linguistically complex as sign languages (i.e. they contain no underlying phonology or morphology), meaning is still able to be conveyed in their use. However, one-to-one relationships between form and meaning are more likely to be found in gestural systems, rather than the one-to-many relationships found in more complex linguistic systems (see Taverniers, 2011).

Manual gestures are easier to identify in spoken languages as the modes of the two communication systems are distinct. As for sign languages, "both the linguistic and gestural components use the same articulators" (Lillo-Martin, 2002, p.254). Thus, it is often significantly more difficult to discern what is part of the sign language and what is gesture, leading to difficulties in sign classification (Johnston, 2012) and grammatical descriptions (Lillo-Martin, 2002). One such debate is the status of points in sign languages. Research in BSL identifies that 'pronominal signs,' or "pointing signs which have a pronominal function" (Cormier, Schembri and Woll, 2013, p.232) do not fit into the categories of 'pronoun' or 'gesture.' However, Kendon (2004) notes that pointing is subject to semantic grouping depending on the form of the handshape. His data reveal that pointing with only the index finger extended expresses a co-present referent, whereas a point with all fingers extended represents a conceptual referent. Pointing is an integral part of sign languages, given their visual-spatial nature and ostensive requirements, and research has shown similar changes in meaning depending on the handshape of the point. For instance, Sandler and Lillo-Martin (2006) note for ASL and Israeli Sign Language (ISL) that "reflexive and possessive [pointing signs] use the same locations, but different handshapes" (p.26).

2.6. Conclusion

In this chapter, I have provided a surface overview of how BSL operates from a linguistic perspective, including its sociocultural development and the complexity of its current linguistic form. The phonology, morphology and syntax of BSL are important to identify as they provide insight into how seemingly arbitrary combinations of handshapes, movements, and non-manual features can be employed in certain combinations to create meaningful, logical, appropriate and coherent communication in the visual-spatial modality. While there are certain modality-specific areas that must be considered, there is also a lot of similarity to other natural languages found in other modalities. Even from this comparatively short review, there is no doubt that BSL is a natural human language.

Other areas of sign linguistics, including visual etymology and neologism, psycholinguistics, bimodal bilingualism and sign language acquisition have not been covered due to space and relevance to my thesis as a whole. However, it is hoped that this chapter provides the reader with a general understanding of some of the primary functions and facilities of sign languages, and encourages the reader to discover more about this steadily growing area of linguistics.

As found across academia, many of these debates seem to be exacerbated by the approaches that sign linguists tend to employ, and the various analytical tools that are available to them. In numerous cases, many of these tools were developed for, and continue to be used with, spoken and written languages. From what I have discussed above, it is clear that the analysis of languages such as BSL requires either new approaches, or adaptations of existing approaches that are suitable for visual, simultaneous communication systems.

One such approach that boasts extensibility, yet contains very little research in the area of sign languages, is Systemic Functional Linguistics (SFL): a functional model developed over many decades and employed by hundreds of researchers around the world, both inside and outside of linguistics. A wealth of literature is available regarding

SFL, from introductory guides (e.g. Eggins, 2004; Fontaine, 2013; Thompson, 2014) to advanced volumes on specific linguistic or semiotic concerns (Webster, 2005; Kress and van Leeuwen, 2006; Dreyfus, Hood and Stenglin, 2011). The potential and previous applications of SFL to numerous areas of research make this an extremely flexible and appealing framework, allowing for and even encouraging its adaptation to other semiotic systems. In the following chapter, I therefore review what SFL is, and how SFL may be adapted to work with BSL.

3. Systemic Functional Linguistics: Theory and application

3.1. Introduction

The analysis of language and communication benefits from a range of applicable theories, approaches, methodologies and frameworks. Each fall on a continuum between formal and functional, depending on the inclinations of the researcher(s), or the desired outcome. I noted in Section 2.3 above that research into sign languages is fledgling in comparison to the study of other languages of the world, and it appears that researchers in the area of sign linguistics favour formal perspectives. Consequently, functional approaches have had little to do with sign languages, perhaps with the exceptions of Role and Reference Grammar (RRG; see Hodge, 2013, for an application of RRG to Auslan) and some typological approaches to grammar (see Leeson and Saeed, 2012, for an overview of typological studies in various sign languages). Considering this fact with a positive spin, this means that there is much to be discovered about sign languages via functional approaches. In this thesis, the approaches, theories and frameworks that I employ are those of Systemic Functional Linguistics (SFL).

I begin this chapter by presenting an introductory overview of what SFL is, in terms of a linguistic theory, a framework, and its historic development. I do this to provide a background as to why SFL has developed with a concentration on language in context and the idea of simultaneous meaning production. Following this review, I explain the five semiotic dimensions of language – stratification, metafunction, instantiation, rank and system – in greater detail within the Hallidayan interpretation of SFL. These five features can be split into two broad categories of theoretical (stratification, metafunction, instantiation) and descriptive (rank and system). The theoretical dimensions are deemed to be applicable to any human language, and I discuss these alongside the current challenges and criticisms of the model. The two descriptive dimensions vary greatly depending on the language in question. As such, I elaborate on both rank and system with regards to SFL in general and with regards to BSL in particular. For the dimension of rank, I present an initial schematisation of the lexicogrammatical rank scale for BSL, based on information derived from Chapter 2.

However, for the latter dimension of system, I note that much further data is required before this dimension can be fully explored. As such, I conclude this chapter with a discussion regarding how sign languages and SFL have been 'combined' in the past, and where the gap in knowledge remains, namely how appropriate system networks of BSL may be schematised based on recorded data.

One of my intentions in this chapter is to demonstrate that SFL is a vast and complex approach, incorporating several divergences and overlaps within the many areas that this theory has promulgated. One chapter of a thesis alone is not enough to give SFL the space it deserves for a more in-depth explanation and interpretation, but what I present here will permit readers to understand how SFL functions with regards to language theory and description, and how the systemic functional approach may be linked to visual-spatial languages.

3.2. The development of SFL

SFL is a functional approach to the study and interpretation of language and communication. It is one of several functional approaches (see Butler, 2003a) that "explores both how people use language in different contexts, and how language is structured for use as a semiotic system" (Eggins, 2004, p.21). As I demonstrate in this section, decades of influence and change have led to a wealth of theory and practice in this area of linguistics.

In the words of its creator, Michael Halliday, the systemic functional approach provides pathways of investigating and understanding language and communication as social phenomena:

> if we observe an infant learning its first language, we can track in detail the emergence of the phonological, semantic and lexicogrammatical resources which will enable the child to act effectively in, and on, its environment of people and of things. If a system of verbal communication breaks down, we can identify its weak points, the disjunctions and sources of misunderstanding within the text. If

> language is being used to deceive, we can suggest what may be the warning signs [...]. The theory provides something to think with, a framework of related concepts that can be drawn on in many different contexts where there are problems that turn out to be, when investigated, essentially problems of language (Halliday, 2009a, pp.vii-viii).

Halliday's SFL, in the form it is known today, is based on a line of developments from numerous influences. Halliday was a student of John R. Firth, who in turn was a follower of various linguistic inspirations: the Malinowskian notions of functionalism and of 'context of situation' (Malinowski, 1923); the Hjelmslevian ideas of substance and form (Hjelmslev, 1943/1963); and the Saussurean models of semiosis (Saussure, 1916/1959), to name a few. Firth is known, among other things, for his development of functional linguistics and promoting the study of language in context rather than that of language 'in a vacuum.' These ideas and theories were passed on from Firth to Halliday, and continue to be prevalent in Halliday's work

According to Taverniers (2011), Halliday's SFL has seen three key stages. The first of these stages saw the development of Halliday's scales-and-categories model (Halliday, 1961/2002). In this work, Halliday proposed what he believed were "the fundamental categories of that part of General Linguistic theory which is concerned with how language works at the level of grammar" (p.37). Diverging from the popular formal approaches to language analysis and use (e.g. Chomsky's model of Transformational Grammar; Chomsky, 1965), Halliday presented the idea that the written and spoken content of languages are made of elements from four categories – units, structures, classes, and systems – which in turn are related to three scales – rank, exponence, and delicacy. When looking at language as a whole, Halliday proposed an extension to Hjelmslev's notions of 'substance' and 'form' by adding 'context' as a third level; a move undoubtedly influenced by Firth and Malinowski. Halliday (1961/2002) explained these levels as follows: "the substance is the material of language [...], the form is the organisation of the substance into meaningful events [and] the context is the relation

of the form to non-linguistic features of the situations in which language operates" (p.39). I provide a diagram of this explanation below in Figure 3-1:

<table>
<tr><th>Substance</th><th>← →</th><th>Form</th><th>← →</th><th>Situation</th></tr>
<tr><td>Phonic</td><td>Phonology</td><td rowspan="2">Grammar / lexis</td><td rowspan="2">Context</td><td rowspan="2">Extra-textual features</td></tr>
<tr><td>Graphic</td><td>Orthography</td></tr>
</table>

Figure 3-1 - The levels (white) and interlevels (grey) of language as understood in the scale-and-category model.[23]

To briefly summarise Figure 3-1, language was understood to be made of either phonic or graphic elements (the substances). Substances were related to the grammar and the lexis (the form) via the interlevels of phonology and orthography respectively.[24] Finally, these forms were linked to extra-textual features found within the situation of language use via the interlevel of the communicative context.

While the scales-and-categories model was not without its criticisms (see Butler, 1985), it nonetheless acted as a catalyst that allowed for further developments in functional linguistics. As I note later in this chapter, various terms coined in Halliday's (1961/2002) scales-and-categories model can be found in current branches of systemic functionalism, although many of their definitions have changed over the decades.

Taverniers (2011) notes that the transition between the first and the second stage of systemic functional grammar occurred around 1970, when Halliday focussed on the category of 'system' in a much more detailed manner, and extended his theoretical model of language to include the notions of 'stratification' and 'metafunction.' Importantly, the model of language displayed in Figure 3-1 was extended and adapted in light of these developments. Revisiting Hjelmslevian theory, Halliday worked on the

[23] Non-exclusive World English language permission has been granted from Bloomsbury Publishing Plc for the use of this adapted model. Based on © M.A.K. Halliday, 2002, 'from 'On Grammar: The Collected Works of M.A.K. Halliday Volume 1' edited by Jonathan Webster, Continuum Publishing, used by permission of Bloomsbury Publishing Plc.

[24] In the earlier stages of systemic functionalism, the grammar and the lexis were considered two separate elements. Now, the term 'lexicogrammar' is employed because the two elements are believed to be the same at different levels of delicacy. I explain this in further detail in Section 3.5.3.

'expression' and the 'content' of a linguistic unit, considering how these can be associated with the 'substance' and the 'form' of language. As a result, the levels shown in Figure 3-2 below were created:

Halliday's levels	**Hjelmslev's classifications**	
	Plane	***Manifestation***
Semantics	Content	Substance
Lexicogrammar	Content	Form
Phonology	Expression	Form
Phonetics	Expression	Substance

Figure 3-2 - Halliday's restructured theoretical model of language based on Hjelmslev's model.

Perhaps most importantly, this stage of Halliday's work resulted in a bifurcation of Hjelmslev's content plane into lexicogrammar and semantics, thereby introducing 'meaning' into the theory. It was at this point that SFL became "a linguistic model in its own right" (Taverniers, 2011, p.1102).

The third and present stage of SFL commenced around 1987. This current stage allows for a greater focus on the semantics of language in context. As more researchers have subscribed to SFL, several divergent theories and models have also resulted, including Fawcett's (2008) computational approach to the analysis and schematisation of language, and Martin's (1992) focus on the structure of discourse and genre. Nonetheless, each approach remains complementary to Halliday's original ideas, and the current Hallidayan model of SFL (e.g. Halliday and Hasan, 1989; Halliday and Matthiessen, 2004, 2014) continues as the 'standard form' of SFL. It is this current form that I use this thesis, and which I explain in greater detail in the remainder of this chapter.

While much adaptation and modification of SFL has occurred over the last five decades, the goal of Halliday – and indeed of proponents of SFL – has been to create "a theory of language as a fundamental semiotic system [...] shaping social life" (Christie, 2004, p.21).

From the point of view of many functional linguists, Halliday has achieved this goal, or has remained on the pathway to doing so. For instance, Butler's (2003b) comprehensive comparison of numerous functional theories of language confirms that the systemic functional approach

> is first and foremost an attempt to model the communication which human beings achieve by means, not of isolated sentences, but of texts. From the very beginnings of the theory in the 1960s, not only have the concepts of text and context been central, but they have also been explicitly related (p.396).

SFL has also been applied outside of the discipline of linguistics and across more interdisciplinary fields. Although a wide variety of literature can be found applying SFL to different languages (e.g. Caffarel, 2006; Li, 2007; Lavid, Arús and Zamorano-Mansilla, 2010; Halliday and Matthiessen, 2014), there is also work on restricted communication systems (Dreyfus, 2012), research dedicated to the typology of social semiotic systems (Caffarel, Martin and Matthiessen, 2004; Dreyfus, Hood and Stenglin, 2011), education and pedagogical concerns (Halliday, 1991/2007), language acquisition and development (Halliday, 1975), computational matters (Fawcett, 2008), and of communications in multimodal scenarios and communicative systems that are not 'natural human languages' in the stricter sense (Kress and van Leeuwen, 2006; Kress, 2010). The work I present in this thesis attempts to add to this ever-increasing bank of SFL literature.

3.3. The five dimensions of SFL

When considering the form of languages and how they work from a systemic functional perspective, there are five semiotic dimensions that are referred to, three of which are classed as 'theoretical' and the remaining two as 'descriptive' (Caffarel, Martin and Matthiessen, 2004). The three theoretical dimensions that tend to show greater similarity between languages are: stratification (i.e. how the linguistic system is split into multiple interacting levels and its relation to the communicative context), metafunction (i.e. the production of simultaneous meanings in terms of social interaction, the construal of experience, and thematic prominence), and instantiation

(i.e. how instances of a language in use are related to overall, abstract systems of language). Conversely, the descriptive categories of rank (i.e. how smaller units of a language may be combined to form larger units) and system (i.e. how a language is organised syntagmatically and paradigmatically, and how choices in language production are made), are far more language-specific and variable in their form. It can also be seen here that some of these dimensions were in use at the time of the scale-and-category model, such as 'rank' and 'system', although their current uses and definitions have altered somewhat. In this section, I begin by exploring the three theoretical dimensions, alongside some theoretical sticking points, and I then move on to discuss the two descriptive dimensions.

3.3.1. Stratification

SFL categorises human language as a 'fourth-order system.' As Caffarel, Martin and Matthiessen (2004) explain, "first-order systems are physical, second-order systems are biological, third-order systems are social, and fourth-order systems are semiotic" (p.9). Each sequential system in this hierarchy adds an aspect to the previous system: "biological systems are physical systems plus "life" [...], social systems are biological systems plus "value" [...], and semiotic systems are social systems plus "meaning"" (ibid.). Fourth-order semiotic systems therefore include naturally-occurring human languages, which are understandably complex in their nature and composition. However, such complexity is not impossible to schematise, and this may be achieved via the first theoretical dimension of stratification.

Matthiessen, Teruya and Lam (2010) define fourth-order systems as structures that "must be stratified into two planes, the content plane and the expression plane [and] each plane is stratified into two strata or levels" (p.194). I previously demonstrated this in Figure 3-2 above, and as Matthiessen, Teruya and Lam explain,

> the content plane is stratified into semantics and lexicogrammar, and the expression plane is stratified into phonology and phonetics (spoken language), graphology and graphetics (written language) or sign as an abstract expression

system and sign as an embodied expression system (sign languages of deaf communities) (ibid.).

In addition, the authors mention that "the relationship between the two planes remains largely conventional, but the relationship between the strata within each plane is natural" (ibid.). Halliday and Matthiessen (2014) define the natural relationship in the plane of content as "patterns of wording [that] reflect patterns of meaning" (p.27). The same may also be said for the strata found in Hjelmslev's (1943/1963) plane of expression, in whichever medium is being observed (e.g. patterns of sounds in a spoken language are formed by the bank of available sounds in that language). However, following Saussure's notion of the linguistic sign (Saussure, 1916/1959), the two planes share a non-natural relationship: form-meaning pairings are predominantly arbitrary.

Taking these statements into account, the stratified system that I presented in Figure 3-2 above may be modified and represented as in Figure 3-3 below, wherein the crimped line shows the Saussurean arbitrary linguistic relationship, and the dotted lines show the natural relationships between adjacent strata located within the same Hjelmslevian planes:

Halliday's strata	**Hjelmslev's planes**
Semantics	Content
Lexicogrammar	
Phonology	Expression
Phonetics	

Figure 3-3 - The strata found in a fully-formed human linguistic system.

While Figure 3-3 goes towards explaining how human communication may be represented in a stratified manner, a question arises: how may context fit into this model? Returning to the influences of SFL, it was Malinowski (1923) who coined the term 'context of situation' and who proposed that the analysis of language "must burst

the bonds of mere linguistics and be carried over into the analysis of the general conditions under which a language is spoken" (p.306). In other words, language analysis must incorporate the environment in which it is found, rather than being extracted and isolated from its environment. Malinowski summarised this in stating that "a word without linguistic context is a mere figment and stands for nothing by itself, so in the reality of a spoken living tongue, the utterance has no meaning except in the context of situation" (p.307). Firth (1935) later reinforced this inseparability of language and context, noting that "the complete meaning of a word is always contextual, and no study of meaning apart from a complete context can be taken seriously" (p.27).

In terms of stratification, then, it must be possible to incorporate context in some way. In Figure 3-4 (below), I present how this is schematised in the Hallidayan tradition (Halliday and Matthiessen, 2014; cf. Martin, 2014) wherein context is understood to be the overarching stratum, or the extralinguistic environment in which language occurs:

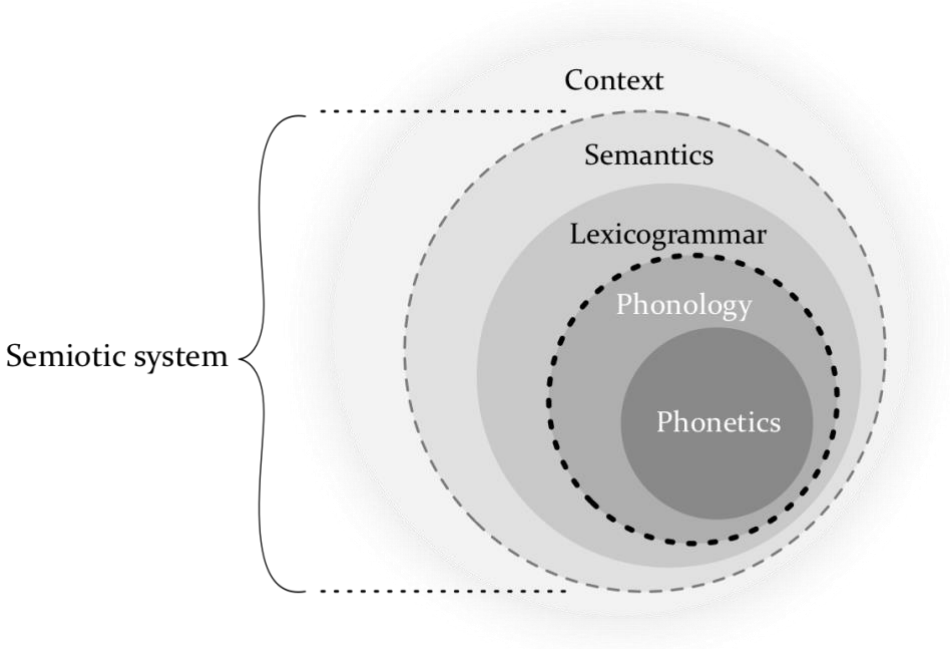


Figure 3-4 - A more complex model of stratification in language based on Halliday and Matthiessen (2014, p.26).[25]

[25] Permission for non-exclusive, English Language rights to use the adapted figure has been granted by Taylor and Francis publishers.

The semiotic system operates within context, complete with its natural and arbitrary boundaries (the latter of which is represented by the thick circular dotted line). In addition, in Figure 3-4 I have faded the outer boundary of context and used a dotted line to represent its inner boundary with the semantic stratum. I have done this to represent the difficulty of defining and delimiting context as an entity unto itself, and with regards to its interaction with various semiotic systems. I discuss this difficulty in further detail later in Section 3.4.1 below.

The interaction between these strata must also be considered, as it is within these interactions that the concept of *realisation* is found: elements at one stratum are realised by elements at lower strata. In other words, the semantics of a language are realised by the lexicogrammar, which in turn is realised by the phonology, and so on moving downwards. However, the realisation between context and the semiotic system requires further deliberation, as the abovementioned 'downwards' realisation in the semiotic system may seem to imply that context is realised by language. This may suggest a strict one-way realisation, meaning that there is no 'upwards influence.' However, most (if not all) systemic functionalists state that there is a two-way interaction between strata, particularly within the uppermost strata of context, semantics and lexicogrammar. Hasan (1993), who wrote extensively on the link between context and language, summarises this in stating that "communication is the act of meaning, characterised by intersubjectivity. To account for intersubjectivity we need to grant the semiotic nature of context, which in turn implies a *cogenetic relation* between context and linguistic meanings" (p.102; emphasis added). Hasan (1999) further explains this cogenetic relation, which is also referred to as a circular influence or a dialogic interaction, as follows:

> if in speaking, the speaker's perception of context *activates* her choice of meanings, then also the meanings meant in speaking *construe* contexts; and the same relation of activation and construal holds, *mutatis mutandis*, between meaning and lexicogrammar (p.223; original emphasis).

It may be therefore understood that context influences language while language also influences context, via the activation of lower strata during linguistic production and the construal of higher strata during linguistic reception (Lukin et al. 2011). This point of view is reinforced by many (e.g. Matthiessen, 1995, 2007; Halliday and Matthiessen, 2014; Thompson, 2014; Hasan, 2014), including Martin (1999) who indicates that, from a diachronic perspective, "language construes, is construed by and, over time, reconstrues and is reconstrued by the social" (p.35).

Whichever terminology is preferred, the dimension of stratification may be summarised as follows: language and context are entities that have influence over one another in various ways. This may be schematised via stratification, which is employed and echoed in multiple systemic functional works that reinforce the essential link between instances of language and the social environment in which language is used. However, it is possible to be more specific than saying that 'context, semantics and lexicogrammar interact:' these three strata may be viewed in finer detail when considering the theoretical dimension of metafunction.

3.3.2. *Metafunction*

From the systemic functional perspective, when language users write, speak or sign, they are said to "produce text" (Halliday and Matthiessen, 2014, p.3).[26] Within the Hjelmslevian plane of content, texts are realised by the lexicogrammar of a language, and in turn, these texts construe meaning in the semantic stratum (see Hasan, 1999; Butt and Wegener, 2008; and Figure 3-4 above).

When looking in more detail at texts, it is possible to observe a trio of meanings being produced, known as the three metafunctions: "highly generalised functions language has evolved to serve" (Matthiessen, Teruya and Lam, 2010, p.138). These metafunctions are the ideational (i.e. how language logically construes experience), the interpersonal

[26] Hereafter, in line with systemic functional terminology, 'text' shall be used to refer to linguistic productions, whether spoken, written or signed.

(i.e. how language construes social relationships and patterns of discourse exchange), and the textual (i.e. how the message within the communication is conveyed in an appropriate manner). Furthermore, each metafunction is said to operate simultaneously within a text:

> just as there is no social context that consists simply of social action or of social relation or of semiotic organisation, so also there is no text which displays just one kind of meaning, just one kind of wording: the three metafunctions operate in unison (Hasan, 1993, p.93).

In other words, any text (as a complete unit or with regards to its component parts) may logically construe experiences while representing negotiations of meaning between interlocutors, while doing so in a coherent manner.[27]

The dimensions of stratification and metafunction are closely intertwined, such that stratification can be explained in greater detail when the three metafunctions are also considered. It can be seen in Figure 3-4 that the semantic stratum, containing the three metafunctions, is situated between the contextual and lexicogrammatical strata. Abiding by the dialogic relationship that occurs between communicative context and linguistic content, it follows that the contextual and lexicogrammatical strata will have intertwining links with the metafunctions found in the semantic stratum. In short: the trio of metafunctions relate to specific contextual features and specific lexicogrammatical features. I demonstrate this visually in Figure 3-5 below:

[27] It is imperative to note that the ideational metafunction is composed of two complementary units: the experiential metafunction (i.e. the realisation and organisation of experience in language) and the logical metafunction (i.e. the coherent sequencing of events). A key difference between these metafunctions is the unit of text that is focused on: the experiential metafunction (alongside the interpersonal and textual metafunctions) is concerned with what occurs within a clause, while the logical metafunction is concerned with the meanings expressed by the concatenation of clauses. I mentioned in Chapter 1 that my work focuses on elements *within* clauses rather than *between* clauses. Therefore, from this point onwards, I refer to the experiential metafunction primarily, commenting on the logical metafunction where appropriate.

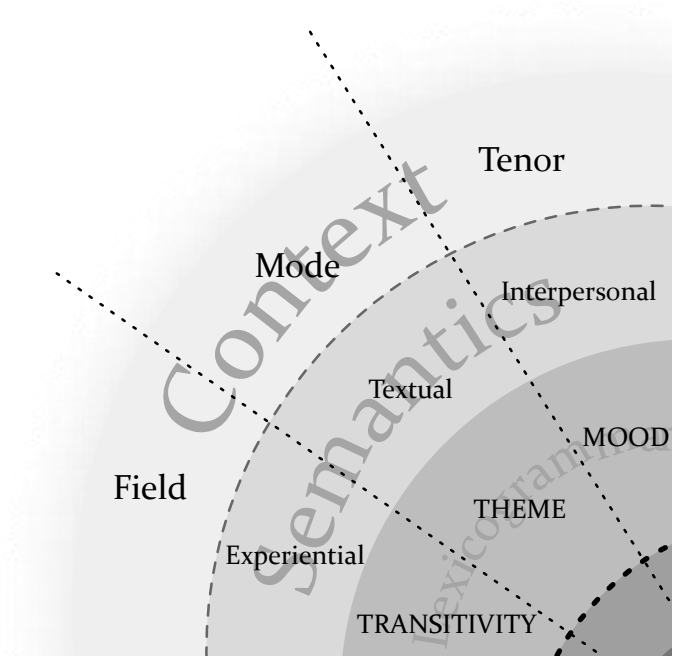


Figure 3-5 – A common schematisation of related contextual features, semantic metafunctions, and lexicogrammatical systems.

While Figure 3-5 shows more 'specific' relationships between strata, it must be remembered that this is a basic representation. For instance, the experiential metafunction is found within the same segment as the contextual factor of field and the lexicogrammatical system network of TRANSITIVITY. However, contextual field encompasses many variables (see Appendix I), and although TRANSITIVITY may be primarily associated with the experiential metafunction (see Matthiessen, 2004), a greater number of systems also operate at the lexicogrammatical level.

This tripartite model can be used as a basis for linguistic analysis from the systemic functional perspective. It can be shown that specific patterns in one area of context or linguistic content will have relations to their associated features in the other strata. For example, Figure 3-5 shows a relationship between the lexicogrammatical system of MOOD, the interpersonal metafunction, and the contextual feature of tenor. As such, features in any of the three strata may be observed to assist and/or clarify the understanding of what is occurring at other strata. In other words, it is possible to investigate communication from 'above,' 'below,' and 'roundabout,' referred to as the trinocular perspective or "trinocularity" (Halliday, 2009b, pp. 79-80).

This may be exemplified in English using a simple scenario of two friends who are shopping for new clothes: one of the friends holds up an item of clothing to their body in front of a mirror, as the other friend looks at them and says, "put it back." This three-word utterance may be interpreted via the trinocular perspective, particularly when considering social relations, as follows. From above (context), the tenor of the situation is one that is informal, in a location where communication is freely permitted, and where communication occurs between people who view each other as 'social equals.' From roundabout (metafunction), the utterance is one that is commanding the recipient to perform an action, which in this case is to place the item of clothing down. From below (lexicogrammar), this utterance is realised lexicogrammatically in an imperative structure. Altogether, the linguistic content suits the communicative context, and the interpersonal relations between the two participants are not altered despite the use of a 'command.'

To briefly summarise, the metafunctional dimension displays functions of language that have evolved though social use. Due to the nature of semiosis, the three metafunctions operate simultaneously, and due to the interactive nature between context and linguistic content, the metafunctions relate closely to their respective contextual factors and lexicogrammatical systems, with trinocularity allowing for a holistic approach to the interpretation of communication in its context.

3.3.3. Instantiation

As I have indicated in Sections 3.3.1 and 3.3.2 above, the dimensions of stratification and metafunction can be applied to a portion of a text, a text as a whole, a range of texts, and, theoretically, all potential texts in a semiotic system (i.e. the entirety of a language). In short, "a text is an instance of language; and language is an accumulation of instances of text" (Matthiessen, 1995, p.38). This part-whole relationship is accounted for in SFL by the third and final theoretical dimension known as instantiation.

Instantiation presents the notion of 'potential,' ranging from a language to individual texts, on a cline: "a continuum of patterns in terms of generalization [...] when instances of potentially symbolic behaviour become systemic—that is, when they occur again as instances of systemic contrasts" (Matthiessen, Teruya and Lam, 2010, p.122). I schematise this cline below in Figure 3-6, wherein the left-hand side displays what is understood to be the 'total potential' of context and language, while the right-hand side displays more concrete examples of texts in specific contexts:

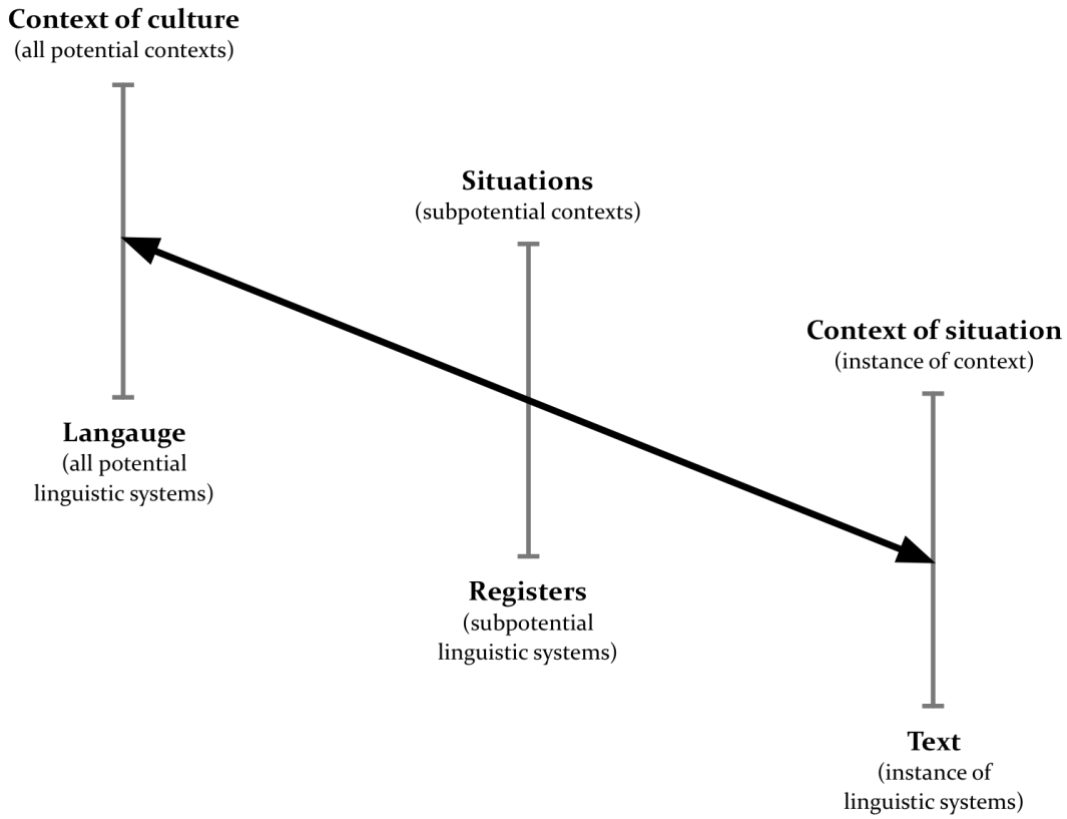


Figure 3-6 - The cline of instantiation for context and language (terminology adapted from Table 7 of Matthiessen, Teruya and Lam, 2010, p.123).

When texts are created by language users, various choices are made. Bearing in mind the abovementioned dimensions of stratification and metafunction, choices in the lexicogrammar must be relevant to (and/or influenced by) the communicative environment, while conveying the desired meaning. Furthermore, while it is possible that no two texts will be exactly alike, texts may appear to be very similar to one another. This suggests that there are instances where similar choices in the lexicogrammar are

made to suit a purpose, distinguishable from choices made in other instances. Compare, for example, the similarity of language used in articles between different broadsheet newspapers with the language used in daytime TV chat shows; there are far greater similarities between instances of the same type than there are between the two types overall. These groupings of texts, or 'registers,' are represented by the central 'subpotential' pole in Figure 3-6 above. Nonetheless, this should not be viewed as an exact midpoint or a single entity, as there may be many further instances of language falling closer to either end of the cline.

Additionally, given the intrinsic link between language and its environment, the notions of 'potential' and 'instance' can also be applied to communicative contexts, as shown on the upper-level of the cline in Figure 3-6 above. Matthiessen (1995) identifies that "both language and context of culture are systemic potentials which can be instantiated or actualized over time" (p.37). As such, "context of culture is the potential [...] while context of situation is an instance of that potential" (Hasan, 2009, p.169). Hence, a context may range from what is found to co-occur with an instance of text (i.e. the context of situation), to what is found to co-occur with the language overall (i.e. the context of culture).

3.4. Further commentary on the theoretical dimensions

It is arguable that these three theoretical dimensions of SFL allow for an intelligible approach to understanding the semiotic system of natural human language. However, they are not without their criticisms and divergences. In this section, I briefly explore issues surrounding the notion of 'context,' possible intersections and issues with regards to pragmatics, and the difference between the 'Sydney grammar' and the 'Cardiff grammar' in SFL.

3.4.1. Defining context

One of the most common issues noted in systemic functionalism, as with many other functional theories, is that of context. Specifically, the definition and limitations of

context are commonly-cited concerns, many of which can be classed under "the infinity or boundary problem" (Butt and Wegener, 2008, p.602). To mitigate this issue as much as possible, the Hallidayan systemic functional approach stands ahead of other functional theories (see Butler, 2003a) by dividing context into the tripartite of field, mode and tenor, as I presented in Figure 3-5 above. Although the literature varies in its depth and treatment of these three contextual features, the following overall descriptions are suitable as quick summations of each feature: field is concerned with the activity that language is being used for; mode is how the language is employed in the context (e.g. the turn-taking structure and the medium of communication); and tenor is concerned with the communicative participants and their social proximity or distance. I provide a tabulated breakdown of the three contextual features and their respective 'sub-features,' based on the research of Leckie-Tarry (1995), Eggins (2004) and Halliday and Matthiessen (2014), in Appendix I.

Regardless of the approach taken or the preferred definitions, the contextual elements of any communicative environment are potentially infinite in their identification and measurement. For instance, although Matthiessen (1995) states that language is influenced by context and contributes to the maintenance of context, he notes that "context may be realized not only by language but also by other semiotic systems" (p.33), such as the posture of interlocutors (i.e. 'body language') or even the items of clothing being worn. As such, not everything about a context can be accounted for in language. Furthermore, Halliday (1991/2007) insists that context is "outside of language itself" (p.271), although it is arguable that there are co-textual features and even cognitive features that may be classed as 'contextual.' For example, previously-shared information between interlocutors is not necessarily part of language as understood from the stratified perspective, but its presence will affect the language produced in the situation.

Issues surrounding the definitions and schematisations of context in SFL have also been identified by researchers including van Dijk (2008), who noted that the tripartite of contextual features in the Hallidayan tradition of systemic functionalism are "confused and vague" (p.45). Van Dijk even goes as far as insisting that this "hopelessly confused terminological triple [should be] abandoned" (p.55). While I agree that there are issues

that need further exploration with regards to context – both in SFL and beyond – I do not agree that a total rejection of this model of context is necessarily the best step. Instead, I believe that there is room to expand and improve on the nature and understanding of context, such as was performed by Leckie-Tarry (1995) and Hasan (2014), and such as I have attempted with members of the British Deaf community in my previous work (see Rudge, 2015).

3.4.2. Directions of contextual influence

I noted in Section 3.3.1 above the 'vertical' dialogic interaction that context and linguistic content have connecting them. It has also been suggested that interaction and influence may be found 'horizontally,' specifically between contextual features. This is proposed by Leckie-Tarry (1995) who identifies that "each element of the context has a certain effect on the predetermination of other elements" (p.26). This position echoes those of other researchers such as Labov (1984) who notes that, for instance, if the mode of communication were a face-to-face interview (a feature of mode), a formal style of language (a feature of tenor) would be used "no matter how casual or friendly the speaker appears to be" (p.29). This suggests that contextual features are not equally weighted and, in this case, features of mode override features of tenor, thereby affecting the choices that can be made in the language. Again, my own research with BSL users supports this (Rudge, 2015), wherein I note that the tenor of a communicative context appears to have the most influential effect on language use, with the feature of field conversely having very little impact.

3.4.3. Pragmatic effects

A further point to consider is the link between the systemic functional interpretation of the form-function relationship, and how this may be understood from a pragmatic perspective. Both systemic functional approaches and pragmatic approaches heavily rely on context, to the point where both acknowledge the importance of the dialogic relationship between context and language: "a pragmatic act is an instance of adapting oneself to a context as well as [...] adapting the context to oneself" (Mey, 2001, p.227).

Nonetheless, there is very little work uniting these areas (see Butler, 1988), possibly due to the fact that SFL does not view the traditional fields of pragmatics, syntax and semantics as separate components, but as "a unified model of language" (Thompson, 2004, p.249). Nonetheless, systemic functionalism and 'traditional' pragmatics may need to work together in order to fully understand what is happening at grammatical and structural levels, as well as the effects taking place at semantic and discourse levels.

To exemplify this point further, I refer to the scenario that I presented in Section 3.3.2 above, regarding the use of an imperative structure in a conversation between two friends. It is possible for this same scenario to be modified, with the participants instead being a mother and her young child (who has been causing trouble all day). In the hypothetical clothes shop, wherein the child is mixing up clothes around the store, the mother makes eye contact with her child and utters the same phrase: "put it back." Here, the communicative form is the same as what was used in the first scenario (and it may be argued that similar prosodic and intonational patterns may be used in each of the two instances). Despite the mismatch in social power in this situation, where the mother is dominant over her child, the 'roundabout' and 'from below' realisations are the same: a command is issued and is lexicogrammatically realised an imperative clause. However, there are pragmatic influences in this second scenario, specifically an inference that there will be negative consequences if the command is not fulfilled, and that retaliation to this command may be met with punishment. This is extremely unlikely in the first scenario, wherein the inference may be understood as 'the item does not suit you,' and it would be perfectly acceptable for the recipient to challenge, or even ignore, what the speaker said.

It is possible, however, to refer works such as Matthiessen (1995) who speaks of interpersonal grammatical metaphor, or "incongruent MOOD codings" (p.439), such as an indicative realised as an interrogative. Indeed, other types of grammatical metaphor are also included depending on the metafunction in question. While such approaches allow for the structure of 'incongruent' realisations to be presented and studied in further detail, questions may still arise, such as what it is about the context that allows for this incongruence to occur (i.e. questions that are explored in greater detail in the

field of pragmatics). Additionally, Thompson (2014) identifies the potentially infinite nature of grammatical metaphor as follows:

> it opens a potentially bottomless pit of possible rewordings. It is difficult to decide at what point you are crossing from unpacking the meanings that are there to importing meanings that were not there before; it is also difficult to decide at what point you have arrived at a reading that is sufficiently congruent; and it is even difficult sometimes to decide whether a wording is actually metaphorical or not [...]. There is no answer to this dilemma: the concept is essential in explaining how the language works, but it is a dangerously powerful one (p.252).

It is thus possible that systemic functional approaches could benefit from greater collaboration with pragmatic theory, thereby allowing the theoretical dimensions to develop in accounting for connotative meaning due to contextual variation.

3.4.4. Other models of SFL

Before moving on to the descriptive dimensions, it should be remembered that not all branches of SFL match in terms of the theoretical dimensions that I have noted above. For instance, while the Hallidayan approach identifies three metafunctions, advocates of the Cardiff Grammar (e.g. Fawcett, 2008) identify eight strands of meaning that simultaneously occur. Nonetheless, these eight strands do include the experiential, ideational and textual metafunctions either as a direct replication or with minor modification, while including other strands of meaning including 'validity' and 'negativity.' As such, although this is not a disagreement between approaches, it does show that even within SFL there are multiple directions that could be taken. While this thesis focuses on the Hallidayan model (or the 'Sydney Grammar'), the Cardiff Grammar is another route that may be taken in future studies.

3.5. The descriptive dimensions

Unlike the theoretical dimensions, the descriptive dimensions of semiotic systems vary according to the language under investigation. These two descriptive dimensions are rank and system. While there is a large body of work on these dimensions for a variety of languages in the spoken and written modalities, at present, no literature exists on either of these dmensions with regards to languages in the visual-spatial modality, such as BSL. In the following section, I review the features of rank and system, alongside an initial interpretation of the lexicogrammatical rank scale for BSL based on the linguistic aspects that I covered in Section 2.4 above. Systems of BSL, however, will be explored in later chapters, as more data is required before any firm conclusions can be made on their composition. Prior to looking at these dimensions in more detail, however, I present a short reflection on the notion of 'centrism' to indicate how the dimensions of rank and system for BSL may be interpreted from an appropriate perspective.

3.5.1. 'Centrism' in SFL

Most work carried out in modern linguistics focuses on languages that are either spoken or written, and SFL is no exception to this fact: very little work from the systemic functional perspective observes sign languages. As I noted in Section 2.4.4 above, the use of analytical tools designed for spoken and written languages should (if possible) be carefully adapted when analysing languages in other communicative modalities. In revisiting Lutalo-Kiingi's (2014) comments on sign order, he identifies that

> it would seem more efficient to facilitate analysis that allowed sign languages to be analysed according to an approach that permitted patterns of greater complexity, such as variable sign order according to discourse context or other factors, or several alternative sign orders (p.120).

Any analysis, therefore, needs to be able to work with and be adaptable towards the language in question, rather than trying to fit the language into the analysis itself. In

other words, the analysis should be as glottocentric as possible, allowing for appropriate descriptions to be created.

Issues with glottocentrism have been previously commented on in systemic functional work. Martin (1983), for instance, notes the issue of a lack of glottocentrism in systemic functional analyses, stating that descriptions and methods are "being abstracted from one language [...] and sought in another [and therefore biasing] one's analysis of the second language in terms of the first" (p.46). While this does not seem to be apparent in more recent work, such as in the numerous chapters of Caffarel, Martin and Matthiessen (2004) which describe a variety of languages independently, it is nonetheless inevitable that most systemic functional descriptions have been performed in 'vococentric' or 'scriptocentric' manners – that is to say, they focus almost exclusively on spoken and written forms of human language. To develop a more accurate account of human languages from the systemic functional perspective, it is necessary to ensure that visual-spatial languages are accounted for. As such, a truly glottocentric approach can only be taken by acknowledgement of the change in communicative modality. Therefore, my work takes a 'visuocentric' approach: using visual-spatial meaning-making resources as a point of departure and as a part of the descriptive dimensions.

Nevertheless, there must be some compromise. Gil (2001) discourages researchers trying to "squeeze-fit [a] language" (p.127) into pre-existing descriptions to avoid biased accounts of language description. Yet, when a new language is being investigated, let alone a language in a different modality, "in order to do anything with the data [...] there is no alternative but to invoke at least some a priori categories" (p.128). From the systemic functional perspective, Caffarel, Martin and Matthiessen (2004) mention that the idea of creating a description of a language without recourse to descriptions of other languages is both rare and extremely time-consuming. Instead, the authors suggest 'transfer comparison:' using the description of another language as a base for the language under investigation, as Gil (2001) recommends via 'a priori categories.'

Given the goal of this thesis being to present a preliminary systemic functional description of BSL, yet also acknowledging constraints regarding time and resources,

some recourse has been made to systemic functional descriptions and patterns found in other languages. In particular, I refer to descriptions and systems of English, as this is the 'closest' language to BSL that has a large systemic functional grammar. Nevertheless, I have strived to ensure that the descriptions of BSL from this point forward are as visuocentric as possible.

3.5.2. Rank

Languages dispose of concatenating structures, often referred to in systemic functional literature as "syntagmatic order" (Halliday and Matthiessen, 2014, p.20). In other words, units of a language may be ordered sequentially to form larger units. English, for instance, demonstrates syntagmatic order via the concatenation of smaller lexicogrammatical units to form larger lexicogrammatical units, both in the spoken and written modalities. The smallest units that can bear meaning are morphemes, which in English are sequenced one after the other to make lexemes or 'words.' In a similar fashion, words can be concatenated to create larger units such as nominal and verbal groups, which in turn can be sequenced to form clauses. Together, the morphemic, lexical, group and clause levels become a hierarchy, known as the lexicogrammatical rank scale. I present a simple example of the lexicogrammatical rank scale of English in Table 3-1 below:

<table>
<tr><th>Rank</th><th colspan="8">Example</th></tr>
<tr><td>Clause</td><td colspan="8">Becci and Kelly disliked vanilla
[independent clause]</td></tr>
<tr><td>Group/Phrase</td><td>Becci</td><td>and</td><td>Kelly</td><td colspan="3">disliked</td><td>vanilla</td></tr>
<tr><td></td><td colspan="2">[nominal]</td><td colspan="3">[verbal]</td><td>[nominal]</td></tr>
<tr><td>Word</td><td>Becci</td><td>and</td><td>Kelly</td><td colspan="3">disliked</td><td>vanilla</td></tr>
<tr><td></td><td>[noun]</td><td>[conj.]</td><td>[noun]</td><td colspan="3">[verb]</td><td>[noun]</td></tr>
<tr><td>Morpheme</td><td>Becci</td><td>and</td><td>Kelly</td><td>dis-</td><td>like</td><td>-d</td><td>vanilla</td></tr>
<tr><td></td><td>[free]</td><td>[free]</td><td>[free]</td><td>[bound]</td><td>[free]</td><td>[bound]</td><td>[free]</td></tr>
</table>

Table 3-1 - An example of the English lexicogrammatical rank scale

Table 3-1 demonstrates how the phrase 'Becci and Kelly disliked vanilla' may be analysed at each rank. Reading from top to bottom, the utterance 'Becci and Kelly disliked vanilla'

is an independent clause. The clause is made of three groups: two nominal groups ('Becci and Kelly' and 'vanilla') and one verbal group ('disliked'). Given the nature of written English, it is relatively easy to identify where word breaks occur (cf. compounds) and the class to which each word belongs. In this case, there are three nouns, one verb and a conjunction. Finally, we can split these words further into their morphemes, as shown by the word 'disliked' being split into its components of the negative prefix 'dis-,' the free morpheme 'like,' and the past tense inflectional suffix '-(e)d.'

There are various factors that must be considered with regards to the formation of such a hierarchy, two of which are as follows.[28] Firstly, each rank must represent "an organic configuration such that each part has a distinctive function with respect to the whole" (Halliday and Matthiessen, 2014, p.22). Table 3-1 demonstrates that this is the case, with no further levels that can be placed above, below, or in-between the ranks displayed without violating this requirement. Secondly, the units of each rank may either be concatenated to form units of higher ranks, known as 'complexing,' or the units may already form higher ranks without the need for further unit concatenation (i.e. some units can stand by themselves in most or all ranks). An example of complexing at the clause rank, for example, would be to add another clause after 'Becci and Kelly disliked vanilla,' such as 'but they loved cinnamon.' An example of a unit that could stand by itself at every rank is the command 'go,' which acts as one morpheme (free), one word (verb), one group (verbal) and one clause.

As is expected, lexicogrammatical rank scales differ between languages. The ranks shown in Table 3-1 for English (i.e. clause, group/phrase, word, morpheme) are similar to those seen in French (Caffarel, 2006) and Spanish (Lavid, Arús and Zamorano-Mansilla, 2010). Other languages vary in the number of ranks used, as seen in the Chinese lexicogrammatical rank scale wherein the morphemic rank is omitted due to the largely isolating morphology found within Sinitic languages (Li, 2007). Yet, the

[28] Other notions of lexicogrammatical rank scales not mentioned here include rank shift and enclosure, both of which involve the movement of units between ranks (see Halliday and Matthiessen, 2014, pp. 9-10). These are easier to identify with a larger amount of data, but as this thesis is an initial analysis of BSL via SFL with a limited amount of data, these notions are currently omitted.

higher ranks between these languages, and the many others that have been studied in SFL, remain similar. This is backed up in Caffarel, Martin and Matthiessen's (2004) typological work, wherein they note that "languages tend to differ more at lower ranks [...] and tend to be more congruent with one another at higher ones" (pp. 5-6).

For BSL, a lexicogrammatical rank scale may also be presented, despite the language operating in the visual-spatial modality. Taking into consideration what is presented in systemic functional literature regarding rank scales, combined with what is seen in typological work and my review of the linguistic features of BSL (see Sections 2.4 and 2.5 above), I present a lexicogrammatical rank scale of BSL here.[29] I explain each rank in turn, starting with the largest units and moving to the smallest (i.e. from 'clause' to 'morpheme').

For the purposes of exemplification, it is assumed that the following example of BSL in gloss 3-01 is a 'clause simplex,' in that it contains one verbal element and its associated arguments (see Section 4.3.2 below for a more in-depth analysis of clause delimitation and composition):

(3-01) DOG PT_X CAT PT_Y DOG-CHASE-CAT
"The dog chases the cat." [30]

To clarify the elements of 3-01, PT denotes a pointing sign, and the subscript letters denote a location in the signing space where the preceding referent is placed. Thus, DOG is placed in location 'x' while CAT is placed in location 'y.' The hyphens in the final element denote a single sign that requires multiple written elements to accurately gloss the meaning that is conveyed.

[29] I first presented this scale at the 2016 European Systemic Functional Linguistics Conference in Salzburg, Austria. My thanks are given to those who attended both my presentation and the conference, for providing me with inspiring conversations and feedback that I have implemented into my work.

[30] Video: tinyurl.com/bslsfl3-1

From the perspective of the lexicogrammatical rank scale, 3-01 can fit into at least three of the ranks that are shown in Table 3-1, albeit with the modification of the 'Word' rank to the 'Sign' rank. I show this adapted version below in Table 3-2:

<table>
<tr><th>Rank</th><th colspan="5">Example</th></tr>
<tr><td>Clause</td><td colspan="5">DOG PT_X CAT PT_Y DOG-CHASE-CAT
[independent clause]</td></tr>
<tr><td>Group/Phrase</td><td colspan="2">DOG PT_X
[nominal]</td><td colspan="2">CAT PT_Y
[nominal]</td><td>DOG-CHASE-CAT
[verbal]</td></tr>
<tr><td>Sign</td><td>DOG
[est. N]</td><td>PT_X
[point]</td><td>CAT
[est. N]</td><td>PT_Y
[point]</td><td>DOG-CHASE-CAT
[depicting construction]</td></tr>
</table>

Table 3-2 - The BSL lexicogrammatical rank scale with clause, group/phrase and sign ranks

In a similar vein to the English example that I provided in Table 3-1, the clause simplex may be split into three groups: two nominal groups and a verbal group. The nominal groupings of established nouns ('est. N' in Table 3-2) and pointing signs define the two participants of the clause. The verbal group, which is the final element, is a depicting construction in which both hands and non-manual features are used to represent interaction and motion in signing space.

However, a problem occurs when considering the rank below 'Sign.' Whereas many spoken and written languages can deal with this somewhat easily given the overall syntagmatic structuring of their elements, the simultaneity and complexity found in sign languages creates difficulty in accurately representing multiple features in one rank. For instance, although DOG and CAT could be viewed as 'free' morphemes in themselves (e.g. there is no inflection for number provided on either), the pointing signs carry spatial information that occur simultaneously with the manual production of the sign. In other words, BSL represents the identification of the referent with the handshape, and the location of the referent in space, at the same time. In addition, DOG and CAT are not solely produced on the hands. I mentioned in Section 2.4.2 above that noun signs often co-occur with mouthing to create the full meaning of the sign. Both DOG and CAT are no exception to this rule, with the English mouthing of 'dog' and 'cat' co-occurring with each manual production respectively. Furthermore, even more complexity arises

with DOG-CHASE-CAT as both hands are moving at the same time, through different points in the signing space, and are coupled with non-manual features. All this simultaneous, meaning-bearing information must be represented so that the rank above (i.e. 'Sign') to be accurately formed. While there is still a concatenation of elements, affordances must also be made to allow for simultaneous production. I propose a method of displaying this simultaneity below in Table 3-3:

<table>
<tr><th colspan="2">Rank</th><th colspan="5">Example</th></tr>
<tr><td colspan="2">Clause</td><td colspan="5">DOG PT_X CAT PT_Y DOG-CHASE-CAT
[independent clause]</td></tr>
<tr><td colspan="2">Group/Phrase</td><td colspan="2">DOG PT_X
[nominal]</td><td colspan="2">CAT PT_Y
[nominal]</td><td>DOG-CHASE-CAT
[verbal]</td></tr>
<tr><td colspan="2">Sign</td><td>DOG
[est. N]</td><td>PT_X
[point]</td><td>CAT
[est. N]</td><td>PT_Y
[point]</td><td>DOG-CHASE-CAT
[depicting construction]</td></tr>
<tr><td rowspan="4">Morpheme</td><td rowspan="2">Manual</td><td rowspan="2">DOG</td><td rowspan="2">PT</td><td rowspan="2">CAT</td><td rowspan="2">PT</td><td>RH: DOG-CL</td></tr>
<tr><td>LH: CAT-CL</td></tr>
<tr><td>Non-manual</td><td>"dog"</td><td></td><td>"cat"</td><td></td><td>*puff* ; gaze at hands</td></tr>
<tr><td>Spatio-kinetic</td><td></td><td>x</td><td></td><td>y</td><td>x → y</td></tr>
</table>

Table 3-3 - The BSL lexicogrammatical rank scale with all ranks displayed.

To achieve this, I have split the rank of morpheme into three 'simultaneous' subranks: manual, non-manual and spatio-kinetic (i.e. the movement and placement that occurs within the signing space). Each subrank 'combines' vertically to fully produce what is represented immediately above in the rank of 'Sign.'

The composition of the first four elements in Table 3-3 is relatively simple to understand: DOG is produced by the manual component DOG and the non-manual mouthing of the English word 'dog;' PT_X is created by a combination of the manual PT and its position in location $_x$ of the signing space; and so on. The first four elements also show that not all morphemic elements are required for a sign to be produced. For instance, pointing signs in BSL may not be accompanied by mouthing, and as such, the pointing signs in Table 3-3 do not have a 'non-manual' value allocated to them.

The production DOG-CHASE-CAT presents far greater complexity in its composition. Not only do all three features of the morphemic rank have values, but there is also the need to divide the 'manual' aspect to accurately identify what both hands represent during the production of the depicting construction. In this case, the right hand (RH) uses a handshape representing DOG, and the left hand (LH) similarly represents CAT. The non-manual features used includes a puffing of the cheeks to convey the idea of speed or urgency in the movement, providing the meaning of 'chase' (an absence of these non-manual features could result in the meaning of 'follow'). Other non-manual features include an eye gaze that is directed towards the hands, which is commonly performed during depicting constructions, rather than looking at an interlocutor or in a neutral location. Finally, the spatio-kinetic subrank shows that there is a movement from location $_{X}$ (i.e. where DOG was located) to location $_{Y}$ (i.e. where CAT was located), showing the interaction between the participants and the direction of movement in the signing space.

Given the relative freedom in BSL sign order (see Section 2.4.4 above), it is possible that if the locations for DOG and CAT were swapped (i.e. DOG PT_{Y} CAT PT_{X}), the meaning of the verbal group would become CAT-CHASE-DOG due to the movement enacted in the depicting construction. Conversely, if this swap were to occur alongside a change in the direction of movement in the final sign (i.e. $_{Y} \rightarrow _{X}$), then the meaning would revert to DOG-CHASE-CAT. In other words, it is the placement and interaction of elements in the signing space which (in this case) takes priority over the exact ordering of the signs produced. Nonetheless, this is not to say that sign order is completely free. For example, pointing to multiple areas in the signing space and *then* indicating referents using fully lexical signs (e.g. PT_{Y} PT_{X} DOG CAT) is not clear enough to interpret which referent is associated with which region of the signing space. Similar instances may also be found in written and spoken languages, such as Japanese, where elements have a relatively free order, yet require postpositional particles to identify morphosyntactic elements such as case (see Iwasaki, 2003).

Before moving on to the dimension of system, it must be remembered that what I have presented in this section is preliminary in its nature, and that more research will

produce further questions about and amendments to the lexicogrammatical rank scale displayed in Table 3-3 above. It may be argued, for instance, that this scale remains oversimplified, despite the extra detail that I provide at the morphemic level. Given the potential combinations of non-manual features that may occur and even change within a single manual production, the 'non-manual' sub-rank may need to be expanded further. Questions such as these are undoubtedly important to address, but it is not my intention in this thesis to explore the lexicogrammatical rank scale in such depth. The schematisation that I present in Table 3-3 above is satisfactory for understanding the remainder of the thesis, although I heavily encourage further research into this area.

3.5.3. *System*

Whereas rank demonstrates the 'part-whole' relationships found in semiotic systems, the dimension of system instead demonstrates "what *could go instead of* what" (Halliday and Matthiessen, 2014, p.22; original emphasis). In other words, there are systems available within languages that present options for communicators during communication. For example, 'it is cold outside' can be understood as an interlocutor providing a statement of fact about the weather. If the interlocutor instead wished to know more about the weather, rather than making a statement, they can instead form a question: 'is it cold outside?' Although simplistic, this distinction can be viewed as a choice between whether the interlocutor wanted to let something be known or to request knowledge from others. This choice is reflected in the language employed, and these choices are schematised in the form of system networks. I demonstrate a simplified network for MOOD (i.e. concerning the choices between giving and receiving information) in Figure 3-7 below:

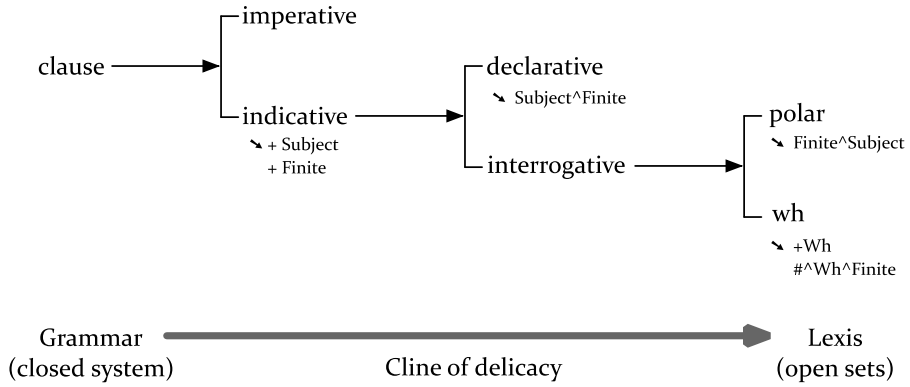


Figure 3-7 - A simplified system network of MOOD in English adapted from Halliday and Matthiessen (2014, p.24).[31]

Systems are organised with regards to delicacy, or "the cline from general to specific" (Matthiessen, Teruya and Lam, 2010, p.80). Using Figure 3-7 as an example, the terms towards the left of the system are more closely related to the grammatical side of English, whereas what is found towards the right is closer to the lexical side of English. As choices are made, the 'delicacy' increases, and thus grammatical choices are eventually realised through lexis. This connection between grammar and lexis explains why the term 'lexicogrammar' is used in SFL: "lexis and grammar are not related compositionally, by rank, but along another dimension – delicacy" (Matthiessen, 1995, p.107).

As options are made, a path is formed from left to right, eventually resulting in realisation statements (i.e. how these options are formed in the lexicogrammar of the language in question). In Figure 3-7 above, these statements are indicated by an arrow (↘) and are followed by the functional elements that need to be present in the clause, with some also presenting how these functional elements should be ordered.[32] In more complex system networks, further logical functions and more specific lexical realisations can be found (see, e.g., Halliday and Matthiessen, 2014).

[31] Permission for non-exclusive, English Language rights to use the adapted figure has been granted by Taylor and Francis publishers.

[32] See the front matter of this thesis for a brief explanation of the conventions used in system networks.

Figure 3-7 above may be interpreted as follows: the system of MOOD presents options that the realised clause may take depending on the function that the communicator wishes to achieve (e.g. a statement to provide information, a question to request information, etc.). The first choice is whether the clause is imperative (i.e. commanding) or indicative (i.e. expressing). If the indicative route is chosen, the functional elements of Subject and Finite are inserted into the clause.[33] A further choice must then be made regarding whether the purpose of the communication is a request for information (i.e. an interrogative) or a presentation of information (i.e. a declarative). If the former is chosen, another choice is then required based on the specifics of the request: to clarify information or to request unknown information. In the case of clarification, the functional elements must be ordered as Finite followed by Subject (e.g. 'is it…' instead of 'it is…'). In the case of requesting new information, a wh- word is inserted (i.e. who, what, where, when, why, how or which) and placed before the Finite (e.g. 'who can…').[34]

Again, what is shown in Figure 3-7 is a basic example of what is a vastly detailed and intricate network of choices. Halliday and Matthiessen (2014) present a more comprehensive network of MOOD for English, wherein many more systems, features and operations can be found (e.g. the use of conjunctive selections of entry conditions rather than purely disjunctive selections, the necessity to consider aspects including modal deixis, etc.; see Painter, 2009). Furthermore, system networks such as MOOD are not the only systems operating in the interpersonal metafunction, and there are other system networks attributed to the other metafunctions (i.e. the experiential and the textual metafunctions; see Figure 3-5 above). As such, this results in a large set of networks that operate simultaneously within any given text.

[33] Functional elements are capitalised, in line with systemic functional conventions.

[34] A contradiction may be noted in the system network in Figure 3-7, as the realisation statement of the wh feature does not contain Subject, although Subject was inserted at a lower delicacy. This is due to how wh questions are formed in English: Subject may conflate with the wh word, or may be used in conjunction with the wh word. See Halliday and Matthiessen (2014, pp. 160-164) for further clarification.

3.6. Bringing SFL and sign languages together

With the above presentation of the five dimensions of semiotic systems, coupled with the information regarding the linguistics of BSL that I presented in Chapter 2, it is now possible to present a visuocentric approach and determine how SFL and BSL may be brought together. I have already demonstrated one way that this may be achieved in Section 3.5.2 above with the lexicogrammatical rank scale of BSL (see Table 3-3). Conversely, I am yet to propose any system networks relating to the experiential, interpersonal and textual metafunctions. Due to the complexities of system networks, it is not yet possible for me to suggest their forms without a more extensive analysis of BSL in use.

At the time of writing, there are only a handful of papers in SFL that mention sign languages to some extent (e.g. Matthiessen, Teruya and Lam, 2010; Dreyfus, 2011, 2012). The only systemic functional work that has analysed a sign language in any particular detail is Johnston (1996), wherein he uses examples of Auslan to demonstrate how sign languages use space as a meaning-making resource.

Several important points are made throughout Johnston's (1996) work regarding the modality-specific resources that are available in sign languages. For instance, as I have noted in this chapter and in Section 2.5.2 above, sign languages have the ability – if not preference – to convey a considerable amount of meaning simultaneously rather than sequentially, whereas languages in the spoken and written modalities employ more linear, concatenating structures, due to articulatory, productive and receptive limitations. In addition, Johnston reaffirms the necessity to think beyond the typical practices of linguistic analysis as are generally performed for spoken and written languages:

> [the] lack of recognition of the plurifunctionality of linguistic expressions leads to an unproductive and inadequate analysis of sign order as if sequence equalled order and order was uniquely a function of representational content (p.59).

The analysis of sign language through the order of signs alone therefore presents incorrect and inadequate conclusions of languages in the visual-spatial modality. Johnston (1996) further notes that this lack of a relationship between order and function, and even the lack of a strict order in Auslan, is due to two factors: there is no written system in Auslan and therefore no influence from such a system (however, cf. Sutton-Spence, 1999, for the relationship between BSL and English); and there is "little cultural expectation on Auslan signers to be explicit and unambiguous at all times" (Johnston, 1996, p.87).

Although it appears that no great amount of data was analysed in Johnston (1996) – more than likely due to the lack of sign language corpora available at the time of publication – his work provides an important starting point. Johnston crucially demonstrated that languages in the visual-spatial modality have the capacity to be analysed from a systemic functional perspective. Such work is now continued in this thesis, with the focus shifted to BSL, in order to fill the gap in knowledge that exists with regards to sign languages and their analysis through the lens of SFL.

3.7. Conclusion

In this chapter, I have provided a summary of some of the core aspects of SFL. Firstly, I briefly overviewed a concise history of how the present Hallidayan model of SFL developed, focussing on Firthian, Saussurean and Malinowskian influences. I followed this with a more detailed explanation of the five dimensions of human semiotic systems, beginning with those classed as theoretical: stratification, metafunction, and instantiation. These three dimensions are common between fourth-order semiotic systems, although there are still areas that require expansion and clarification, such as the definitions and measurement of 'context.' From the perspective of the theoretical dimensions, despite their criticisms, BSL appears to follow the notions of stratification (i.e. there are conventional and natural links between different levels of language), metafunction (i.e. it is possible for BSL to create experiential, interpersonal and textual meaning), and instantiation (i.e. BSL texts may be grouped into instances, larger groupings, or as part of the full language overall).

I then moved on to observe how BSL could fit within SFL via an explanation of the two descriptive semiotic dimensions of rank and system. For the former, I provided a novel method of splitting the 'traditional' lexicogrammatical rank scale to suit the complexities of BSL production by incorporating manual, non-manual and spatio-kinetic elements at the morphemic rank. While trying to represent visual-spatial elements in a static, written format is not an easy task, I believe that this method allows for a more accurate reflection of how the simultaneous articulators can be fragmented into several meaning-making components.

However, the systems of BSL are, up until this point, unknown. At the level of the clause simplex, Matthiessen (2004) identifies that the most generalised systems from a typological perspective are TRANSITIVITY in the experiential metafunction, MOOD and POLARITY in the interpersonal metafunction, and THEME in the textual metafunction.[35] Additionally, these systems are "subject to considerable typological variation" (p.539). Coupled with the above discussion on glottocentism and visuocentrism, I cannot copy these systems directly from another language as they will be specific to that language. Additionally, as the focus of my work is on a language in a different modality, compared to the systemic functional descriptions of languages currently available, there are numerous further aspects to consider, and in significant detail.

Therefore, the main research question is as follows: how can the appropriate system networks for the interpersonal, experiential and textual metafunctions in BSL be accurately analysed and represented? I answer this question over the following four chapters, beginning with a review of the methodology that I used to obtain and analyse a small corpus of BSL data.

[35] As a reminder, this work focuses on the clause simplex rather than the clause complex, thereby omitting work on the logical metafunction and the systems of LOGICO-SEMANTIC RELATIONS and INTERDEPENDENCY.

4. Methodology

4.1. Introduction

As I have noted in previous chapters, the amount of research into sign languages is fledgling when compared to the wealth of research available on spoken and written languages. Nonetheless, its depth and breadth is growing (Arik, 2014). Developments in technology have undoubtedly assisted research, no matter what the academic discipline in question. For the study of sign languages, however, the availability and affordability of digital cameras that can capture high-quality visual data, coupled with the abundance of accessible offline and online digital storage, permits for much more detailed and accurate research to take place. Previously, resources of and research into BSL generally relied on still images or written representations of the language to assist the reader in envisaging a visual-spatial production (see, e.g., Deuchar, 1978, 1984; Brien and Brennan, 1992). Nowadays, while still images are still used where appropriate, advances in technology allow for a far more precise representation of sign language research, both in terms of analysis and dissemination.

This chapter details the way in which I collected and analysed data for this study. Firstly, I explore the data collection process, including information about my participants and how they were selected, the type of linguistic data that was recorded, and how different devices were used to obtain, store and manage my data. I performed this as closely in line as possible with current best practice (see Orfanidou, Woll and Morgan, 2015), although certain limitations were in place, such as the number of cameras at my disposal, and participant availability.

Then, I move on to review how I analysed the data in more detail. I begin this second section with a discussion on how various linguistic cues have been previously used to interpret where 'splits' in signed productions could exist, and how more specific units of discourse have been created. I argue that it is possible to identify a clause in BSL via an initial 'rough' segmentation via features of prosody and intonation, and then 'finer' segmentation by identifying verbal elements and their associated semantic referents. I

also present a table showing the different varieties of clause I observed, depending on the composition of the verbal elements.

I then discuss how I annotated the data via ELAN (Crasborn et al., 2006) and how the use of multiple tiers and time-aligned editing allowed for accurate and rich transcription of the data. To ensure accuracy and to reduce the subjectivity of this study, I also had members of the Deaf community verify the data in terms of transcription and segmentation. As such, I also present information regarding inter-rater reliability, and developments that occurred after discussions with the data verifiers.

At various points throughout the chapter, and to finish the chapter, I review the methodological difficulties that I encountered and how these problems were resolved. These issues included recording difficulties, the necessity to remove unusable data, and the complications of using English to annotate BSL while trying to ensure as little cross-linguistic interference as possible. Despite these issues, my final dataset still allowed for an in-depth analysis of the different metafunctions of BSL, as I demonstrate in Chapters 5, 6 and 7.

4.2. Data collection

4.2.1. Deciding on the data

To obtain an appropriate dataset, I first had to consider how the context of situation would affect the language produced. Sign linguistics literature demonstrates that sign languages, including BSL, are subject to variation with regards to contextual influence: "sign languages offer a range of registers and styles for which native signers intuit usage" (Napier and Leeson, 2016, p.120). Deuchar (1978) initially proposed a diglossic situation for BSL users, dependent on the signers' audience. Deuchar hypothesised a higher prestige variety when hearing communicators were present, and a lower prestige variety when all communicators were Deaf. This is developed further (Deuchar, 1984) into a continuum of overlapping styles, ranging from BSL to Signed English, and various intermediary BSL-English mixtures. Later, Sutton-Spence and Woll (1999) identified

several productive aspects of 'informal' BSL (e.g. phonological reductions in signs), with Napier (2003) providing contextual information on where 'formal' BSL may be found, including "academic lectures, business meetings, banquets, and church" (p.117). Stone's (2011) research also reinforces the notion that there are salient variances in BSL production according to whether a situation is formal or informal. Most recently, I investigated how Deaf BSL users understand variation in BSL with regards to differences in contextual configurations, based on the systemic functional contextual notions of field, mode and tenor (Rudge, 2015; see also Section 3.4.1 above and Appendix I). My work suggests that a continuum of BSL styles exists and that contextual cues have a vital role in determining the style employed, thereby confirming and elaborating on the work of Deuchar (1984), and even that of Joos (1961), who hypothesised five discrete levels of linguistic formality. However, I found that not all contextual elements appear to have equal bearing on the produced linguistic style: elements of tenor (i.e. the interpersonal elements of communication) were found to have a much more significant effect, whereas elements of field (i.e. the topic or purpose of the communication) resulted in "no clear or significant patterns" (Rudge, 2015, p.13).

What may be drawn from these studies is that linguistic variation based on the context of situation is very much supported for BSL. As such, the selection and recording of data must take the communicative context into account to compile a reliable dataset. Importantly, although Sutton-Spence (1999) notes that there is "no standard form" (p.365) of BSL, the above studies suggest that more 'informal' contexts tend to result in BSL varieties that use 'non-standard' features of language, including slang and phonological reductions, similarly to what is found in informal spoken language (see, e.g., Joos, 1961; Labov, 1972; Berger and Bradac, 1982; Garcia, 2013).

Furthermore, my findings (Rudge, 2015) note that there are certain contextual configurations that encourage the use of more formal or informal styles, an overview of which is given in Table 4-1 below:

Contextual feature	More informal varieties	More formal varieties
Participants' perceived 'power'	Balanced	Imbalanced
Turn structure	Dialogic	Monologic
Preparedness	Spontaneous	Prepared beforehand
Participants' social distance	Proximal	Distal

Table 4-1 - Contextual elements contributing towards the use of more formal or informal varieties of BSL.

Based on these findings, I decided that any data collected should be closer towards the 'formal' varieties of BSL than the 'informal.' The primary reason for doing so was to obtain data that showed something akin to a norm, in the sense that informal features would be minimally employed (e.g. less slang, clearer articulations, etc.). Additionally, as formal varieties appear to correlate with communications that are prepared beforehand, giving participants time to prepare prior to data capture would assist in easing any concerns that may have be borne out of being filmed, rather than signing on the spot. Finally, as I discuss later in this chapter, the ease of data capture and analysis was increased by recording one participant at a time, in terms of participant availability, data analysis, and constraints on my access to technology.

4.2.2. Participant data

I required a variety of participants to communicate in BSL, which would allow for the discovery and reinforcement of lexicogrammatical patterns between users. I selected a total of 12 participants to sign a 5-minute pre-prepared presentation, to yield sufficient data for a study of this scale. There are two reasons why these figures were chosen. Firstly, as I expand on in Section 4.3.2 below, the time required both to capture and analyse BSL data was remarkably time-consuming, mainly because no automated method of BSL analysis currently exists. I had to strike a balance between having a dataset of an appropriate size that crucially allowed me to complete the research in a suitable amount of time. Secondly, the number of participants I could realistically recruit for the study was influenced by socio-political factors and the resultant sampling method I used. Beginning with members of the Deaf community with whom I had a

stable relationship, I asked for their assistance in participant recruitment whereby they would ask other members of the local Deaf community on my behalf to take part, somewhat akin to a snowball sampling method. This is because recommendations between members of the community carry greater levels of trustworthiness than if I (as a hearing researcher / 'outsider') were to take a cold-calling approach. Given the historical tension between the Deaf and hearing world (see Section 2.2 above), the latter approach may have easily been viewed as unwelcome.

Although this method of participant recruitment may appear uncontrolled, I did include criteria from which the final 12 participants were selected from a pool of 15. To strive for continuity within the data, the location of the participants was considered. Participants needed to be resident in the Bristol area – which I restricted to within a 10-mile radius from the city centre – and living in Bristol for at least 5 years, to mitigate regional variation that may have been present (Stamp et al., 2015). I also gathered data regarding the location of the participants' school(s), as this has been shown to be influential on variation (Quinn, 2010). Although all participants met this first criterion, 3 out of the 12 participants attended schools outside of the Bristol area. Nonetheless, while the data revealed occasional variations in individual signs, I saw no marked variation within larger structures, so my aim of avoiding regional variation was achieved.

I also wished for each participant to have a low 'Age of Acquisition' (AoA) for BSL, according to the categories presented by Cormier, Smith and Zwets (2013). All participants reported having "pre-lingual deafness" (Turgeon et al., 2015, p.379), with some having Deaf parents and others having hearing parents. This lead to the use of two classifications drawn from Cormier, Smith and Zwets (2013): 'native' signers (Deaf parents, AoA = birth), and 'early' signers (hearing parents; AoA = 3 – 8 years old). Participants' levels of deafness varied only slightly: several had severe hearing loss, while over half had profound hearing loss (see Action on Hearing Loss, 2015). Participants also confirmed that BSL was acquired from families and/or experiences in Deaf schools.

Finally, each participant identified as a BSL user and a member of the wider Deaf community.[36]

Full ethics approval was granted from the University of the West of England Ethics Committee prior to any data collection taking place. All participants were over 18 years old at the time of recording, and all self-confirmed their understanding of their participation and what would happen with the collected data (i.e. to be used for research purposes only, not to be shared publicly/with any third-party, etc.).

Table 4-2 provides a tabulation of my participant information. I have designated a number prefixed with SLU ('Sign Language User') to each participant to maintain anonymity, which I discuss in more detail in the following section.

Participant code	**Gender**	**Age**	**AoA**	**School location**	**Number of clauses recorded**
SLU01	M	46	Native	Bristol	186
SLU02	M	40	Native	Kent	152
SLU03	F	33	Early	Bristol	173
SLU04	M	28	Native	Bristol	44
SLU05	M	36	Native	Bristol	93
SLU06	M	43	Native	Bristol	102
SLU07	F	46	Early	Bristol	122
SLU08	F	48	Native	Exeter	112
SLU09	F	26	Early	Bristol	93
SLU10	M	24	Native	Newbury	69
SLU11	F	29	Native	Bristol	97
SLU12	F	36	Early	Bristol	132

Table 4-2 - Further data of the twelve participants of this study

[36] In addition, while the gender of participants was not controlled, there was a resulting equal gender split of 6 male and 6 female participants.

4.2.3. Data capture

Once I had completed participant selection, they were individually invited to be recorded while signing BSL. As mentioned at the start of this chapter, the context needed to allow for as many of the features in the 'more formal varieties' column of Table 4-1 to be met. In Rudge (2015), I observed that presentations were viewed as communicative situations that provoked the most formal styles of BSL to be used. Therefore, participants were invited to provide individual, pre-prepared presentations about a prominent period in their lives (e.g. previous employment, attending school, etc.) towards a camera. As such, the communicative contexts were monologic, with prepared communication, and the 'audience' (i.e. those who could have watched the recording had it have been disseminated) was unknown to the signer, thus creating a distal relationship between communicator and recipient.

Although the topics of each presentation were varied, and linguists have noted some resulting variation in productive styles that can occur due to this topic variation (e.g. Labov, 1972; Baker and van den Bogaerde, 2016), the extent of disparity in the subject matter was not viewed as a drawback. Firstly, from a broad perspective, each signer provided a narrative of an experience from their past, reflecting on life as a member of the Deaf community in a hearing society. Secondly, as mentioned above, various studies into sign languages have found little dominant influence on the style of the signing due to topic. Finally, no matter how many controlling factors are implemented, no two productions would ever be identical in form. I also wished for participants to have freedom in the content of their presentations, rather than dictating what must be signed. As such, despite surface variance, the level of content control was suitable.

Participants were recorded individually facing a camera, with a solid-coloured background to ensure clarity of signing when reviewing the data. Participants were also asked to wear a plain item of clothing on their upper bodies to allow for a clear contrast between the signers' hands and their torso. I set the camera to record at a minimum of 25fps (frames per second) with a 1080p resolution (i.e. 1920 x 1080 pixels). This ensured that data were captured with an appropriate level of quality as to not omit any signs or

transitions between signs, and so that zooming could be performed without a drastic loss of quality.

Figure 4-1 below displays how I set up the camera with regards to framing:

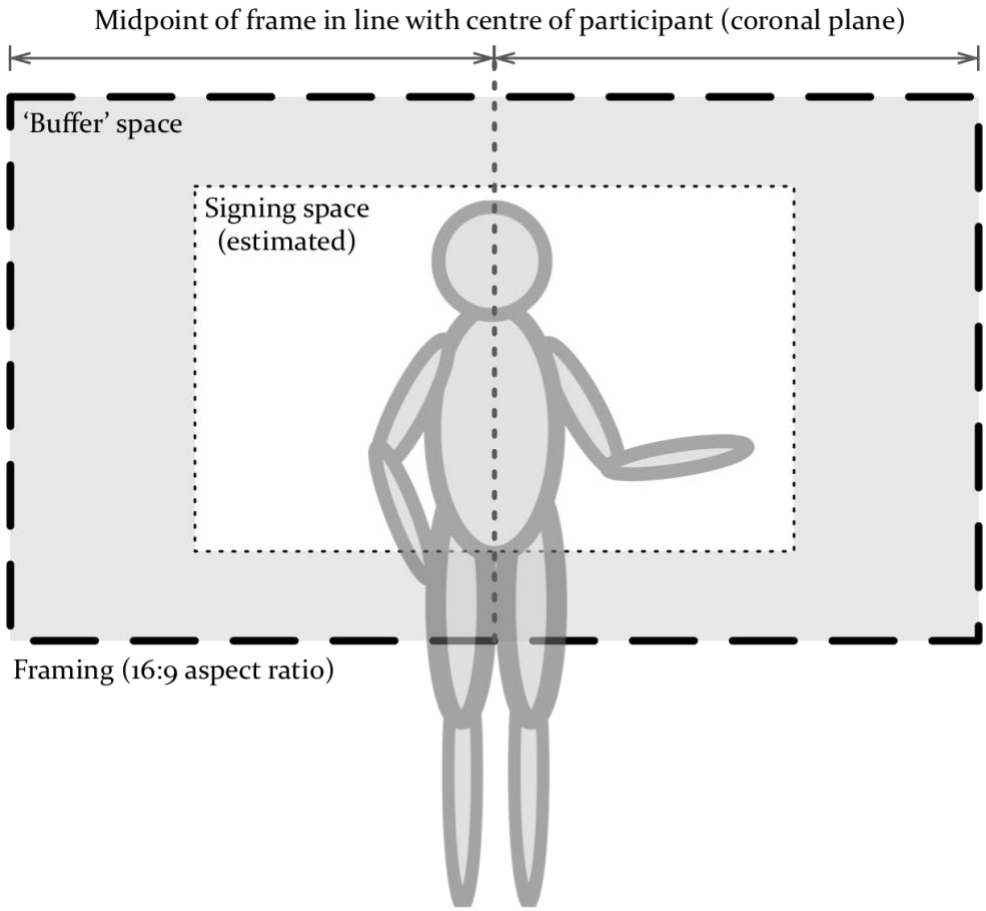


Figure 4-1 - A schematisation of the camera setup for each participant relative to individual signing space.

The goal of the framing was to ensure that all manual signs would be captured by the camera, while still being able to see non-manual features, and allowing for a maximal 'buffer' space so that any extended movement along the coronal plane would also be recorded. As only one camera was used, there were occasions where the signers' hands would obscure other features along the sagittal plane (e.g. signing in front of the face). However, such instances were minimal, and presented no great issue during data analysis.

I stored the raw recorded data securely on one computer. The data were encrypted through two levels of security: at the file level (i.e. passwords to open the files), and at the user access level (i.e. 'logging on' to the system, via password and/or biometric access). Additionally, I ensured that frequent backups were made to a minimum of two secure locations – one local and one remote – creating a backup redundancy factor of two.

4.2.4. Anonymity and participant ease

For spoken and written languages, many methods exist to anonymise data, such as audio manipulation via a pitch changer. For languages in these modalities, it is possible to easily 'disembody' the speech from the speaker or the writing from the writer. However, data in the visual-spatial modality does not permit such ease of disembodiment *per se*. As I noted above when detailing the recording and framing of participants, it is necessary for a signer to be in full view; manual and non-manual features must be accessible to a viewer as these carry vital linguistic information (see Section 2.4.2 above). Consequently, facial blurring was not an option, and participant anonymity would be compromised if unauthorised parties viewed the data.

To try and address these issues, I employed several techniques, including the use of participant codes (seen in Table 4-2 above), and informing all participants that videos would only be seen by a small number of people who were under an agreement to maintain data protection (i.e. myself, research supervisors, and three members of the Deaf community acting to verify the data). I also altered any recorded data that revealed personal information (e.g. names, addresses, relationships, etc.) during the annotation process (see Section 4.3.4 below). Finally, as I mentioned in my introduction, any visual examples that I use in this thesis have been taken from my dataset but have been re-recorded by another signer, allowing for as much 'disembodiment' as can currently be achieved.

Fenlon et al. (2015) discuss anonymity in their explanation of data collection for various sign language corpus projects, and how anonymity and data quality relate. They note

that if participants are made aware that data is accessible to a handful of researchers and not publicly accessible, this would allow them to "relax and converse freely" (p.166). Using this as a guideline, prior to any recording, I told participants about the recording process and how the data would be used. Specific details about the linguistic aspects under analysis were only given after the recording had finished, to reduce the possibility of any unwanted influence on the data. Participants also had the right to withdraw at any moment during and after the recording, and could do so without reason. Furthermore, I explained how the data would be securely stored, and provided my contact details so that if they wished to withdraw at a later stage, and therefore have their data deleted, they would have the chance to do so.

4.2.5. Further ethical considerations

Aside from general ethical principles that must be adhered to when performing research, such as the items set out in the Singapore Statement (2010), Harris, Holmes and Mertens (2009) present an exemplar set of ethical considerations when working with the Deaf community. This is particularly relevant to researchers such as myself who do not form part of the Deaf community due to factors including audiological status and first language, and who instead form part of the hearing community, which may lead to intercultural tension (see Sections 2.2 and 2.3 above, and Ladd, 2003). While space does not permit for a detailed analysis of each of the considerations (see Harris, Holmes and Mertens, 2009, pp. 115-125, for an in-depth review), the core of their argument states that the Deaf community should be empowered and involved whenever research on their language and culture is being performed, acknowledging that ethically-sound and comprehensive research cannot be achieved without input from community members. Although "a few D/deaf people cannot speak for the entire Sign Language community" (Harris, Holmes and Mertens, 2009, p.125), it is paramount that such inclusion occurs.

Following this main principle, I have ensured that members of the Deaf community were involved in as many steps as possible, from recording the data, to providing commentary on how the data should be properly curated, to verifying interpretations

of the data, ensuring that this research provides an accurate representation of BSL in use.

4.2.6. Mitigating the Observer's Paradox

The recordings obtained for this study are subject to the Observer's Paradox: "the means used to gather the data interfere with the data to be gathered" (Labov, 1972, p.43). Participants may change the language that they produce for numerous reasons, including influences from unnatural settings and the presence of recording devices. Also, the researcher "is not a passive agent" (p.88) and must consider their position during data capture, as covert influence from the researcher may result in participants altering their language to what they think the researcher wants to observe.

To mitigate the effect of the Observers' Paradox, I took several steps, some of which were noted above in relation to Fenlon's et al. (2015) study (i.e. the participants' right to stop/delete the data at any time). I also removed a small proportion of the start of each video from analysis (no longer than 20 seconds): as the participants are becoming accustomed to signing towards a camera, whether it is viewed as a direct, communicative entity or as a passive entity, it is likely that initial linguistic productions would be atypical. However, there is no universal indication of when participants are feeling comfortable enough to produce 'natural' language. It is also possible that participants may become fixated on the presence of a camera, meaning their language production will not be representative of what would be produced in a natural environment. Thus, removing a small proportion of the initial data helped to mitigate this effect, even if it is an inexact science.

Furthermore, Lucas' (2013) work on ASL notes that the audiological status of the researcher will influence the language produced by the participant: "sensitivity may be manifested by rapid switching from ASL to Signed English" (p.284). Research on BSL including Deuchar's (1984) work suggests that the same phenomenon occurs in BSL. Therefore, I informed participants that during recording I would not be present in the

room, in the hopes of eliciting as much 'formal' BSL as possible and to prevent any signing towards myself in a different style.

4.3. Working with the data

Following data collection, I proceeded to annotate the videos, which at a surface level included the segmentation of individual signs and writing free translations. However, I also needed to address issues surrounding the splitting of BSL discourse into comparable units that were analysable from the systemic functional perspective. Before explaining the full process of data annotation, I briefly review some approaches to segmenting sign language data used by other researchers. Then, I posit an explanation of what may be classed as 'clause segmentation' in BSL, drawing on previous studies to identify and demarcate such a unit.

4.3.1. Previous approaches to segmenting strings of signs

Just as the sounds of natural speech merge together, so too do signs in a sign language during natural production. It follows that the difficulties encountered by spoken language researchers when identifying where one word ends and another begins is also encountered in the visual-spatial modality (Orfanidou et al., 2015). Similar difficulties arise when attempting to segment extended strings of language into smaller units, as Hansen and Heßmann (2007) perform with Deutsche Gebärdensprache (DGS; German Sign Language). Using a small sample of DGS data from one sign language user, Hansen and Heßmann identify a unit of equivalent value to the 'sentence.' More specifically, strings of DGS are split according to what is identified in terms of topics and predicating elements, alongside related adjuncts and conjuncts. This is named the TPAC method (topic, predicate, adjunct, conjunct), wherein manual signs and their sentence function take priority. Nonetheless, Hansen and Heßmann also observe the recurrent use of manual gestures and non-manual features when identifying sentence boundaries, finding that the use of head nods with "a concluding force" (p.160) and instances of the palm-up gesture are often key indicators of boundaries. However, it is stipulated that "none of these features mark sentence boundaries with any consistency" (p.164),

therefore causing the authors to rely primarily on the manual components and the TPAC method to delimit segments of extended signing.

Taking a different approach, Gabarró-López and Meurant (2016) attempt segmentation in Langue des signes de Belgique francophone (LSFB; French Belgian Sign Language) via the identification of the Basic Discourse Unit (BDU). Their methodology is based on that of Degand and Simon (2009), who state that discourse allows for the transmission of 'ideas' and 'acts;' not dissimilar from the experiential and interpersonal metafunctions found in systemic functional theory. Degand and Simon delimit BDUs in spoken French according to certain syntactic and prosodic properties, relying on dependency syntax for the former and automated analysis (e.g. via PRAAT) for the latter. When the syntactic and prosodic boundaries align, a BDU is identified. In total, three types of BDU are presented: one-to-one (i.e. one syntactic unit matches with one prosodic unit), syntax-bound (i.e. one syntactic unit contains multiple prosodic units), and prosody-bound (i.e. one prosodic unit contains multiple syntactic units). Gabarró-López and Meurant (2016) take these three BDU types and follow the methodology of identifying syntactic and prosodic boundaries in their study of LSFB. Given the visual nature of LSFB, Gabarró-López and Meurant – like most other sign language researchers including myself – used non-automated identification of prosodic features, such as pauses between productions, sign holds, and eye blinks that coincided with other non-manual features. Consequently, two extra BDUs are hypothesised to accompany one-to-one, syntax-bound and prosody-bound BDUs: regulatory (i.e. an adjunct unit) and mixed (i.e. multiple prosodic and syntactic units between aligning boundaries).

Viewed more critically and in the context of the present study, I believe there are issues with both the TPAC method and BDUs. For instance, both studies appear to pay little attention to the importance of productive simultaneity. For Hansen and Heßmann (2007), segments containing only fully lexical signs are assigned TPAC values, as are segments that contain a mixture of fully and partly lexical signs (e.g. the use of a depicting construction in the predicate position). As such, two predicates may encode different levels of complexity, but there is no way to demonstrate this distinction, leading to simplification of the language data. Similarly, the internal composition of

BDUs appears to vary greatly, which seems counterintuitive to the notion of 'basic.' Table 2 of Degand and Simon (2009; p.12) demonstrates the internal structures of BDUs, ranging from sequences spanning numerous nominal and verbal groups, to productions consisting of a single conjunction. Although not explicitly presented in Gabarró-López and Meurant (2016), the segmentations of LSFB would likely follow similar patterns, depending on syntactic and prosodic alignments. This leads to issues when comparing the compositions of BDUs with one another.

Other methodological doubts are present in these two studies. Hansen and Heßmann's (2007) analysis relies on a small amount of data from only one participant. Also, they propose that boundaries may be identified by the length of eye blinks, wherein blinks lasting over a certain amount of time qualify as a boundary marker. However, the calculation of this time seems arbitrary, and the length of time of these blinks would undoubtedly vary between signers, and even between two different productions from the same signer. Regarding Gabarró-López and Meurant's (2016) data, only fully lexical signs appear to be analysed, thereby not including partially lexical productions, and thus omitting potentially vital elements from their analysis.

4.3.2. Identifying the clause in BSL

Despite common usage throughout linguistic literature, the notion of clause presents issues both in its identification and its definition:

> there is no existing (satisfying) definition. The challenge is due to the fact that while there is considerable regularity in the main components of the English clause, there is also considerable variation (Fontaine, 2013, p.20).

However, basic definitions may be used as a starting point. From a formal perspective, Quirk et al.'s (1985) description of an English clause indicates that it may comprise of a subject and a verb, and optionally contain one or more objects, adverbials and complements. The verb is the pivotal element: "it is normally obligatory [and] it helps to determine what other elements must occur" (p.50).

I noted in Section 3.5.2 above that, from a systemic functional perspective, a clause is comprised of one or more units found at lower ranks of the lexicogrammatical rank scale. Morley (2000) refers to a clause as "a single proposition [consisting] of one or more phrases" (p.26), while Thompson (2014) defines it as "any stretch of language centred around a verbal group" (p.17). In further defence of the presence of a verbal element, Coffin, Donohue and North (2009) state that "no clause can be complete without at least a verb" (p.26). They also reaffirm formal perspectives of clause composition, stating that subjects, verbs, objects, complements and adjuncts are found in clauses (although relabelled to represent their respective functions in the clause).

Greater levels of clause interpretation are provided by Matthiessen, Teruya and Lam (2010), who comment that clauses may be viewed from a trinocular perspective (see Section 3.3 above). In other words, they can be observed 'from above' as the "[unification of] different metafunctional strands of meaning" (p.72), 'from below' as the combination of lower units in the lexicogrammatical rank scale, and 'from roundabout' as "the point of entry [for] a number of simultaneous systems within the textual, interpersonal and experiential metafunctions" (ibid.). Nonetheless, other systemic functional works including Caffarel's (2006) systemic functional grammar of French, and Lavid, Arús and Zamorano-Mansilla's (2010) systemic functional grammar of Spanish, do not explicitly state what a clause is. However, they appear to follow the overall notions suggested above: when viewed 'from below,' clauses comprise of smaller groups and require at least a verbal group. This provided me with a basis from which to work for identifying clauses in BSL.

Although relatively little exists with regards to clauses in BSL, the term 'clause' has been employed in the study of other sign languages in terms of syntactic relationships (see, e.g., Pfau, Steinbach and Herrmann, 2016). When this term is used in BSL research, rarely, if ever, is any further detail provided regarding its composition (see Cormier, Smith and Zwets, 2013; Fenlon et al., 2014). Nonetheless, a recent study by Cormier, Fenlon and Schembri (2015) on the use and identification of motivated and arbitrary signing space uses the clause as a unit of analysis. They identify and demarcate clauses

in BSL "by first identifying a predicating element, and then arguments of the predicate as well as adjuncts associated with the predicating element" (p.692). From the glosses provided in their study, this method appears to work well, yet there are inconsistencies. For instance, three of the clause examples given show more than one verb in the string of signs. Two glosses ((5) and (6); see Cormier, Fenlon and Schembri, 2015, p.692) show instances where two consecutive verbs occur, but the glosses are split in different ways: OVER-TIME FATHER MOTHER THINK DISCUSS is one clause, but PT:POSS3SG FATHER ASK$^{X\rightarrow 1}$ GO-TO WEST-HAM becomes two clauses, with the clause boundary placed between ASK and GO-TO. The former is classed as a serial verb construction and the latter as an embedded clause. However, no further information is provided as to what elements of the production allow for one clause to contain two verb signs, yet in another instance, for two verbs to be split between two clauses. I believe that this apparent vagueness is due to the well-documented issue of using a written language to represent BSL, which results in the loss of information that is often vital to understanding communication in the visual-spatial modality (e.g. non-manual features; see Jones and Cregan, 1986, and Morgan, 2008). I believe that the method employed by Cormier, Fenlon and Schembri (2015) is useful, but it also requires the presentation of further visual-spatial elements to reduce ambiguity.

Before elaborating on how this can be achieved, it is important to note that the notion of the 'clause' in sign languages is not accepted by all sign linguists. Hodge (2013), and later Hodge and Johnston (2014), scrutinise the 'clause' in Auslan, stating that

> as it has yet to be established whether or not the signed utterances in Auslan discourse are indeed instances of constructions that correspond to linguistic definitions of 'clause' or if they represent another type of utterance, all potential constructions are identified in the first instance as 'clause-like units' (CLU; p.271).

CLUs are 'clause-like' as they are smaller than discourse units, but their composition is different to that which is understood as a clause in spoken and written language linguistics. Nonetheless, the way that CLUs are identified by Hodge and Johnston (2014)

addresses some of the issues outlined with the approach taken by Cormier, Fenlon and Schembri (2015).

Hodge and Johnston (2014) identify CLUs in four steps. Firstly, potential CLUs are observed using the Role and Reference Grammar (RRG) definition of a clause: "a semantic relation between a predicate and its arguments" (p.271). Importantly, this involves the use of prosodic information from non-manual features, as "perceived intonation contours help annotators to delineate CLUs" (p.272). When potential CLUs are identified, the second step involves analysing the composition of the CLUs with regards to core arguments, non-core arguments and predicates, including whether signs within the CLUs are fully, partly, or non-lexical. These are also annotated according to the perceived macro-role (i.e. the identification of semantic functions such as 'actor' and 'undergoer;' see Van Valin, 2005). Dependencies between CLUs are then noted, followed finally by marking enactments – "demonstrations of actions, utterances, thoughts, attitudes and/or feelings of a referent other than the narrator" (Hodge and Johnston, 2014, p.275) – for their overall role as argument or predicate.

I believe that Hodge and Johnston's (2014) work is more successful in unit identification as they incorporate non-manual features and consider the lexical status of the signs. As such, I combine and adapt elements from Cormier, Fenlon and Schembri (2015), and Hodge and Johnston (2014), in this study. These approaches are not mimicked, however, as there are discrepancies that exist at the theoretical level. For instance, both studies use RRG, and while both SFL and RRG are viewed as similar structural-functional approaches (Butler, 2003a), the term CLU now has close relations with an RRG approach. I will therefore use 'clause' in this research, although I do accept Hodge and Johnston's (2014) reasoning on the differences of clause composition between modalities, and their use of CLU as a compromise.

4.3.3. Clause identification via prosodic and manual cues

Prosody and intonation play a vital role in sign languages, both in understanding the full meaning of a signed utterance and, as suggested above, the accurate delimitation of

clauses. Van der Kooij and Crasborn (2016) note that "certain non-manual markers fulfil a prosodic function by adding a grammatically determined intonation contour to [part of] a clause" (p.274), which may be used alongside other aspects of the language to assist in clause identification. They argue that there is an extremely close link between the prosodic elements of sign languages and their syntactic structure. While such a claim is not without fault or ambiguity, Sandler and Lillo-Martin (2006) state that "the role of intonation in syntactic structure is becoming more apparent" (p.471). Furthermore, Pfau and Quer (2010) identify that "examples where syntactic and prosodic structure do not fully overlap are difficult to come by" (p.398), and in general, "prosodic structure reflects syntactic constituency" (p.400). Pfau and Steinbach (2016) reaffirm that prosodic elements reflect the organisation of complex structures "just as in many spoken languages" (p.11), although the realisation of these elements differs greatly between modalities.[37]

The first step of Hodge and Johnston's (2014) abovementioned approach to identifying CLUs in Auslan involves the use of prosodic cues. Although little further information is provided on what these cues are, other research on prosody in sign languages has observed this area. For example, Ormel and Crasborn (2012) provide an overview of studies observing the segmentation of sign languages into various units. They identify numerous manual and non-manual articulators and their respective functions in terms of defining boundaries. This includes the use of extended eye blinks (Wilbur, 1994; Hansen and Heßmann, 2007; cf. Sze, 2008), manual pauses (i.e. the hands returning to a neutral position; Nespor and Sandler, 1999; Hansen and Heßmann, 2007), and changes in head position (Sandler and Lillo-Martin, 2006). Ormel and Crasborn's (2012) review also matches what is observed by Hansen and Heßmann (2007): there is no definite link between (non-)manual features and the types boundaries that they define, and no predictable combinations of (non-)manual features that do this between sign languages. In other words, there appears to be a lack of form-to-function mapping regarding sign

[37] It is worth noting that this position has been refuted by Börstell, Mesch and Wallin (2014) for Svenskt teckenspråk (STS; Swedish Sign Language), who note that the segmentation of sign language based solely on visual cues "is not completely reliable as a means of segmenting syntactic units" (p.10).

language articulators and syntactic segmentation (Johnston and Schembri, 2006; Fenlon et al., 2007; Herrmann, 2008; Ormel and Crasborn, 2012, Pfau and Steinbach, 2016).

Observing solely non-manual features, Channon (2015) provides a more extensive list of the articulators that can be involved in clause segmentation, including:

> eye gaze direction; widening, narrowing or blinking the eyes; eyebrow raising and lowering; spreading, opening, closing, or pursing the lips; tongue protrusion; and body gestures such as head nods, shoulder shrugs, and turns or leans of body or head (p.125).

Padden (2015) notes that when "cues are aligned together, they can signal a shift to a new sentence or clause" (p.150). Such alignment may be represented by Sandler's (1999) superarticulatory array model, wherein the values of non-manual features are transcribed below their co-occurring manual articulations. These arrays allow for the identification of likely boundaries, often where many non-manual elements change simultaneously between two manual signs. An example analysis using a superarticulatory array of a conditional structure in BSL is given in Figure 4-2 below: manual signs are presented on the top row, with the values attributed to various non-manual features on lower rows. The lines above each value correspond to the timing of the manual signs (e.g. the eyebrows are raised during TOMORROW and RAIN), and 'gaps' indicate a neutral position of the articulator:

Manual	TOMORROW	RAIN	PARK	GO-TO
Eyebrows		raised		
Eyes		wide		squint
Mouth		puff		frown
Mouthing	tomorrow		park	
Head				shake
Torso		lean forward		

Figure 4-2 – An example of a superarticulatory array (possible English gloss: "If it rains heavily tomorrow, I will not go to the park.")[38]

Figure 4-2 demonstrates a clear split between the apodosis (TOMORROW RAIN) and the protasis (PARK GO-TO) by the simultaneous changes in the non-manual features. While there are changes in the configuration of some non-manual features during the production of apodosis and the protasis (as is to be expected), there is a more obvious split wherein each non-manual feature alters simultaneously.[39]

Superarticulatory arrays have been used to research several sign languages. Sandler's (2012) work on Israeli Sign Language (ISL) and Al-Sayyid Bedouin Sign Language (ABSL) argues the case for how articulators assist the comprehension and delimitation of extended signing. Sandler identifies the following: the head position provides information on sentence type and pragmatic meaning; various facial articulators provide lexical and intonational information, including the observation that "it is very common for a signer to blink at the Intonational Phrase boundary" (p.272); and body positions identify instances of constructed action and constructed dialogue (see Section 2.5.3 above). Similarly, Herrmann's (2008) research on DGS, Irish Sign Language (IrSL) and Nederlandse Gebarentaal (NGT; Dutch Sign Language) suggests extending the

[38] Video: tinyurl.com/bslsfl4-1

[39] 'Simultaneously' is employed in a loose sense, as the reality of linguistic production means that not all features will change at the same time and with the same rhythm. Given the technology available in linguistic analysis, it would be possible to more accurately depict when each articulator changes, but for the purposes of this study, such heightened accuracy is not required.

effectiveness of this superarticulatory array by employing two tiers for the eyes, namely 'eye gaze' and 'eye blinks.' Herrmann notes this is required as "the precise annotation of both tiers can be especially relevant for prosodic analysis" (p.70). This is reinforced by Ormel and Crasborn (2012) who state that "signers typically blink at the end of intonational phrases (right edge of ungoverned maximal projection)" (p.289), and is reconfirmed by van der Kooij and Crasborn (2016).

Breaks between units may also be indicated by the manner of articulation. Pfau and Quer (2010) identify non-manual features that occur with one manual articulation or between two manual articulations, both of which "are punctual in nature [and] do not spread" (p.401). These include forceful or voluntary eye blinks and head thrusts. Channon (2015) also states that prosodic boundaries may be observed through non-spreading manual features, such as a sudden halting of movement after or between signs. Sandler (2012) also argues for this point, noting that the hands can display "the rhythmic structure of utterances by pausing, remaining static, or reiterating a sign at prosodic constituent boundaries" (p.271).

Of course, instances in production where the hands return to a neutral position (usually resting in front of, and contacting the midriff of, the signer) generally indicate a break between clauses and potentially larger discourse elements. Pauses can be found during a flow of signs, but this may be down to instances wherein the signer is 'thinking' of the next sign to produce, analogous to English users saying 'erm' mid-discourse. Such pauses are therefore not instances of gaps between clauses, therefore reaffirming the requirement to clarify what each pause 'means' instead of blindly relying on them.

Finally, the use of manual gestures (i.e. non-lexical signs) could also identify breaks between clauses. Although myriad possible manual gestures exist (see Kendon, 2004), Emmorey (1999) notes in particular that a 'palm up' gesture assists to "coordinate turn-taking during a dialogue. Speakers may gesturally transfer a turn by producing a gesture towards the addressee [...] or may take the turn by producing the gesture towards themselves" (p.155). The 'palm up' gesture may therefore be found at the start or end of signed utterances. Quer and Steinbach (2015) study this gesture further, noting that it

"has developed into a related functional sign PALM-UP used as a multifunctional discourse marker indicating turn taking, backchanneling, or questions among others [...]. Consequently, it is not always possible to decide whether in sign languages the use of PALM-UP is gestural or grammatical" (p.147).

To summarise, it is vital to include prosodic and intonational information articulated by manual and non-manual features when attempting to identify units such as the clause in sign languages. The values of these articulators, and indeed the manner of articulation, need to be considered to perform clause identification successfully. However, a one-to-one mapping of form and function regarding these articulators and the units that are delimited does not appear to exist. For example, an instance of an extended blink may be used to indicate the intensity with which an action was performed, rather than marking a gap between clauses. As such, the prosodic information of each potential clause, along with the identification of the component parts as seen by Hodge and Johnston (2014), and Cormier, Fenlon and Schembri (2015), needs assessment on a case-by-case basis.

4.3.4. Using ELAN as a 'superarticulatory array'

Given the productive complexity that may be observed in any given sign, or the requirement of analysing manual and non-manual features simultaneously to accurately delimit clauses, the recorded video data necessitated software capable of annotation at multiple levels. I chose to use the EUDICO Linguistic Annotator (ELAN; Crasborn et al., 2006) for this study, for its robust annotation options, particularly the ability to annotate multiple tiers at any given instance, and for its video manipulation abilities (e.g. zooming, retiming, etc.) whilst maintaining time-aligned annotations. Arguably, it is also currently the most favoured annotation and transcription software in contemporary of sign linguistics (see, e.g., Ormel and Crasborn, 2012; Hodge, 2013; Lucas, 2013; Hodge and Johnston, 2014; Orfanidou, Woll and Morgan, 2015; Napier and Leeson, 2016; Stamp et al., 2016).

I imported each video from my dataset into ELAN to begin the annotations. Filenames for each video and annotation file were based on the participant codes seen in Table 4-2 above. This was both for ease of organisation and to maintain participant anonymity.

Drawing on the research reviewed so far in this chapter and the work of the British Sign Language Corpus Project (Cormier et al., 2015), I created fifteen annotation tiers for each video, detailed below in Table 4-3:

Tier Group	Tier name	Used to represent
Manual and general tiers	Dominant	Signs produced on the dominant hand
	Non-dominant	Signs produced on the non-dominant hand
	Kinetic	Marked manners of articulation (e.g. sudden halt)
	Clause	Boundaries of the clause
	Free translation	English translation of an extended segment of BSL
	Notes	Prominent, unique or uncertain productions
Non-manual tiers	Eyebrows	Eyebrow position
	Eye gaze	Direction of eye gaze
	Eye aperture	Extended eye blinks or widening of the eyes
	Mouthing	Various mouth patterns produced with signs
	Head	Head direction, shaking, and nodding
	Torso	Torso direction and movement
SFL tiers	Interpersonal	Interpersonal components and features
	Experiential	Experiential components and features
	Textual	Textual components and features

Table 4-3 - Tiers used in ELAN for each video analysed in this study.

All twelve videos (one per participant) underwent the same annotation process. Firstly, I watched each video from start to finish to ensure file integrity (e.g. no dropped frames) and reliable recording (e.g. all signs visible in the recording). I then slowed the playback speed of videos to between 30% and 40% to delimit individual manual signs on the 'Dominant' and 'Non-dominant' tiers. I also needed to view each video several times at

reduced speeds and at full speed to ensure that all signs were accounted for before continuing. For instance, at a reduced rate of playback, SLU03 produced PEOPLE and WHAT almost indistinguishably, and it was only at full speed with the accompanying mouthing that I could adequately differentiate them.

For any signs that were not fully lexical, such as instances of depicting constructions or gesture, I annotated these in the 'Dominant' and/or 'Non-dominant' tier (according to their production) with a prefixed code to allow for quick searching later in the analysis process (gestures = G:, depicting constructions = DC:, points = PT:, constructed action = CA:, constructed dialogue = CD:). I annotated pointing signs following the conventions set out in BSL corpus annotation guidelines (Cormier et al., 2015). For instance, PT:PRO1SG denotes a first person singular pronominal point, PT:POSS3PL denotes a third person plural possessive point, and PT:LOC denotes a locative point. Furthermore, I noted any instances of signing that appeared to be 'marked' in terms of manner of production (e.g. an extended hold or an increase in the pace of signing) in the 'Kinetic' tier.

Once each manual sign had been delimited and annotated, I played the videos through several more times to annotate the non-manual tier group. Annotations were only made on these tiers if the non-manual articulators changed from their neutral positions, similar to what is presented in the superarticulatory array in Figure 4-2 above. Non-manual features would often align with one or many manual signs, and were thus annotated to represent any spreading over manual features.

I also wrote a free translation in English for each extended instance of signing (i.e. between extended pauses or thematic shifts). I used this tier as a guide and a reminder when reviewing the data, helping to save time when searching through the data to find specific instances. Nevertheless, I did not use these translations in the ensuing linguistic analysis, to ensure as little interference from English as possible. Finally, I identified any instances that proved difficult to interpret, or that seemed unique or unusual, in the 'Notes' tier for later review.

Once I established the above elements, I started the process of clause identification. I did this in three distinct stages for each video: rough clause identification, fine-tuning clause boundaries, and observing links between clauses. Firstly, observing the manual tiers, I singled-out verbal group elements (i.e. anything that could be classed from the experiential perspective as a 'process;' see Table 4-4 below) alongside their possible associated arguments (i.e. their participants and circumstances) to create an initial segmentation of clauses.[40] These initial boundaries were easy to identify when overt verb signs were used, such as LIKE (plain) or ASK (indicating), and when their related elements were incorporated in an intonational phrase (e.g. between two pauses where the hands returned to a neutral placement). However, some constructions presented me with more difficulty at this first stage, including depicting constructions of movement due to their nature of producing various elements of meaning simultaneously. Furthermore, certain clauses appeared to have no verbal element, due to the absence of a specific manual sign for the copula 'to be,' thereby presenting instances of possible clauses consisting only of nominal groups. I discuss these latter two points in further detail in Section 6.3.1.3 below.

After I created rough clause boundaries, I used the non-manual feature tiers to analyse prosodic and intonational information, assisting in both reaffirming initial clause boundaries and identifying further clauses. I found that clause boundaries in my data were typically located in positions noted in the above literature discussion, namely where numerous non-manual features changed at the same time, or where specific markers such as head nods marked the ends of clauses. Such nods were either just after the final manual production or in time with the final movement of the manual sign. Similarly, for negative clauses, an accompanying headshake would finish shortly after the end of the final manual production.

[40] It must be remembered that not all functional elements will appear on the hands, and that some elements may instead appear through non-manual or spatial elements of production. This was considered during this initial stage of clause identification, and considered in the following stages when attempting to differentiate between prosodic and non-prosodic non-manual productions.

Due to the speed of language production, manual and non-manual features were not always identical in timing. As such, there were numerous instances where prosodic marking appeared slightly before or slightly after the start of the manual production of the sign. In most cases, however, the timing discrepancy did not exceed more than 0.2 seconds, and it was clear that these instances were intended to co-occur with the associated manual production.

For the final step, I identified any relations that concatenating clauses had with one another. Although I do not analyse logico-semantic and interdependency relations in-depth for this study, I did apply a basic 'free vs. bound' distinction to clauses so that the segmentations made sense, and to confirm that no bound (i.e. dependent) clauses were left without linking to a free (i.e. independent) clause. Other systemic functional literature including Fontaine (2013) notes that non-independent clauses can be analysed either as singular elements of the independent clause, or at the level of its composite elements. For instance, the English sentence "I said if the roads were good I would drive myself" (Fontaine, 2013, p.207) can be analysed in two ways: where 'said' operates as the main process and the following two embedded clauses are grouped as a single element of the main process (i.e. 'I said this'), or where all three clauses are analysed in greater detail around the verbal groups of 'said,' 'were' and 'would drive,' for their own elements. For this study, I took the latter approach to allow for the analysis of as many clauses as possible at a deeper componential level.

In total, I identified 1,375 clauses in the twelve videos of this study. The distribution of clauses per participant are noted in Table 4-2 above, and the distributions of clauses per type of verbal group are displayed in Table 4-4:

Type of verbal group	Number of clauses	Percentage of total clauses
One verb sign	736	53.53%
No verb sign	258	18.76%
Modal + verbal element	89	6.47%
Modal only	7	0.51%
BEEN + verbal element	22	0.16%
Depicting construction	167	12.15%
Constructed action	88	6.40%
Perspective changes	5	0.36%
'Elaborate' verbs	3	0.22%

Table 4-4 - The distribution of clauses observed in the data according to verbal group type.

Most clauses in my dataset comprise of one overt verb sign, such as HAVE, LIKE, or E-MAIL. There are also numerous instances where no overt verb sign can be identified, due to either verbal ellipsis based on a previous clause (Pfau, 2016b), or, more commonly and as noted above, because no copula sign is used in BSL.

Other clauses in my dataset contain the modal verbs CAN, SHOULD, MUST and WILL with another verbal element, although on a few occasions modal verbs are observed without an accompanying verbal element. I also observed clauses containing a verbal element and BEEN to mark the perfective aspect (Brennan, 1983).[41]

Less common clauses contained verbal groups consisting of a depicting construction or instances of constructed action. Generally, one of either of these are found per clause. However, sometimes both appeared in alternation to represent the same verbal process from different perspectives (Kaneko and Mesch, 2013), hence my choice of referring to these instances as 'Perspective changes' in Table 4-4 above. For example, SLU11 signed about a person walking up a hill, presented initially via a depicting construction of a

[41] Video: tinyurl.com/bslsfl4-2

'person' ascending a slanted plane (i.e. the narration of the event), followed by the constructed action of a person walking up a hill (i.e. the embodied action of the character), and finally producing the depicting construction again, albeit with the 'person' now higher up the slanted plane (i.e. continuing the narration).[42] This grouping of verbal elements communicated one process over time, wherein the depicting constructions denoted topographical information and the constructed action added further information regarding the difficulty of the action.

Finally, although only occurring three times, I observed instances of serial verb constructions wherein repeated verb signs are produced in succession. Hodge and Johnston (2014) note this in their work on CLUs, defining these instances as "an elaborate construal of one activity" (p.272). As such, I borrow from their definition and refer to these instances as 'Elaborate' verbs identifying one overall process. For example, SLU09 signed the string ADJUST CHECK ADJUST CHECK ADJUST CHECK.[43] During this time, non-manual information was co-articulated, including a side-to-side motion with each change in manual sign, and a gradual look of exacerbation appearing on the signer's face. I do not analyse this repetition of verb signs as six individual processes, but instead as one of 'adjusting and checking over time.' At a deeper level, the two primary processes of adjusting and checking may be compounded and reduced further into the notion of 'fine-tuning.'[44] Therefore, while six overt verb signs were produced in sequence, what was communicated is analysed as a single verbal group incorporating a substantial amount of information due to the addition of spatio-kinetic and non-manual aspects.

Once I had fully segmented the video files, I began the main stage of data analysis: the identification of the interpersonal, experiential and textual elements of each clause

[42] Video: tinyurl.com/bslsfl4-3

[43] Video: tinyurl.com/bslsfl4-4

[44] However, if there had been longer pauses between the instances ADJUST and CHECK, or further non-manual information provided (e.g. a nod in-between or a glance towards the camera), this would have been interpreted as individual processes occurring with co-ordination (i.e. 'I adjusted it, then I checked it, then I adjusted it again…').

using the SFL tiers shown in Table 4-3 above. I explain these elements in greater detail in Chapters 5, 6 and 7 respectively.

4.3.5. Multiple viewings and other methods ensuring reliability

As noted above, I viewed each video numerous times to ensure that all annotations were made appropriately on each tier. However, I was not the only person to view this data. Three other BSL users were invited to verify and challenge my annotations, as the identification and segmentation of unit boundaries in the data is often highly subjective. Johnston (2012) comments that "a given string (phrase, clause, sentence) may be parsed by different researchers in slightly different ways, yielding alternative grammatical class identification for some signs" (p.169). Similarly, Halliday (2009b) states that

> for analytic purposes, one takes certain more or less arbitrary decisions, e.g. about clause or syllable boundaries - especially in quantitative and comparative studies, where the critical factor is consistency: making explicit the criteria on which analytic decisions are taken (p.73).

I therefore decided to use third-person verification. Following the previously-mentioned ethical considerations when studying Deaf communities and ensuring Deaf involvement in the research process (Harris, Holmes and Mertens, 2009), verification included three members of the Deaf community: two Deaf native BSL users, neither of whom were participants in the data collection, and one hearing BSL-English interpreter with over 10 years of interpreting experience.

It would have been unreasonable and too time-consuming to expect each verifier to comment on each of the 1,375 clauses analysed in this study. Instead, I asked them to review 75 clauses, or 5.5% of the total. Each clause was selected at random from the data set, but done so to ensure that at least 5% of each video was represented in the verification sample. Each verifier was briefed with the purposes of my research, including an overview of various theoretical notions (e.g. the concept of prosody and

how it helps in the identification of units, how a clause is formed, etc.) and a demonstration of how I had performed the initial clause segmentation.

Two responses were desired from the verifiers. Firstly, I asked if my data had been translated or annotated sufficiently accurately. All three verifiers saw no issues in this regard, most likely because any issues with translation were resolved by either direct contact with the participant post-recording, or via use of other resources such as the BSL SignBank (University College London, 2016).

The second instance of responses were with regards to whether the verifiers agreed with my clause segmentations or whether they wished to challenge and change them. Once again, there was a high level of agreement between the three reviewers and me, although there were a few disagreements regarding where some clauses ended and the next ones began. This occurred in situations where an extended production of signs had ambiguous breaks due to few non-manual markers, or due to issues with interpreting the sign (e.g. partial or incomplete articulations). All issues were resolved after discussions with the verifiers, and agreements were reached in each case.

I analysed the level of agreement between the verifiers and me using Krippendorff's α (Krippendorff, 2004) to provide a statistical reinforcement of inter-rater reliability. I chose this method as it is "the most general agreement measure with appropriate reliability interpretations" (p.221), and because it can be consistently applied when the number of verifiers exceeds two (cf. Cohen's κ). This allowed for both my opinions and those of the three verifiers to be included in the calculation.

Following Krippendorff's suggestion, an α value above 0.80 denotes a high overall agreement level, whereas a value between 0.67 and 0.80 would suggest only a tentative level of agreement. Values below 0.67 would indicate a large amount of disagreement between verifiers, invoking the need for further investigation.[45]

[45] It is understood that the stated boundaries of α values are to an extent arbitrary, like those found in other statistical models of reliability. Nonetheless, these values provide useful baselines with which to work Krippendorff (2004) provides further information on these boundaries, although it is noted that the stated values are provided "with considerable hesitation" (p.242).

Based on verification levels, I calculated the α value to be 0.935 (see Appendix II). As α > 0.80, this supports the argument that inter-rater reliability was high, and that the selected sample of clauses were deemed appropriate by three other competent or fluent BSL users. While this result does not guarantee that every instance in the dataset also abides by the same level of agreement, it gives confidence that I annotated the overall dataset appropriately. Even if all three verifiers were to have reviewed the entire dataset, methodological issues would still be present, such as whether the verifiers' own reliability could be ensured, and whether more verifiers would be required.

4.4. Further methodological notes

Despite my attempts to make the capture and analysis of my data as robust as possible, a few methodological issues persisted. Often, these were beyond my control or only discovered after other steps had been taken. A brief review of the more prominent issues, and how I solved these, are presented below.

4.4.1. A lack of 'audience'

As noted at the start of this chapter, Deaf BSL users accommodate to the audiological status and linguistic abilities of non-native and hearing signers (Deuchar, 1984 and Lucas, 2013). This presents a variable during language production, and one that I mitigated by not being co-present during participant filming. Given that the participants were signing a presentation, the ideal scenario would have been to have a live audience comprising solely of Deaf BSL users. However, due to issues of participant availability, such a presentation environment was impossible to create in every instance. Therefore, aside from my removal from the communicative environment during filming, participants were told that each recording was aimed towards a Deaf BSL-using audience (although an 'audience' never viewed these videos), in the hopes of influencing a less 'modified' version of BSL.

4.4.2. Unusable data

Despite attempts to create as useful a dataset as possible, some data were unusable. These instances were caused by obstructions during filming (e.g. where a participant's hands obscured the view of their face due to the angle of recording) and ambiguity in interpretation caused by the production of signs with no clear meaning, often understood to be unknown regional or personal variants. In these instances, and only after several attempts had been made to understand the sign via verifiers, online resources and attempts to contact the participant themselves, the clause was dropped from analysis. A large amount of data loss would have had large resultant effects, for instance, on analysis from a systemic functional perspective when observing the textual metafunction and thematic development between clauses (see Chapter 7). However, the extent of unusable data was minor: only 6 of the total 1,381 clauses were omitted from analysis – a loss of 0.43% of the raw data – leaving the 1,375 clauses analysed in this study. The impact on the analysis was therefore minimal, but such issues should be borne in mind in later studies to limit the risk of data loss.

4.4.3. Semantic mismatches in BSL production

On a few occasions, semantic mismatches occurred between the manual components of a sign and the co-occurring mouth pattern. For instance, SLU03 produced the manual components TWO-HUNDRED ELEVEN, but at the point of signing HUNDRED the mouth pattern 'thousand' occurred. However, THOUSAND is produced using a markedly different handshape, location and movement.[46] In this instance, I used co-text to clarify the meaning: the participant was recounting a story on a year-by-year basis, and had recently produced TWO THOUSAND NINE and TWO THOUSAND TEN. I derived that this was an error in the manual component, and my annotations in the 'Notes' tier reflected this. SLU03 made similar errors later in the recording, although these were self-corrected almost immediately after the error. In these cases, the incorrect manual production was labelled as a 'false start' and was excluded from analysis.

[46] Video: tinyurl.com/bslsfl4-5

More complex instances of mismatching required further investigation. For instance, SLU07 produced the manual sign FINISH that co-occurred with the mouth pattern 'go.' Unlike the previous example, the co-text did not provide enough information to clarify the intended meaning. Possible outcomes included the dominance of one meaning over the other (i.e. an error in either the manual component or the non-manual component), a potential compound meaning 'finish and go,' or a phonological manual variant of the sign GO. To solve such issues, I asked the participants to provide clarification where possible. In instances where I could not get in communication with participants, the verifiers instead assisted me. In each of these more complex instances, the intended meaning was derived to be that produced by the mouth pattern and not what was produced on the hands, otherwise referred to as 'slips of the hand' (Hohenberger, Happ and Leuninger, 2004). Such a discovery is not novel: Vinson et al. (2010) show that BSL users are more likely to produce the correct mouthing with an incorrect manual production when compared to instances of incorrect mouthing but correct manual production, at a ratio of 1:2 instances respectively.

4.4.4. Using English when working with BSL data

As discussed in Chapter 2, BSL does not have an inherent written system to accompany it; it operates solely in the visual-spatial modality. Successfully transcribing and coding data from sign languages in the written modality is therefore a subject of much interest and difficulty in sign linguistics (Cormier, 2015). Methodologically and linguistically, it is not possible to take sign language data and 'translate' them into English sentences. Sallandre and Garcia (2013) comment on this, noting that "establishing bilateral correspondence [between spoken and sign languages] is just simply impossible for a substantial number of the units of discourse" (p.170). Napoli and Sutton-Spence (2014) add to this, identifying that "transcribing sign languages with a morpheme-by-morpheme gloss and then a translation into a spoken language can obscure the information (lexical and functional) in a sign and how it is packaged" (p.3). Additionally, Pfau and Steinbach (2016) insist that "one should apply due caution in making inferences based on translations because translations are often content-based

approximations" (p.2). These comments were pertinent when trying to identify BSL clauses and their elements, as the clause structure of written English often interfered during my analysis. For instance, when reflecting on the structure of clauses, I would often think of how elements in an English clause would pattern and then attempt to apply this to the data. This happened frequently, but became more salient as time went on, making this less of an issue.

Although cross-linguistic interference can occur during analysis, it does not make the task impossible. Written systems have been developed to assist with the annotation and coding of sign languages, such as Stokoe notion (Stokoe, Casterline, and Croneberg, 1965), and the Hamburg Notation System (Prillwitz et al., 1989), but these systems focus primarily on the phonological features of signs. Although using English (or indeed any other language) is an imperfect manner of annotation, it does provide a machine-readable and rapid method of working with sign language data, particularly when coupled with the features of ELAN. The key to ensuring accuracy is frequent self-reflection, as mentioned above, to verify that the analysis has not been influenced by the presence of English, and that there is continuity within and between annotations. This is aided by annotation conventions concerning, for example, the BSL Corpus Project (Cormier at al., 2015) and the Auslan Corpus Project (Johnston, 2014).

4.5. Conclusion

This chapter has provided an overview of the process that I used to ensure a suitable and manageable dataset for my research. I started by presenting information on how I selected participants with the assistance of those in the Deaf community, and how I controlled for numerous variables. I then moved on to explain how the data was obtained, controlled and stored to ensure realisable backups while maintaining anonymity. Prior to moving onto an explanation of how I annotated the data in-depth, I discussed how a clause may be understood in BSL, calling on previous research and the use of prosodic and intonational information to assist in this endeavour. Finally, I explained how my data was segmented, how it was verified by authorised third-parties

to reduce subjectivity, and some of the more prominent methodological issues encountered during this process.

My method of data collection and the amount of data obtained were robust enough to enable a suitably detailed analysis of the lexicogrammar of BSL. Each step of the process involved much repetition, which often led to improvements in efficiency (e.g. copying ELAN tier structures between data files rather than recreating new structures each time) and accuracy (e.g. alignment between the various manual, non-manual and systemic functional tiers). As a result, my dataset has enabled me to create a set of system networks representing the lexicogrammatical realisations of the interpersonal, experiential, and textual metafunctions in BSL. These are schematised and described in Chapters 5, 6 and 7, respectively. Nonetheless, it must be remembered that these system networks are based on data that are restricted in size and depth, in comparison to the corpora of spoken and written languages. The system networks and my claims to support them in the following three chapters are therefore preliminary and subject to much further investigation. To reiterate what I stated in the introduction of this thesis, the system networks that I present are 'simplistic' in the sense that they do not branch out into extreme levels of delicacy, yet they are stable enough in their current forms to be used with larger data sets. As such, these system network 'bases' are ready to be extended as and when further analysis allows.

5. The interpersonal metafunction of BSL[47]

5.1. Introduction

At a basic level, communication is as a point-to-point transmission of information. As a bare minimum, there must be both a communicator and a recipient. For instance, when a reporter speaks into a microphone and towards a camera, she expects to be heard by those who watch her broadcast. When an author writes a novel, the words on the page can be read by those with a copy of the book. Despite the differences in modality and in synchronicity between these two basic examples, the communication is formed of at least two parties: the producer and the receiver. One of the various meanings borne out of communication is that which allows for the on-going negotiation of producer-receiver relationships. From the systemic functional perspective, this is understood to be the interpersonal metafunction.

I begin this chapter by taking a closer look at what the interpersonal metafunction encompasses from a theoretical perspective, and why it is necessary to consider interpersonal elements for any intended communication to be successful. I use English as a foundation to this theoretical background, but I also comment on other languages to demonstrate the diversity that is observed in this metafunction. I also argue a case for renaming certain functional elements of the interpersonal metafunction to suit the nature of BSL.

Following this, I present the preliminary simultaneous system networks involved in the interpersonal metafunction for BSL: MOOD, POLARITY, MODALITY and SOCIAL DISTANCE. While some of these systems contain structures that resemble other languages (e.g. the system of MOOD at low levels of delicacy), other networks call on specific visual-spatial resources to function successfully (e.g. SOCIAL DISTANCE shows

[47] I wish to thank the organisers and participants of the 2016 Summer School in Systemic Functional Linguistics held at Cardiff University. This and similar events held by the university improved my understanding of how to analyse language from different metafunctional perspectives, and provided me with the opportunity to gain feedback on previous models of interpersonal system networks.

hierarchical markings in the signing space). I exemplify each network with written and visual instances selected from my dataset.

Finally, I present the system networks in a complete diagram depicting the simultaneous interpersonal systems of BSL, accompanied by an analysis of an extended text extracted from my dataset. I use this particular text as it provides a diverse array of interpersonal choices from the various available systems, alongside various choices in the experiential and textual metafunctions (as I review in Chapters 6 and 7 respectively). In the analysis of this sample text, I identify the relationships between the context of situation and choices in clause type, and any points of interest in terms of clause composition.

It should be noted that several of the observations that I make in this chapter will refer to information provided in the following two chapters (i.e. Chapters 6 and 7), and vice-versa. As I noted in Section 3.3 above, any clause viewed from the systemic functional perspective produces (at least) three strands of meaning simultaneously, and it is often the case that these meanings have dependencies or relationships across metafunctions as well as within metafunctions. As such, while I have tried to keep this chapter as 'self-contained' and accessible as possible, other chapters may require referencing to fully comprehend certain instances or effects.

5.2. The interpersonal metafunction

Communication between two or more parties requires acknowledgement of two elements: the information being transmitted and the way the transmission occurs. For example, in writing this thesis, I am presenting information in a manner that is suitable for the context and that is interpretable by the reader. Given that my intention is to inform the reader, I am using predominantly declarative statements. If I were to use mostly interrogative statements, the purpose of the work is reversed: I would be requesting information, rather than providing it. This simple example provides the core aspect of the interpersonal metafunction: "the interaction between speaker and listener – their collaboration in making meaning" (Matthiessen, 1995, p.93). In this first section

I introduce the theoretical elements of this metafunction, specifically regarding 'collaboration' in communication.

Halliday and Matthiessen (2014) state that from the interpersonal perspective, the clause is interpreted under the concept of "meaning as an exchange" (p.134). Semantically, an exchange can be split into two sub-categories: the direction of the exchange and what is being exchanged. In other words, a communicator can either give something (i.e. 'the cat is over there') or request something (i.e. 'where is the cat?'). This 'something' can be either information (i.e. 'can you tell me where the cat is?') or related to a more tangible outcome (i.e. 'help me look for the cat'). I provide the terms employed by Halliday and Matthiessen (2014) explaining these exchanges below in Table 5-1:

	Goods-and-services	**Information**
Giving	Offer ('Shall I look for the cat?')	Statement ('I'm looking for the cat.')
Demanding	Command ('Look for the cat.')	Question ('What are you looking for?')

Table 5-1 - Types of exchange (adapted from Table 4-1 of Halliday and Matthiessen, 2014, p.136).

Depending on the type of exchange that a communicator selects from Table 5-1, the lexicogrammatical realisation (i.e. what the clause looks like) will alter to reflect this choice, which can be seen in the English examples above. These choices can be schematised into the system of MOOD for English as presented in Figure 5-1:

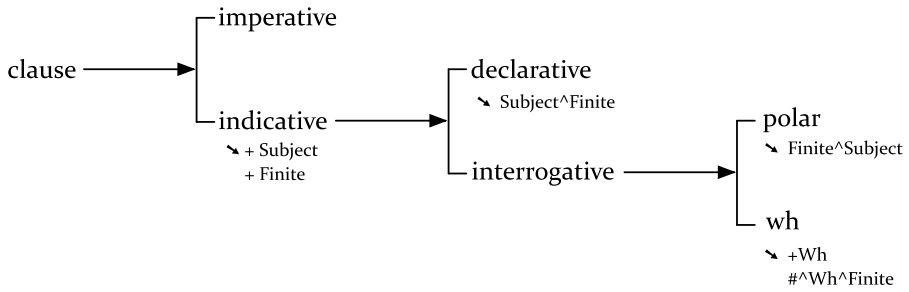


Figure 5-1 - The system of MOOD in English adapted from Halliday and Matthiessen (2014, p.24).[48]

[48] Permission for non-exclusive, English Language rights to use the adapted figure has been granted by Taylor and Francis publishers.

According to van Gelderen (2013), "every language has ways to express mood; its expression is not optional" (p.69). As such, the system of MOOD is claimed to be an element found cross-linguistically, and I show in Section 5.4 below that this holds true for BSL. However, the lexicogrammatical realisations of these choices vary from what is observed in English due to the visual-spatial nature of BSL.

It must also be remembered that while MOOD plays a pivotal part in the interpersonal metafunction, it is not the only part of the exchange that requires consideration. I noted in Section 3.3.2 above that the interpersonal metafunction relates to the tenor in the context of situation. As such, there are further systems regarding how a clause reflects and construes "the role relationships entered into by the interactants taking part in a given context" (Matthiessen, Teruya and Lam, 2010, p.217). Some of these additional systems appear to be cross-linguistically present, such as POLARITY (see Matthiessen, 2004), although others appear to be language-specific. I briefly discuss two such instances of 'specific' systems in Japanese and Pitjantjatjara (a dialect of the Western Desert language of Australia).

In Japanese, choices in the lexicogrammar are influenced by "the socially established hierarchy based on superiority/inferiority" (Teruya, 2004, p.199). The form of verbal groups may therefore alter depending on the communicators' relative positions in this social hierarchy. The link between the tenor in the context of situation and the language produced is clear: interactions between those with different social statuses call for different choices in language. Teruya (2004) schematises this as the two simultaneous system networks of HONORIFICATION and POLITENESS, presented below in Figure 5-2:

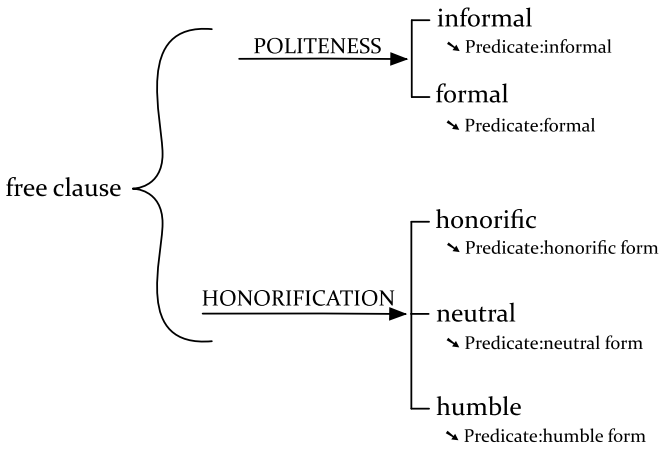


Figure 5-2 – The POLITENESS and HONORIFICATION interpersonal systems of Japanese, adapted from Figure 4.2 of Teruya (2004, p.208).[49]

For instance, the verb 'listen' (聞く ; kiku) alters depending on the choices made in the systems of POLITENESS and HONORIFICATION. Choices of 'informal' and 'humble' are realised as お聞く (okiku) where お encodes humbleness and く encodes informality. However, if 'formal' were chosen instead of 'informal', the realisation would change to お聞きます (okikimasu) where きます encodes a higher level of formality. In all cases, the choices that are made are dependent on contextual tenor, specifically the social proximity of the communicators. Both systems are thus attributed to the interpersonal metafunction.

Pitjantjatjara, on the other hand, presents "options for grading the probability of propositions" (Rose, 2004, p.496). The system of PROBABILITY is used in this case, and acts of one of several simultaneous interpersonal systems, presented below in Figure 5-3:

[49] Permission to use the adapted figure has been granted by John Benjamins Publishing Company, Amsterdam/Philadelphia.

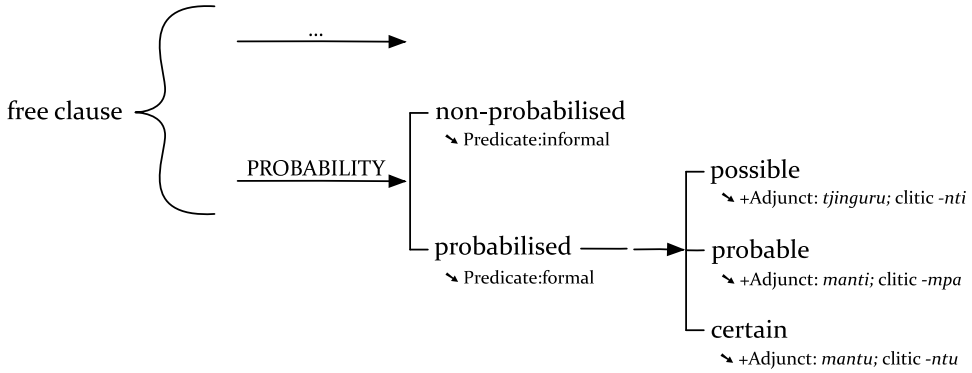


Figure 5-3 - The PROBABILITY interpersonal system of Pitjantjatjara, adapted from 'System 3' of Rose (2004, p.497).[50]

Similar to Figure 5-2, the systems in Figure 5-3 provide the possible choices in meaning that can be made and the resultant realisations. However, Figure 5-3 also demonstrates the lexical realisations of certain choices (shown in italics in the realisation statements). The use of these realisations depends on the level of probability wishing to be expressed. For instance, Rose (2004) provides an example in which a speaker uses the *-nti* suffix. In doing so, "[the speaker] lowers the certainty of the assertion with a clitic realizing low probability" (p.502). PROBABILITY therefore forms a part of the interpersonal metafunction as it encodes the speaker's position on the certainty of their assertion. It is not dissimilar from the interpersonal system of MODALITY found in English, which construes "the region of uncertainty that lies between 'yes' and 'no'" (Halliday and Matthiessen, 2014, p.176).

It can be understood so far that the interpersonal systems found in different languages may have similarities or may vary greatly. For BSL, I observed four interpersonal systems that fell into this continuum of 'similar' to 'distinct': MOOD (the type of move made in the exchange), POLARITY (the affirmative or negative nature of the clause), MODALITY (the level of interlocutor certainty), and SOCIAL DISTANCE (the relative 'social status' between two or more participants in the clause). The first three of these systems present some similarities to that which has been observed in other languages

[50] Permission to use the adapted figure has been granted by John Benjamins Publishing Company, Amsterdam/Philadelphia.

(see Caffarel, Martin and Matthiessen, 2004). However, the realisations of each system call on the visual-spatial nature of BSL rather than differences in the syntagmatic order of functional components as observed in languages such as English. Prior to observing these systems, though, it is necessary to consider which parts of the clause are key in forming interpersonal realisations.

5.3. The interpersonal elements of a BSL clause

The elements of a clause carry different functions depending on the metafunction being observed. Some of these functions may have more prominence or 'importance' than others, and it is possible to find patterns between functional elements when all three metafunctions are observed in tandem. For simplicity and clarity, I review each metafunction and its respective elements individually over the course of this and the following two chapters, although I note points of conflation (i.e. instances where functional elements of the metafunctions commonly overlap) where appropriate.

Using English as a starting point, the elements of the interpersonal metafunction include Subject, Finite, Predicate, Adjunct and Complement, wherein Subject and Finite play pivotal roles (see Figure 5-1 above). However, cross-linguistic investigations into the structure of the interpersonal metafunction demonstrate that these core elements are variable between languages (see, e.g., Caffarel, Martin and Matthiessen, 2004, and Teruya et al., 2007).

The Subject is "invested with the modal responsibility for the validity of the proposition or proposal realized by the clause" (Matthiessen, Teruya and Lam, 2010, p.208). In other words, it is "the person or thing in whom is vested the success or failure of the proposition" (Eggins, 2004, p.151). This suggests that the Subject is often realised as a nominal group, or is viewed experientially as a participant of the clause (see Section 6.2.2 below). The Subject is also regarded as having a higher "degree of interpersonal 'elevation'" (Halliday and Matthiessen, 2014, p.155), indicating a prominence of this participant over others (if present) when the clause is observed from the interpersonal

perspective. In its most simple terms, Thompson (2014) refers to the identification of the Subject as looking for the 'aboutness' of the clause.

With these ideas in place, I present two examples of Subject identification from my dataset in 5-01 and 5-02 below:[51]

(5-01)

Manual	PT:PRO1SG	CAR	BUY	PT:DET
Interpersonal	Subject	(other elements)		
Translation	"I bought that car"			
Video	tinyurl.com/bslsfl5-1			

(5-02)

Non-manual	raised eyebrows		
Manual	PT:PRO2SG	LIKE	TEACHER
Interpersonal	Subject	(other elements)	
Translation	"Do you like the teacher?"		
Video	tinyurl.com/bslsfl5-2		

In both instances, the Subject is clause-initial and refers to the sign that the rest of the clause 'depends on:' in 5-01, it is the signer themselves who was involved in completing a transaction, and in 5-02, it is a co-present interlocutor who is being asked a question.[52] Although referring to English, Thompson (2014) notes that "the listener can [...] accept, reject, query or qualify the validity by repeating or amending [the verbal element] but the Subject must remain the same" (p.55). This may arguably be applied to BSL (as is the case with other languages which identify the interpersonal element of Subject; see Matthiessen, Teruya and Lam, 2010): in 5-01, we may query who purchased the car and be presented with the Subject, PT:PRO1SG. Similarly, in 5-02, the acceptance or rejection

[51] In the interests of efficiency and space, glosses include only relevant 'tiers' of information, rather than each individual tier that was annotated in ELAN during the transcription process (see Table 4-3).

[52] This example is drawn from an instance of constructed dialogue, wherein the signer repeats a question that they asked in the past. Although the recipient of the question is not co-present, the grammatical person reference does not alter.

of the question is performed by the Subject, PT:PRO2SG.

At a deeper theoretical level, it may be argued that the above is not an incontrovertible definition nor method of identifying the Subject. However, what I have stated above appears to correlate with what is noted in systemic functional literature, and in other typological literature. For instance, Velupillai (2012) identifies that "the subject is the central, most prominent, noun phrase in the clause and traditionally defined as the "doer" of an action" (p.236).[53] As such, for the purposes of this work, I associate the ideas of 'aboutness' and interpersonal prominence with the Subject in BSL, alongside Thompson's (2014) probes that the Subject must remain the same when the clause is queried.

Two elements that are closely related to the Subject are the Complement and the Adjunct. Experientially, these may act as other participants and as circumstances in the clause (e.g. locations, times, etc.) respectively. A further distinction between the Complement and Adjunct is their likelihood of being 'selectable' as a Subject of the clause, or the level of modal responsibility that can be assigned to these elements (see Halliday and Matthiessen, 2014, p.155). In brief, a Complement has the potential to become a Subject, whereas an Adjunct does not.

I observe both Complements and Adjuncts in BSL. 5-03 below shows an instance containing the Subject, Complement and Adjunct:

(5-03)

Manual	EVERY-DAY	PT:PRO1SG	FIVE	COFFEE	CA:DRINK-COFFEE
Interpersonal	Adjunct	Subject	Complement		(other element)
Translation	"Every day, I drink five cups of coffee."				
Video	tinyurl.com/bslsfl5-3				

The Subject of 5-03 is the one concerned with performing the action of drinking coffee:

[53] Although Velupillai (2012) uses 'subject' in the traditional sense, rather than the systemic functional sense of 'Subject' as an element of the interpersonal metafunction, the two elements are understood to be closely related. As Thompson (2014) identifies, the S/subject is "a powerful insight that has been applied in most approaches to grammatical description" (p.54).

the signer (PT:PRO1SG). The Complement is that which is related directly to the action expressed, which in this case is the item being consumed (COFFEE), and the Adjunct provides further information regarding the action, namely its frequency (EVERY-DAY). Additionally, the Adjunct is not an inherent part of the action and cannot adopt one of the roles expressed by the verb: EVERY-DAY cannot drink coffee, and EVERY-DAY cannot be drunk by the participant.

The remaining interpersonal elements of a clause serve to indicate the 'action' expressed, and are thereby realised in the verbal group (and are viewed experientially as the process of the clause; see Section 6.2.1 below). In English, there are two key elements: the Finite and the Predicator. The Finite is the initial element within the verbal group that carries the finiteness of the clause, or as Quiroz (2008) identifies, it is the element encoding "key interpersonal meanings grounding the clause in terms of 'temporality', 'modality' and 'polarity'" (Quiroz, 2008, p.36; see Davidse, 1997, for further discussions on finiteness and clause grounding). The Predicator contains any remaining verbal elements not accounted for by the Finite, thereby "[filling] the role of specifying the actual event, action or process being discussed" (Eggins, 2004, p.155). For instance, in the English clause 'he will be finished soon,' the first verbal group element 'will' takes the role of Finite both due to its initial position in the verbal group, and because it expresses the primary tense, modality and polarity of the clause. The remaining items, 'be finished,' realise the Predicator, providing more information on the action in question. In instances where only one word occurs in the verbal group, such as 'he eats fish every day,' the Finite and Predicator fuse in the verb 'eats,' and is written as Finite/Predicator.

The Finite is a key element in the system of MOOD in English, whereas the Predicator is not as vital. For instance, differences in the ordering of the Subject and the Finite (i.e. 'He has…' and 'Has he…') realises the difference between a declarative and an interrogative clause. Similar instances are found in languages such as German (Steiner and Teich, 2004), but this importance is not universal. In Japanese, the Finite is not understood as a separate element: "while in English the Finite and the Predicator are often separated, in Japanese they never are, so there is no need to posit a distinct Finite

element in the interpersonal structure of the clause" (Teruya, 2004, p.194). Furthermore, languages including French and Spanish view the Predicator with a higher level of prominence, working alongside the Subject and the Finite elements, rather than being somewhat subordinate to them (see Caffarel, 2006, and Quiroz, 2008).

While the identification of Subject, Complement and Adjunct in BSL does not prove particularly onerous, greater complexity is encountered when considering the verbal elements of a BSL clause. Returning to the notion of clause grounding – that is, markings of polarity, modality and temporality – the polarity and modality of a BSL clause can be identified by manual and/or non-manual elements occurring within the verbal group. However, while a sign may morphologically produce aspectual information (see Section 2.4.3 above) the temporality of a sign is not provided in the verbal group as inflections for tense are not present in BSL verbs. Instead, tense is encoded by temporal adverbials (i.e. temporal Adjuncts) which are often placed at the start of a clause (see Sutton-Spence and Woll, 1999). An example of this is shown in 5-04:[54]

(5-04)

Manual	YESTERDAY	PT:PRO1SG	WORK	PT:DET	TOMORROW	WORK	PT:DET
Spatio-kin.		1		X			Y
Interpers.	Adjunct	Subject	(verb)	Com.	Adjunct	(verb)	Com.

Translation "I worked there yesterday. Tomorrow, (I) will work there [a different place]."

Video tinyurl.com/bslsfl5-4

The verb WORK shows no change in form despite a shift in the tense of the clause due the Adjuncts YESTERDAY and TOMORROW. If TOMORROW were absent from the second clause, the meaning would become 'Yesterday, I worked there, then I worked there.' As such, it is not necessary to identify the temporal reference at the start of each clause: temporality is bound by the previous temporal reference, and only when a new temporal frame of reference is provided does it alter the tense. Clause finiteness may thus be bound in, or spread beyond the boundaries of, a single clause.

[54] 5-04 also demonstrates element ellipsis in the second clause. This is a textual effect that I discuss further in Section 7.3.4 below.

Given how BSL indicates temporality, the systemic functional notion of Finite (as it understood in languages such as English) cannot be used in the same way for BSL. Finiteness is still achieved via the grounding principles of modality, polarity and temporality, but only the latter is realised completely outside of verbal elements. It is instead denoted by temporal Adjuncts which then 'colour' the verbal group within and (potentially) beyond the clause.

Nevertheless, as I present below, elements within the verbal group remain vital to the interpersonal metafunction and cannot be ignored. I tentatively refer to these verbal elements as Quasi-Finite, reflecting the idea that polarity and modality can be derived from within this unit, but that temporality is marked by external elements (i.e. temporal Adjuncts) which affect the verbal group. Quasi-Finites are thus 'seemingly finite' elements.

5.4. The system of MOOD

With the interpersonal elements outlined above (and other 'minor' elements covered in the following sections), I now move on to explain how these elements interact and change within clauses. The first network I present is the MOOD network, which is key to the selection of the type of exchange (see Table 5-1 above). I present this system network in Figure 5-4 below:

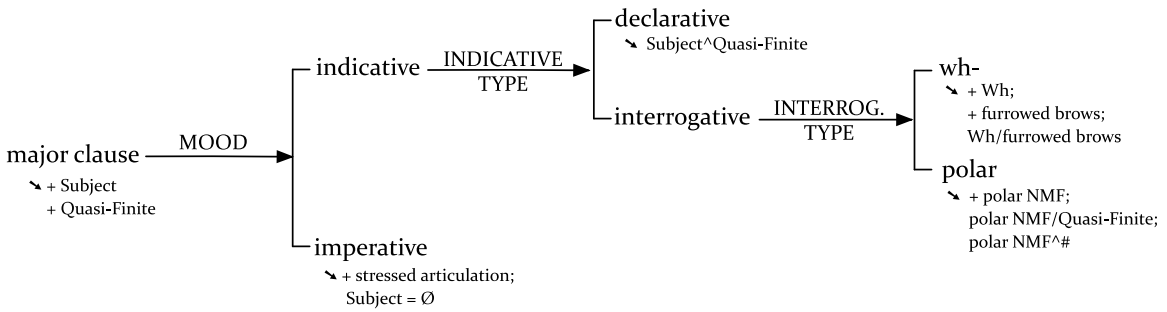


Figure 5-4 - The system of MOOD in BSL.[55]

[55] All primary networks presented in this thesis have an entry condition of the major clause. Major clauses may be free or bound (i.e. 'independent' and 'dependent' respectively), and are distinguishable from minor clauses or "clausettes" (Matthiessen, Teruya and Lam, 2010, p.134).

Interpersonally, a major clause must contain both Subject and Quasi-Finite elements. The subsequent choices made within the system result in one of the four system features or 'end points' – declarative, imperative, wh- interrogative and polar interrogative. All are realised in different manners, and I discuss each of these below.

5.4.1. Declaratives

Declarative clauses present information in the form of statements. Typologically, they are the most 'unmarked' structures (Velupillai, 2012), and this is no exception in BSL. They are also the most frequent option chosen in my dataset by far (N = 1,289; 93.75% of total clauses). Declaratives realise statements in BSL in a similar way to that found in English, in the sense that the Subject comes before the Quasi-Finite in terms of clause constituency. However, other interpersonal elements may 'split' the Subject and Quasi-Finite. Compare, for instance, 5-05 with 5-06:

(5-05)

Manual	RECENTLY	PT:PRO3SG	GO-TO	FRANCE
Interpersonal	Adjunct	Subject	Quasi-Finite	Complement
Translation	"He recently went to France."			
Video	tinyurl.com/bslsfl5-5			

(5-06)

Manual	PT:PRO1SG	DOG	PT:PRO3SG	PARK	PT:LOC	DC:WALK-DOG
Spatio-kin.	1		3		x	motion in x
Non-manual		"dog"		"park"		gaze in x
Interpersonal	Subject	Complement		Adjunct		Quasi-Finite
Translation	"I walked the dog in the park."					
Video	tinyurl.com/bslsfl5-6					

Both clauses realise declarative statements, with 5-05 demonstrating how Subject can be directly followed by Quasi-Finite, and 5-06 demonstrating how Subject and Quasi-Finite may be separated. There are numerous instances of clauses such as 5-06 in my dataset due to the nature of BSL production: non-verbal elements of the clause often require 'setting up' in the signing space prior to verbal elements so that the production

makes sense, particularly if the verbal elements visually depict interaction between participants (see Napoli and Sutton-Spence, 2014). Johnston (1996) explains this productive feature as follows for Auslan, although the same applies for BSL: "one cannot felicitously use the direction of a verbal sign to show the relationship between participants if at least one of their relative locations has not already been established" (p.25). Therefore, a hypothetical realisation such as 5-07 (below) may follow the Subject^Quasi-Finite order, making it a declarative statement, but the meaning is unclear:

(5-07)

Manual	PT:PRO1SG	DC:WALK-?	DOG	PT:PRO3SG	PARK	PT:LOC
Spatio-kin.	1	motion in x		3		x
Non-manual		gaze in x	"dog"		"park"	
Interpersonal	Subject	Quasi-Finite	Complement		Adjunct	

Translation "I walked something; dog and park."

There are also instances in my dataset where the Subject was not present in a declarative statement, or it came after the Quasi-Finite, as in 5-08 and 5-09:

(5-08)

Manual	WEEKEND	PT:PRO1SG	CA:RUNNING	ALSO	CA:TENNIS
Interpersonal	Adjunct	Subject	Quasi-Finite		**Quasi-Finite**

Translation "On the weekend, I went running. (I) also played tennis."

Video tinyurl.com/bslsfl5-8

(5-09)

Manual	PT:PRO1SG	IPAD	HAVE	PT:PRO1SG	BUY	ONLINE	PT:PRO1SG
Interpersonal	Subject	Com.	Q-F	Subject	Q-F	Adj.	**Subject**

Translation "I have an iPad. I bought it online, (I did)."

Video tinyurl.com/bslsfl5-9

Both instances do not follow the previously-observed order of Subject^Quasi-Finite, but these can be attributed to textual effects: in 5-08, there is Subject ellipsis in the second clause, whereas 5-09 presents Subject reduplication. I explain these effects in greater detail in Section 7.3.4 and 7.3.5 below.

5.4.2. Interrogatives

As I noted at the beginning of this chapter, language can be used both to present and to request. Interrogative structures perform the latter function, which is split into two further choices: wh- interrogatives and polar interrogatives. The former "demand information, a participant or circumstance that is selected by a Wh- element" (Matthiessen, Teruya and Lam, 2010, p.129), whereas the latter "demand information about the polarity of the proposition realized by the clause" (ibid.). I firstly comment on wh- interrogatives, followed by polar interrogatives.

Wh- interrogatives are realised by the addition of another functional element to the clause: the Wh- element. In my dataset, this element is realised by the manual signs WHO, WHAT, WHY, WHICH, WHEN, WHERE, and HOW.[56] Sutton-Spence and Woll (1999) note that these signs are used clause-finally, which is reinforced by Pfau and Bos (2016) who identify that these signs "most commonly appear in sentence-final position" (p.132). However, cross-linguistic research by Cecchetto (2012) expands on this position further, noting both clause-final instances and that the "occurrence of wh-phrases at the left periphery or in situ is also possible" (p.296).

Given the high number of declarative clauses in the data, it is unsurprising that the number of wh- interrogative clauses is comparatively low ($N = 45$; 2.55% of total clauses), yet what is noted by Cecchetto (2012) is supported in my data: most Wh- elements appear at the end of clauses, but may also occur in other positions. The position does not appear to change the function of the clause, and apart from instances where Wh- elements are doubled (see Section 7.3.5 below), the difference in position appears to be individually motivated (i.e. down to signers' preference). This can be observed below, alongside other examples of wh- interrogative clauses, in 5-10, 5-11, 5-12, and 5-13:

[56] Other wh- signs in BSL include HOW-MANY, HOW-OLD and HOW-MUCH, but these were not recorded in my dataset.

(5-10)

Non-manual					eyebrow furrow
Manual	TEA	COFFEE	PT:PRO2SG	WANT	WHICH
Interpersonal	Comp.	Comp.	Subject	Quasi-Finite	Wh-/Comp.
Translation	"Which do you want: tea or coffee?"				
Video	tinyurl.com/bslsfl5-10				

(5-11)

Non-manual			eyebrow furrow		
Manual	PT:PRO2SG	DO	WHAT	TOMORROW	NIGHT
Interpersonal	Subject	Quasi-Finite	Wh-/Q-F	Adjunct	
Translation	"What are you doing tomorrow evening?"				
Video	tinyurl.com/bslsfl5-11				

(5-12)

Non-manual				gaze at DC	eyebrow furrow
Manual	HOUSE	PT:LOC	PEOPLE	DC:TWO-LEAVE-HOUSE	WHEN
Spatio-kin.		x		x→y	
Interpersonal	Complement		Subject		Wh-/Adjunct
				Q-F/Comp	
Translation	"When did the two people leave the house?"				
Video	tinyurl.com/bslsfl5-12				

(5-13)

Non-manual	raised eyebrows		eyebrow furrow
Manual	PT:POSS1SG	BOSS	WHO
Interpersonal	Complement		Wh-/Subject
		Q-F	
Translation	"Who is my boss?"		
Video	tinyurl.com/bslsfl5-13		

In 5-10, WHICH is used to present TEA and COFFEE as possible options for whomever the question is intended. As such, the options are 'known' to both the signer and the recipient of the message, but the specific desire of the recipient remains unknown until

a choice is made. Similarly, in 5-11, the signer wishes to know what activity or activities (if any) the recipient has planned soon. However, unlike 5-10, the Wh- element of 5-11 does not appear clause finally, although as I noted above, this appears to be a preference of the signer rather than representing a functional difference. Finally, 5-12 and 5-13 also present Wh- elements in clause-final position, although the signs used request different types of information: the time that two people left a house using WHEN, and the identity of a person using WHO, respectively.

In each of the above four clauses, the non-manual feature of 'eyebrow furrow' co-occurs with the use of their respective Wh- element. If the eyebrows are in a different position during the production of the Wh- element, it does not create a wh- interrogative clause. Rather, a textual effect is activated, serving to shift information focus (see Section 7.3.6 below for further elaboration on this point).

In addition, each instance of the Wh- element in examples 5-10, 5-11, 5-12, and 5-13 realises a different interpersonal element. In other words, the Wh- element acts as a placeholder, which is understandable in this type of interrogative structure as unknown information is being requested. Based on my dataset, I present Table 5-2 identifying which Wh- element can be used with which specific interpersonal element:

Inerpersonal element	**Possible Wh- elements**
Subject	WHAT; WHO
Complement	WHAT; WHO; WHICH
Adjunct	WHEN; WHERE; WHY; HOW
Quasi-Finite	WHAT (when preceded by DO)

Table 5-2 – Wh- elements in wh- interrogative clauses and the interpersonal elements that they realise.

Before moving on, there are two instances of simultaneity that require further commentary. Firstly, in 5-12, a depicting construction (Quasi-Finite) is used to present the action of two people (Subject) leaving a house (Complement). As the Subject and Complement are expressed manually and spatially in the Quasi-Finite, all three

elements conflate on the interpersonal tier within the depicting construction. Secondly, 5-13 locates the Quasi-Finite in the 'transition' between the two other functional elements. I noted in Section 2.4.4 above that BSL does not have an overt copula manual sign, although it is still possible to have constructions where one argument can be 'equated' with another. As such, this may be understood as an instance of zero copula, wherein BSL (and other languages) "may opt for juxtaposition" (Stassen, 1994, p.108). However, 5-13 shows both the juxtaposed nominal groups *and* a marked change in non-manual features between these groups. Stassen notes that in instances of zero copula "there is no overt lexical marking of the relation between the subject and the predicate nominal" (ibid.), yet as non-manual features must be considered, it may suggest something akin to a partial copula realisation. In other words, there is no manual copula sign, but a change in non-manual features may act as a copula 'marker.' I discuss these clause types in more detail in Section 6.3.1.3 below, but from an interpersonal perspective it suffices to identify the Quasi-Finite in-between the other functional elements.

Polar ('yes/no') interrogative clauses "demand information about the polarity of the proposition realized by the clause" (Matthiessen, Teruya and Lam, 2010, p.129), rather than asking for new or unknown information. Unlike wh- interrogative clauses, there is no requirement to add an extra manual element into the clause, although there is the necessity to use appropriate non-manual features to distinguish the clause from being otherwise declarative. I replicate 5-01 and 5-02 below with further interpersonal and non-manual elements in 5-14 and 5-15 respectively:

(5-14)

Manual	PT:PRO1SG	CAR	BUY	PT:DET
Interpersonal	Subject	Compl-	Quasi-Finite	-ement
Translation	"I bought that car"			
Video	tinyurl.com/bslsfl5-1			

(5-15)

Non-manual	raised eyebrows		
			head dip
Manual	PT:PRO2SG	LIKE	TEACHER
Interpersonal	Subject	Quasi-Finite	Complement
Translation	"Do you like the teacher?"		
Video	tinyurl.com/bslsfl5-2		

Without considering the non-manual features, the sequential ordering of the interpersonal elements would suggest that 5-14 and 5-15 are both declarative. However, the addition of non-manual features provides an important transformation from declarative to polar interrogative in 5-15. So important are these non-manual features that, for instance, if these features were 'swapped' between 5-14 and 5-15, then their function would also alter. In other words, 5-14 would then be understood as a polar interrogative – 'Did I buy the car?' – and 5-15 as a declarative – 'You like the teacher.' Non-manual features in polar interrogative clauses have been previously identified, such as by Pfau and Bos (2016) who note that these structures are formed by "a non-manual grammatical marker [...], mostly raised eyebrows and a forward and/or downward movement of the head/chin" (p.131). Matthiessen (2004) also states that a "'yes/no' interrogative' is almost always distinguished from other MOOD types by means of a rising tone" (p.619). As such, if the position of eyebrows is viewed analogously with rising and falling intonation, BSL would match Matthiessen's claim.

The scope of polar non-manual features and their relation to the Quasi-Finite also requires commentary. In each instance of polar interrogative clauses in my dataset (N = 29; 2.11% of total clauses), polar non-manual features co-occur with the Quasi-Finite and are also present at the end of the clause.[57] However, the Quasi-Finite does not have to be in final position, as seen above in 5-15, and the non-manual features can co-occur either solely with the Quasi-Finite or spread across the whole clause. I present examples of these latter two instances respectively in 5-16 and 5-17:

[57] In relational clauses where the equivalent of 'to be' was expressed, co-occurrence of the Quasi-Finite with polar NMF could not occur. In these instances, the polar NMF was present throughout or clause-finally.

(5-16)

Non-manual				raised eyebrows / head dip
Manual	PT:PRO2SG	NEW	JOB	HAVE
Interpersonal	Subject	Complement		Quasi-Finite
Translation	"Do you have a new job?"			
Video	tinyurl.com/bslsfl5-16			

(5-17)

Non-manual	raised eyebrows / head dip				
Manual	LATER	PT:PRO2SG	BE	SEE	-b-r-i-a-n-
Interpersonal	Adjunct	Subject	Quasi-Finite		Complement
Translation	"Did you see Brian later?"				
Video	tinyurl.com/bslsfl5-17				

Despite the variance observed in the scope of polar non-manual features, I note the same function occurring in both 5-16 and 5-17. As I indicated in Section 2.4.3 above (and as I elaborate on in Section 5.5 below), the scope of non-manual features alongside manual signs is variable between signers, and even in different productions from the same signer. As such, the necessary factor is the existence of these polar non-manual features within the clause, rather than their exact scope.

Prior to moving on to imperative clauses, it is important to mention here that there are more instances of clauses in my dataset wherein Wh- elements and polar non-manual features are used than are counted above. In certain instances, there are crucial productive differences in the remainder of the clause that lead to functional differences. These include Wh- elements that are co-articulated with raised eyebrows (rather than furrowed eyebrows) and polar non-manual features that are followed by overt signs expressing affirmation or negation. In these cases, textual effects 'override' the interpersonal selections, resulting in indicative clauses rather than interrogative clauses. I explore this in greater detail in Section 7.3.6 below.

5.4.3. *Imperatives*

The imperative is used when "the speaker acts on the addressee to get something done, using language as a means to achieve it" (Matthiessen, Teruya and Lam, 2010, p.116). It is a demand for action, often resulting in a more 'direct' style of language. Due to the type of communication recorded in my dataset, the imperative does not occur in great numbers (N = 12, 0.90% of total clauses). Nonetheless, patterns are visible in its production.

Firstly, an imperative requires the signer to express the Quasi-Finite with greater speed and/or force than is found in other interpersonal realisations, resulting in the addition of 'stressed articulation' as a realised element of the clause. Secondly, the Subject is omitted, yet it is nonetheless implied or recoverable from the context. This latter requirement has also been observed in other languages through the systemic functional lens (Matthiessen, 2004) and in other sign languages in general (Pfau and Bos, 2016).

Johnston and Schembri (2007) note similar realisations for imperatives in Auslan: "the signs may be produced with stress, and the non-manual signals may include direct eye gaze at the addressee and frowning" (p.201). It may be argued that 'direct eye gaze at the addressee' could be understood as a non-manual realisation of the Subject. Likewise, indicating verbs (i.e. verbs that denote participants via the positions that the verb moves from and to) spatially denote Subject and Complement within the Quasi-Finite. The existence of the Subject in an imperative structure may therefore be argued for if the starting and ending positions of the indicating verb are assumed to be 'full' realisations of the Subject. Otherwise, this may be understood as a productive constraint: indicating verbs cannot be produced without movement, and therefore must have starting and ending points. At present, my dataset cannot provide enough evidence to support or refute these arguments, but it is an observation that is nonetheless worth considering further.

I provide examples of imperatives drawn from my dataset below in 5-18 and 5-20. I also provide their equivalent declarative structures in 5-19 and 5-21 to demonstrate the difference between 'stressed' and 'regular' articulation:

(5-18)

Non-manual	head forward; widened eyes
Manual	VISIT
Spatio-kin.	2→3; stressed movement
Interpersonal	Quasi-Finite
Translation	"Visit him."
Video	tinyurl.com/bslsfl5-18

(5-19)

Manual	PT:PRO2SG	PT:PRO3SG	VISIT
Spatio-kin.	2	3	2→3
Interpersonal	Subject	Complement	Quasi-Finite
Translation	"You visit him."		
Video	tinyurl.com/bslsfl5-19		

(5-20)

Non-manual	head forward; widened eyes		
Manual	LEARN	TODAY	PT:DET
Spatio-kin.	stressed movement		x
Interpersonal	Quasi-Finite	Adjunct	Complement
Translation	"Learn it today."		
Video	tinyurl.com/bslsfl5-20		

(5-21)

Manual	TODAY	PT:PRO2SG	LEARN	PT:DET
Spatio-kin.		2		x
Interpersonal	Adjunct	Subject	Quasi-Finite	Complement
Translation	"Today, you will learn it."			
Video	tinyurl.com/bslsfl5-21			

As I observed in interrogative clauses, the scope of the imperative non-manual features varies. In each case, the appropriate non-manual features cover an 'obligatory' component – the Quasi-Finite – and occasionally extends across other components, as in 5-20.

In short, the imperative clauses that I observed in my dataset, although few in number, seem to pattern in the use of more pronounced non-manual features and the omission of the Subject, as identified by other researchers of other sign languages (Johnston and Schembri, 2007).

5.5. The system of POLARITY

The types of clauses that can be produced by selections in MOOD have further elements that contribute to interpersonal meanings. One of these systems is POLARITY: "the resource for assessing the arguability value of a clause" (Matthiessen, Teruya and Lam, 2010, p.161). In other words, this system denotes how a clause can be assigned either an affirmative or a negative status. My dataset shows that POLARITY is present in BSL clauses, and at the lowest level of delicacy (shown in Figure 5-5 below) this system reflects the typical dichotomy found in other languages:

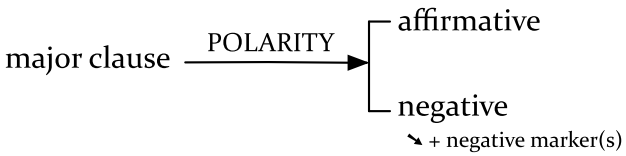


Figure 5-5 - The system of POLARITY in BSL.

Matthiessen, Teruya and Lam (2010) comment further on POLARITY, observing the following common traits of these systems cross-linguistically: "if the clause is 'positive', no marker of polarity is present; if the clause is 'negative', a marker of polarity is present; [and] 'positive' is by far the more probable selection than 'negative'" (p.161). From my data, I can confirm these arguments: any clauses selecting an affirmative status show no

overt marking, whereas those selecting a negative status require 'negative markers' (explained in more detail below). Additionally, affirmatives (*N* = 1,217; 88.51% of total clauses) were far more prominent in my dataset than negatives (*N* = 158; 11.49% of total clauses).

A typical affirmative clause in BSL shows no marking associated with clause polarity. In some instances, a head nod may co-occur with manual elements, although this appears to be optional and associated either with emphasising a specific element or marking the end of a clause (see Jantunen, 2007). I present two examples of affirmative clauses below in 5-22 and 5-23, wherein no specific non-manual features are used in the former, and a clause final head nod is used in the latter:

(5-22)

Manual	PT:PRO1SG	SEARCH	PT:PRO3SG	WEBSITE	PT:PRO3SG
Interpersonal	Subject	Q-F	Complement		
Translation	"I searched the website."				
Video	tinyurl.com/bslsfl5-22				

(5-23)

Non-manual				nod
Manual	TWO-YEARS-AGO	PT:PRO1SG	WORK	FINISH
Interpersonal	Adjunct	Subject	Complement	Q-F
Translation	"I finished working two years ago."			
Video	tinyurl.com/bslsfl5-23			

Conversely, negative clauses demonstrate greater complexity. In Section 2.4.3 above I referred to the work of Pfau and Bos (2016) who distinguish sign languages into non-manual dominant and manual-dominant, depending on how negation is expressed. Based both on my dataset and from other research (e.g. Atkinson et al., 2004), I reconfirm that BSL is a non-manual dominant sign language with regards to negation, as all negative clauses are accompanied by at least a headshake, if not further non-manual features such as downturned lips and furrowed brows. Three examples of negation are provided below in 5-24, 5-25 and 5-26:

(5-24)

Non-manual				headshake; downturned lips
Manual	PT:PRO1SG	PT:DET	JOB	DISLIKE
Interpersonal	Subject	Complement		Quasi-Finite
Translation	"I didn't like that job."			
Video	tinyurl.com/bslsfl5-24			

(5-25)

Non-manual		headshake		
Manual	PT:PRO3PL	GO-TO	CINEMA	PT:LOC
Interpersonal	Subject	Quasi-Finite	Complement	
Translation	"They didn't go to the cinema."			
Video	tinyurl.com/bslsfl5-25			

(5-26)

Non-manual		headshake	mimic biting	headshake
Manual	PT:POSS1SG DOG	NEVER	CA:BITE	NEVER
Interpersonal	Subject	Adj-	Quasi-Finite	-unct
Translation	"My dog never bites."			
Video	tinyurl.com/bslsfl5-26			

5-24 demonstrates a typical negative clause where the non-manual negative markers co-occur with the Quasi-Finite. The scope of the negation can also extend to other parts of the clause, as seen in 5-25. Both the co-occurrence of negation and the variation in scoping was expected given what is stated in the literature: Matthiessen (2004) comments that "negative polarity *tends* to be closely associated with the verb" (p.630; original emphasis); and in sign languages there is much variability in "the exact timing (scope) of the headshake" (Pfau and Bos, 2016, p.137).

However, 5-26 displays a noteworthy effect. The clause is negated, but the negation is realised both by non-manual marking and the use of the Adjunct NEVER wrapped around the Quasi-Finite. Due to the way in which the verbal element is enacted, the signer needs to construct the action of a dog biting both manually and non-manually. Given that the signer was enacting what the Subject (PT:PRO1POSS DOG) was doing, a headshake

could not be used, otherwise this would have added further, possibly inaccurate meaning (e.g. a dog biting while shaking its head might indicate greater ferocity). In this instance, negation is denoted in a different fashion, and echoes the earlier discussion on marking tense: Adjuncts in 5-26 'colour' the polarity of the Quasi-Finite, rather than marking appearing within the Quasi-Finite itself.

Other uses and/or modifications of manual signs to produce clause negation were present. For instance, CAN was modified into CAN-NOT with either a headshake alone, or by using a headshake and finalising the manual production of by extending all fingers. Similarly, several participants employed a gesture encoding a negative notion akin to 'not' before a verb, including NOT LEARN and NOT EAT.[58] However, given that these variable occurrences were not common in my dataset, I cannot posit any firm conclusions regarding their distribution and if there are any functional differences associated with these choices. Nonetheless, the constant throughout each negative clause was the use of non-manual negative markers, as attested to above by Pfau and Bos (2016) and in other works (Atkinson et al., 2004).

Finally, I stated in the MOOD section that polar interrogative structures (and wh-interrogative clauses in a somewhat similar manner) can be modified to present a textual effect. In my dataset, there are instances of clause-final markings of affirmative and negative polarity, but these are accompanied by other specific non-manual alterations in the clause, both indicating the polarity of the clause and serving to shift the focus of the clause onto the polarity. I provide an example from the data presented in 5-27:

(5-27)

Non-manual	raised eyebrows		headshake
Manual	TICKET	PT:PRO1SG	NEED
Interpersonal	Complement	Subject	Quasi-Finite
Translation	"I did <u>not</u> need a ticket."		
Video	tinyurl.com/bslsfl5-27		

[58] Video: tinyurl.com/bslsfl5-neg

The use of raised eyebrows suggests that 5-27 is a polar interrogative clause, but the transition into the negative-marking headshake during the production of the Quasi-Finite overrides this. Additionally, there was no further prosodic marking to suggest that there were two separate clauses, or a clause-clausette pairing (see Halliday and Matthiessen, 2014). In this instance, the textual metafunction overrides the interpersonal one, although the interpersonal and textual systems in operation work very closely together or may indeed overlap. Again, I elaborate on this point further in Section 7.3.6 below.

5.6. The system of MODALITY

BSL can express wholly affirmative or negative clauses, but these are not the only options available: as in English, "there are intermediate degrees" (Halliday and Matthiessen, 2014, p.176). MODALITY allows for a finer distinction between the options found in the system of POLARITY. I present the system of MODALITY below in Figure 5-6:

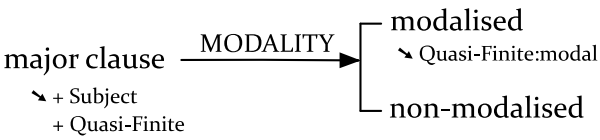


Figure 5-6 - The system of MODALITY in BSL.

In my dataset, there are occurrences of CAN, MUST, SHOULD and WILL, which are referred to as the modal verb signs by Sutton-Spence and Woll (1999). The indeterminacy found in-between the affirmative and negative realisations in BSL are likely more complex than what I present in the network of MODALITY in Figure 5-6. However, only low levels of delicacy are covered in this work, both due to constraints on space and low numbers of instances of modalised clauses in my dataset ($N = 96$; 6.98% of total clauses).

The modalised form of a clause is realised by the addition of a modal into the Quasi-Finite element. In most cases, this extra sign occurs before the 'main' verb, or at the end of the clause. Furthermore, as I noted in the previous section on POLARITY, negation is possible via the use of negative non-manual markers co-occurring with the Quasi-Finite:modal element, or for these modal verbs to be used in their own negative form (i.e. CAN-NOT, MUST-NOT, SHOULD-NOT and WILL-NOT). A sample of these occurrences are provided below in 5-28, 5-29 and 5-30:

(5-28)

Manual	PT:PRO1SG	OFFICE	PT:LOC	TEXT	MUST
Spatio-kin.	1		3	1→3	
Interpersonal	Subject	Complement		Quasi-Finite	Q-F:modal

Translation "I must text the office."

Video tinyurl.com/bslsfl5-28

(5-29)

Non-manual	cheek puff			head shake	
Manual	BEFORE	PT:PRO1SG	STAIRS	CAN-NOT	DC:WALK-UP-STAIRS
Interpersonal	Adjunct	Subject	Complement	Q-F:modal	Quasi-Finite

Translation "A long time ago, I was not able to walk up the stairs."

Video tinyurl.com/bslsfl5-29

(5-30)

Manual	PUB	WILL	SOON	CLOSE
Interpersonal	Subject	Q-F:modal	Adjunct	Quasi-Finite

Translation "The bar will close soon."

Video tinyurl.com/bslsfl5-30

(5-31)

Manual	PT:PRO1SG	GO-TO	SHOP	SHOULD	BUT	PT:PRO3SG	SHOULD-NOT
Interpers.	Subject	Q-F	Com.	Q-F:modal		Subject	Q-F:modal

Translation "I should go to the shops but he shouldn't (go to the shops)."

Video tinyurl.com/bslsfl5-31

In 5-28, 5-29, 5-30 and 5-31, the Quasi-Finite:modal elements have a variable position, but their inclusion allows for the aforementioned 'intermediate degrees' of meaning to be expressed. From what I observed in my data, modal elements carry similar meanings

to those seen in English: CAN denotes possibility or ability; MUST indicates obligation; SHOULD indicates a desirable action or state; and WILL indicates the certainty of an action or state that is yet to occur (and vice-versa for their negative realisations). Furthermore, 5-31 demonstrates an instance of element ellipsis between two independent clauses. Nonetheless, elements missing in the second clause (i.e. the Quasi-Finite) can be recovered from the first clause.

It must be remembered that further complexity may occur in this system. Mapson (2014) suggests that BSL utterances can be 'modalised' using non-manual features (i.e. non-manual features can reduce the directness of the proposition). However, Mapson's work focusses on interactions of two or more co-present interlocutors wherein situations of imposition were present. Although various changes in the context of situation do not prevent these instances occurring in other contexts, I did not observe occurrences such as these in my dataset.

5.7. The system of SOCIAL DISTANCE

At the beginning of this chapter, I presented Teruya's (2004) systems of POLITENESS and HONORIFICATION (see Figure 5-2) with regards to how the Japanese language displays lexicogrammatical variation depending on the social distance observed between interlocutors. In brief, the lexicogrammatical realisations reflect the contextual levels of relative social standing possessed by interlocutors, such as the difference between a grandparent and their grandchildren, or between a judge and an accused party. Other languages display social distancing in other manners, such as the 'Tu/Vous,' 'Tú/Usted' and 'Du/Sie' pronominal and verbal distinctions in French, Spanish and German respectively.

The final interpersonal system that I present – SOCIAL DISTANCE – appears to exploit the signing space in a manner analogous with the oral languages listed above. A similar effect has been noted in a handful of sign languages that I elaborate on below, but this has so far not been referred to widely in BSL literature (cf. Cormier, Schembri and Woll, 2013). Also, what I observed in my dataset only appears in the language of two out of the

twelve participants, yet discussions with these participants and with data verifiers led to the decision that I should include this as a potential system network.

It appears that a system that encodes relative social distances exists in BSL: referents with a high relative social position are indicated and referenced on a high plane; those with a low relative social position are referenced on a low plane; and those without any marked social position (or if this is effect is not marked in the clause) are placed in the middle plane. As such, while tentative, I present the system of SOCIAL DISTANCE for BSL in Figure 5-7, with a diagram showing these 'planes' in Figure 5-8:

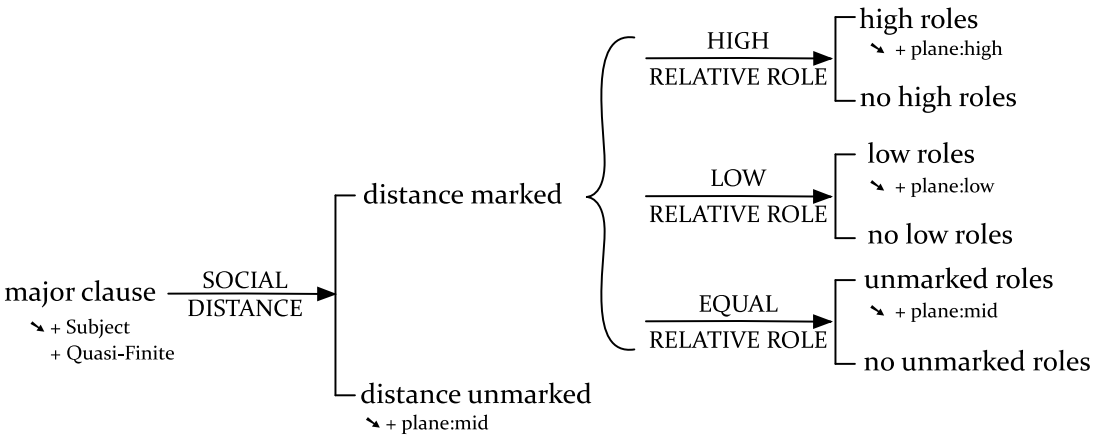


Figure 5-7 - The (tentative) system of SOCIAL DISTANCE in BSL.

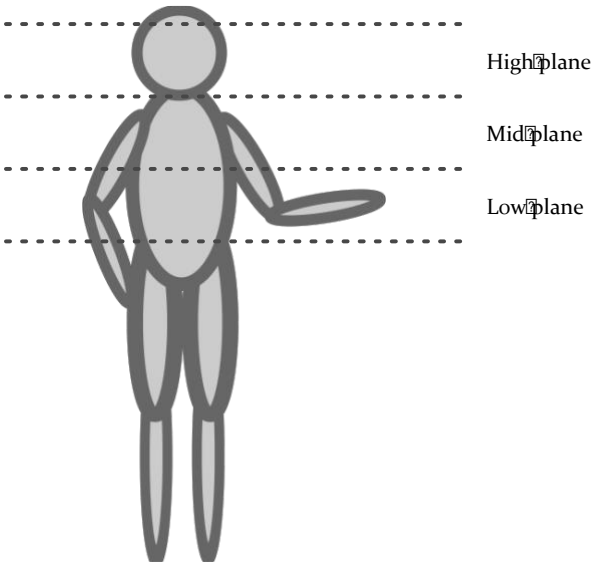


Figure 5-8 – An estimated demarcation of the three lateral hierarchical planes.

The system of SOCIAL DISTANCE may be interpreted as follows: if social distance is marked due to social roles, then one, two, or all three planes may be activated (depending on the number of participants and their relative roles to one another). However, if social distance and status is not marked, only the mid-plane activated. I provide an example from my dataset using the system of SOCIAL DISTANCE in 5-32:

(5-32)

Manual	5-YEAR-AGO	WORK	HAVE	AWFUL	BOSS	PT:PRO3SG
Spatio-kin.						3-HIGH
Interpersonal	Adjunct	Adjunct	Quasi-Finite	Complement		

Translation "5 years ago, (I) had an awful boss in my workplace.

Manual	PT:PRO3SG	ALWAYS	CA:ASK		
Spatio-kin.	3-HIGH		HIGH → X-LOW	HIGH → Y-LOW	HIGH → Z-LOW
Interpersonal	Subject	Adjunct	Q-F		

Translation He would keep asking people questions all the time.

Non-manual		headshake					
Manual	PT:PRO3SG	SMART	BUT	LATER	PT:PRO3SG	BECOME	BETTER
Spatio-kin.	3-HIGH				3-MID		
Interpersonal	Subject	Adjunct		Adj.	Subject	Q-F	Comp.

Translation He wasn't smart, but he got better as time went on."

Video tinyurl.com/bslsfl5-32

5-32 presents, among other things, various instances where SOCIAL DISTANCE is activated. An interpretation of these clauses (as corroborated by the participant in question) is as follows: in all but the final clause, BOSS is referred to on the high plane, and the instances of constructed action in the second clause denote BOSS asking questions to his 'subordinates' via the movement of ASK from the high plane to the low plane. This suggests, from the signer's perspective, that BOSS was viewed as having a higher social role than the signer and those working for BOSS. However, in the final clause, BOSS is identified in the mid plane, suggesting that the social distance between BOSS and the signer had reduced sufficiently so that both parties were now on 'equal terms.'

Had it have not been for the confirmation of this interpretation from participants, there may have been a variety of other interpretations. For instance, the high reference may have been used to depict a notable physical difference (i.e. BOSS is extremely tall). Cormier, Schembri and Woll (2013), among others, identify the use of various lateral

tiers to mark 'real-world' features in motivated space, rather than grammatical information in arbitrary space. However, this would not account for the difference observed in the final clause of 5-32, wherein the reference position of BOSS alters from the high plane to the mid plane. The fact that the participant also indicates that time had passed (i.e. using LATER) between the use of the high plane and the mid plane could lend weight to the argument that social distance had reduced during this time (i.e. the participant got to know BOSS more, thereby lowering affective barriers and increasing familiarity).

The use of different lateral levels in the signing space to denote interpersonal effects is noted in a handful of other sign languages. Zeshan (2000) identifies hierarchical space in Indo-Pakistani Sign Language (IPSL), wherein higher space is reserved for cities and institutions such as schools, whereas people "are usually localized in a horizontal plane at chest level" (p.101). Additionally, Barberà (2014) comments on the use hierarchical space in Llengua de signes catalana (LSC; Catalan Sign Language) in an almost identical manner to what I have observed in my data:

> the upper part of the frontal plane is used to denote hierarchical social relations, especially superiority. The contrast between the upper and lower frontal planes is used to express asymmetrical relations such as parents-children, boss-worker, and professor-student (p.162).

Despite these occurrences in other sign languages, I still present SOCIAL DISTANCE tentatively due to the small amount of data I have to confirm this system. It may be hypothesised that this kind of hierarchical referencing only occurs with those who are not co-present in the context: to my mind, I cannot recall an instance where a co-present referent who is 'socially distal' from others is directly referred to by using higher or lower planes (i.e. pointing above the referent's head or towards their feet). Rather, referencing is made directly to their physical location in the mid plane. In addition, given that my dataset includes only monologic presentations rather than a range of registers, I cannot further reinforce this argument, but I strongly recommend that SOCIAL DISTANCE is observed in further detail in future studies.

5.8. The interpersonal networks combined

The interpersonal system networks that I have discussed above all operate simultaneously. They can be placed into a full network as seen below in Figure 5-9:

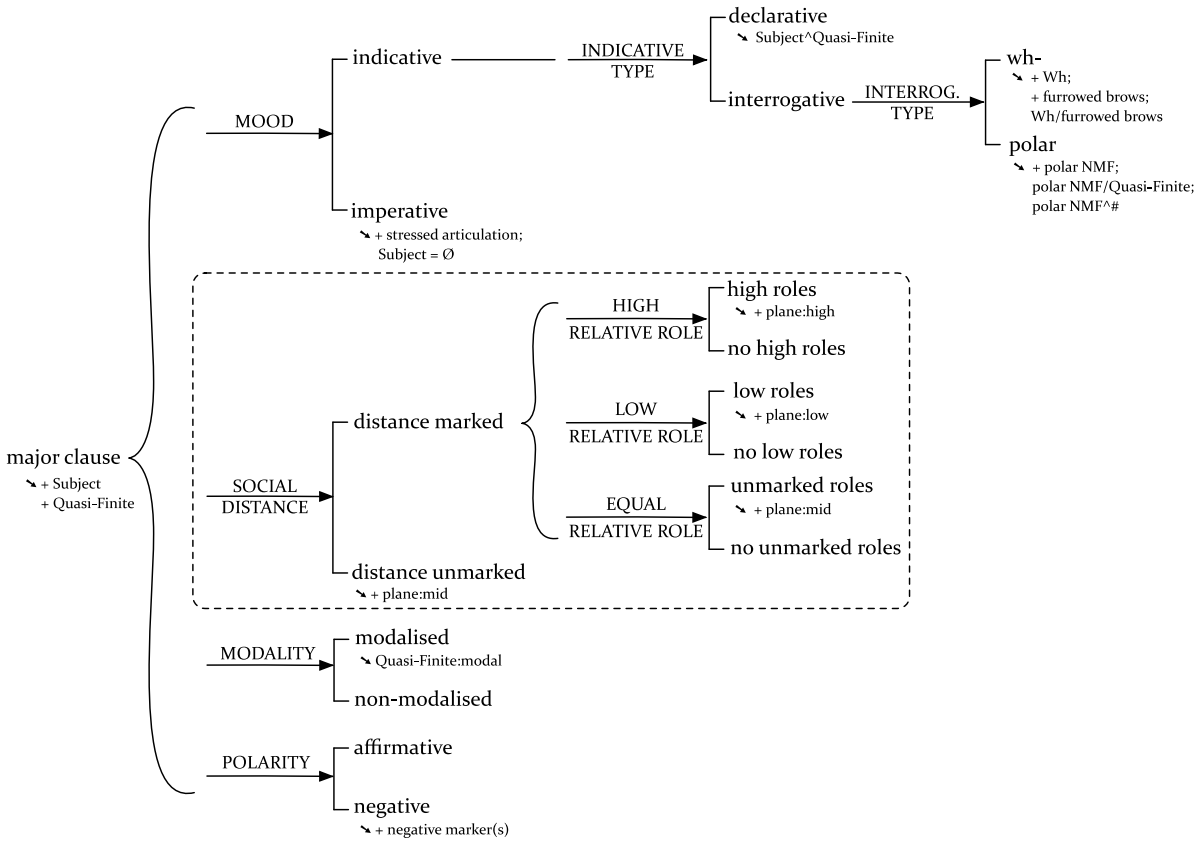


Figure 5-9 - The simultaneous system networks of the interpersonal metafunction in BSL.[59]

As I have now discussed each network, I present an analysis of a longer example from my dataset from the interpersonal perspective. Below is a multi-tier gloss of 26 successive clauses produced by SLU02. I chose this sample of BSL as it appears to show great diversity in terms of the options chosen from the system networks, in interpersonal, experiential and textual terms. I therefore analyse this same stretch of text in the following two chapters to present how a triple-analysis can be performed on

[59] The dotted line around SOCIAL DISTANCE indicates the tentative nature of this system.

the same text. I also present a full version of this text and its analysis for all three metafunctions in Appendix III.

In the interests of space and to provide ease of understanding, only the tiers that have 'effects' in this metafunction are shown. For example, although non-manual features are present throughout the production, clauses 1 and 2 display no non-manual features as they are not required to understanding the interpersonal effects in play.[60]

1, 2

Manual	BEFORE	PT:PRO1SG	18-YEARS-OLD	FIRST	JOB	HAVE	
Interpersonal	Adjunct	Subject	Complement	Complement		Q-F	
		Q-F					

Translation "When I was 18 years old, (I) had my first job.

3, 4, 5

Non-manual	raised eyebrows									
Manual	JOB	PT:DET	WHAT	ADMIN	COMPUTER	CA:TYPING		DATA	CHECK	
Interpersonal	Subject		Wh-	Comp	Complement			Complement		
						Q-F/Sub			Q-F/S	

Translation As for the job, it was administration: (I) typed on the computer (and I) checked data.

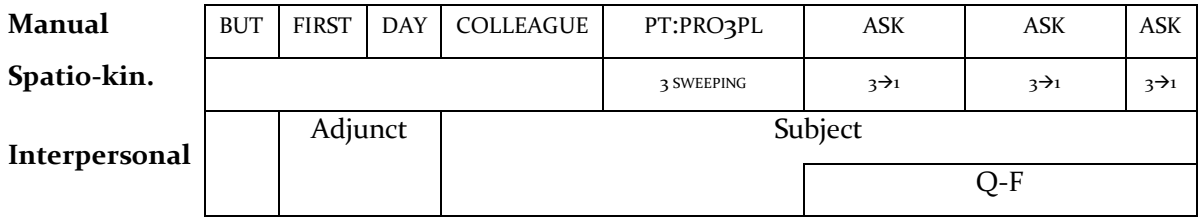
6, 7, 8

Manual	PT:PRO1SG	THINK	PT:DET	GREAT	BECAUSE	COMMUNICATION		RARE	
Interpersonal	Subject	Q-F	Subject	Comp		Subject		Comp	
			Q-F					Q-F	

Translation I thought, "This is great because I won't have to communicate very much."

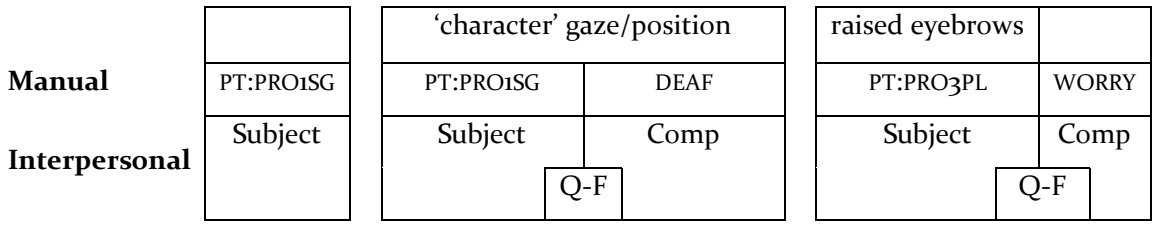
[60] Video: tinyurl.com/bslsfl-sample

9



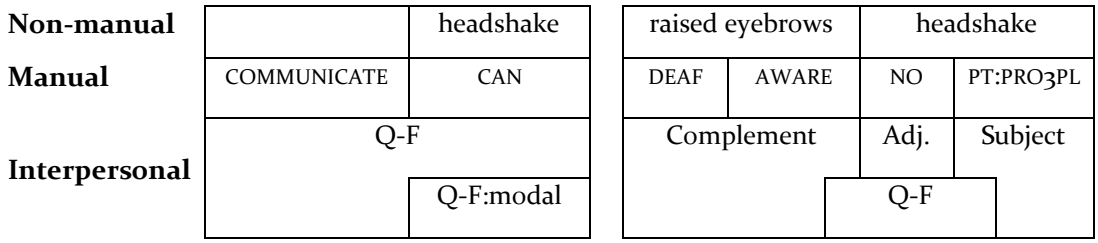
Translation On my first day, my colleagues asked me (a lot of questions).

10, 11, 12



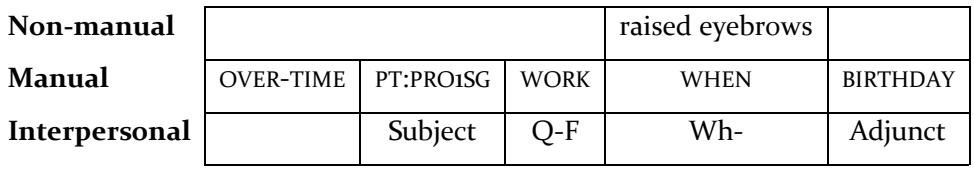
Translation I (signed), "I'm Deaf." They all became worried.

13, 14



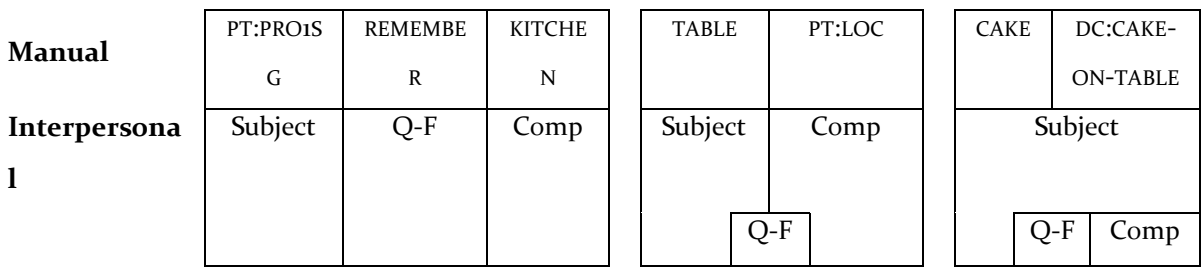
Translation (They) couldn't communicate (with me). They were *not* Deaf aware.

15



Translation Later on, the day that I was working on was my birthday.

16, 17, 18



Translation I remember the kitchen: the table was there and a cake was on top of the table.

19, 20

Non-manual				raised eyebrows					
Manual	COLLEAGUE	PT:PRO3SG	DC:WALK	DO	WHAT	SIGN	HAPPY	BIRTHDAY	
Spatio-kin.		3	3→1						
Interpersonal	Subject			Q-F	Wh-	Q-F	Complement		
			Q-F /Comp						

Translation A colleague approached me and what she did was sign happy birthday.

21, 22 ,23, 24

Non-manual					low brows		raised eyebrows	
Manual	PT:PRO1SG	SURPRISE	PT:PRO1SG	ASK	SAY	WHAT	SIGN	AGAIN
Interpersonal	Subject	Comp	Subject	Q-F	Q-F	Wh-	Q-F	Adj
		Q-F						

Translation I was really surprised! I asked "What did (you) say? Sign (that) again!"

25, 26

Non-manual		gaze shift	raised eyebrows			
Manual	PT:PRO3SG	CA:SIGNING	PT:PRO3SG	LEARN	BSL	PT:PRO3SG
Interpersonal	Subject		Subject	Q-F	Comp	Subject
		Q-F/Comp				

Translation She signed to me. She learned BSL!"

In the above sample, the systems of MOOD, POLARITY and MODALITY are used. Unsurprisingly, most of the clauses are affirmative and declarative. Furthermore, clauses 3, 15, 20 and 23 employ interrogative components (e.g. Wh- elements and polar non-manual features), but the textual metafunction 'overrides' this (see Section 7.3.6 below) to result in declarative clauses. There are also two interrogative clauses (23 and 24) but no imperative clauses. A modal sign occurs in clause 13, and negation is used in clauses 13 and 14.

Element ellipsis is evident at points in the sample, noted in the translations beneath each gloss by placing elided elements in parentheses. Ellipsis was performed in adjacent clauses, such as between 1 and 2: the Subject is elided in clause 2 as it is easily recoverable from clause 1. In clause 10, however, there is no Quasi-Finite provided. Rather than recovering the Quasi-Finite from a previous clause, it is clause 11 that assists in explaining why this ellipsis occurs: clause 11 presents constructed dialogue (i.e. 'quoted speech'), enacted by a change in non-manual features to construct a character perspective (see Kaneko and Mesch, 2013). As such, this signals that the Subject of clause 10 communicates the content of clause 11. The change of non-manual features enabling constructed dialogue means that the preceding Quasi-Finite may be easily omitted and a clear meaning is still conveyed (i.e. 'Subject' communicates in some way). Of course, the Quasi-Finite may also be included before constructed dialogue, as seen in clause 22 with ASK. I discuss this further in Section 6.3.1.2 below.

The Quasi-Finite frequently occurs as a separate verb sign, although numerous clauses (1, 7, 8, 11, 12, 14, 17, 18 and 21) display two juxtaposed nominal groups, with the Quasi-Finite displayed 'in-between.' As I noted earlier in this chapter, the Quasi-Finite in these clauses represents a meaning of equivalence or relatedness, and it is added to these clauses due to the juxtaposition of the nominal groups and the change in some manner of the non-manual features (e.g. a torso tilt from one side to another, a change in eyebrow height, or a nod co-occurring with the second nominal group). In other words, although there is no specific manual element, there is a still a process occurring and still non-manual features changing. Again, I discuss this in greater detail in Section 6.3.1.3 below.

Finally, due to the nature of some verb signs and verbal constructions, functional components are compressed into what is glossed as 'one sign.' From the interpersonal perspective, this occurs within indicating verbs and depicting constructions, wherein spatio-kinetic elements of the verb depict functional elements other than the Quasi-Finite. This is apparent in clauses 4, 5, 9, 12, 19, 22 and 25. For instance, clause 25 contains the verb constructed action of SIGNING, which denotes who is signing to whom via the

direction of its internal motion. In this example, the internal motion of the sign shows the hands moving towards the signer, meaning that the Subject and Complement (based on the direction of motion) and Quasi-Finite (based on the semantics of the verb) are produced.

5.9. Conclusion and further considerations

In this chapter, I have presented and described the main system networks with regards to the interpersonal metafunction in BSL. After reviewing what is understood by the interpersonal metafunction, I discussed the interpersonal elements of the clause, arguing for the use of the Quasi-Finite due to what it may encode and the influences of other functional components with regards to the 'grounding' of the clause. I then presented the four interpersonal system networks – MOOD, POLARITY, MODALITY and SOCIAL DISTANCE – individually and with examples from my dataset. As I have schematised these systems at low levels of delicacy, they do not appear to be too divergent from what is found in other systemic functional descriptions of languages (see Caffarel, Martin and Matthiessen, 2004), or (from a more general perspective) from what is seen typologically across languages in other modalities (see Velupillai, 2012). I have shown via samples from my dataset that the realisation of these features in BSL is markedly different to the realisations found in other communicative modalities.

In summary, I have demonstrated that MOOD is the primary system in the interpersonal metafunction. This is the system that selects for different realisations of giving and receiving information and 'goods-and-services' (Halliday and Matthiessen, 2014). Unlike various languages that have been analysed through the systemic functional lens, BSL relies on combinations and configurations of manual and non-manual features to differentiate between, for instance, a declarative clause and a polar interrogative clause. Nonetheless, similarly to other languages, there is also the requirement to add further elements into the clause (i.e. using Wh- elements in wh-interrogative clauses) and for elements to be omitted (i.e. Subject ellipsis in imperative clauses).

The systems of POLARITY and MODALITY interact simultaneously with MOOD, although there is an obvious opportunity to expand these networks as more data becomes available and is analysed. With regards to system of SOCIAL DISTANCE, I reiterate that this is a network based on only a handful of observations, and confirmed anecdotally by communications with participants and data verifiers. While I do not wish to rule out such a system at this stage, particularly given similar observations in other sign languages (e.g. LSC; Barberà, 2014), I firmly believe that greater investigation will improve the stability and validity of this network.

I finished this chapter by analysing an extended sequence of clauses produced by a participant who demonstrated an array of selections from the interpersonal systems. This sample of data is typical of what I observed throughout my dataset in terms of the ratio of interpersonal selections (i.e. more declarative clauses than interrogative clauses, and more affirmative clauses than negative clauses). While the clauses in this sample do not select from every system schematised in the interpersonal system networks shown in Figure 5-9 above, it nonetheless provides an idea of how BSL data can be interpreted interpersonally through a systemic functional lens, both in terms of its annotation and its analysis.

6. The experiential metafunction of BSL

6.1. Introduction

In the previous chapter, I explored how meaning can be created and maintained in BSL when communication is viewed as an exchange between two or more parties. While the interpersonal metafunction is concerned with this 'brokering,' there is also the necessity for what is communicated to contain further meaning, namely the content of the message. Expanding on the examples I provided in the introduction to Chapter 5 (i.e. the news reporter and the author), both language users can communicate information that is understandable to their audience via the construal of experience in language. For instance, the former could provide information on a bleak economic outlook, and the latter may instruct readers how to conjugate Spanish verbs in the preterite tense. Both are performed by using specific elements of language that are related to the experiences that the language users wish to communicate. As such, as well as being able to manage the 'exchange' of meaning, there also needs to be the consideration of the 'representation' of meaning (Halliday and Matthiessen, 2014). The latter is the topic of this chapter.

I begin this chapter with a review of the experiential metafunction from a theoretical perspective. Again, I draw from observations of other languages, followed by the presentation of my argument for the representation of this metafunction in the lexicogrammar of BSL. Aside from discussing how grammatical patterns in the experiential metafunction may be overt or covert, I also cover how the simultaneity of manual, non-manual and spatio-kinetic features plays a pivotal role in this metafunction, which is arguably different to what has been observed in other systemic functional grammars.

I then present the system networks associated with the experiential metafunction in BSL. Contrasting those that I presented in Chapter 5, the experiential system networks incorporate overlaps and interactions of greater complexity. As such, I occasionally present some networks alongside other networks to convey how these systems interact.

As I created these systems based on my dataset alone, the levels of systemic delicacy do not extend to any great amount (i.e. the systems are not incredibly complex), yet there is sufficient evidence to suggest that these networks are secure and ready for further expansion.

Finally, I analyse the same sample of BSL text from participant SLU02 extracted from my dataset that I analysed in Chapter 5, to demonstrate how the metafunctions operate simultaneously. The analysed sample shows a range of selections from the networks that I have schematised, alongside a brief review of certain points of interest.

6.2. The experiential metafunction

The use of language from the experiential perspective is concerned with how aspects of the world around us and within us may be conveyed. It is related to "the construal of experience. It organizes the phenomena of experience into wholes and their component parts" (Matthiessen, 1995, p.89). For instance, if I tell a friend about a recent trip that I took, I could say 'Last week, I visited my parents in Shropshire.' Based on what I discussed in Chapter 5, this English clause is viewed interpersonally as a declarative based on its concatenation of the Subject followed by the Finite. However, from an experiential perspective, it is one that incorporates one process, two participants, and two circumstances, as shown in 6-01:

(6-01)

English	Last week	I	visited	my parents	in Shropshire
Experiential	circ.	participant	process	participant	circ.

Matthiessen, Teruya and Lam (2010) note that the "process is the core element [and] things construed as participant participate and actualize the process" (p.164). Using 6-01 to exemplify this, the nature of 'visiting' (generally) requires a minimum of two participants: one to do the visiting, and another to be visited. Although not every process requires two participants, the omission of a participant in 6-01 would lead to confusion or a nonsensical production (unless a participant were elided and therefore

recoverable from the context). The relationship between process and participant is thus extremely close.

6-01 also presents circumstantial elements. Although these elements are important to fully understanding the proposition presented in the clause, they are not inherently required, unlike the process and its related participants. 6-01 would still make sense at its core without one or both of its circumstantial elements, but the information conveyed would be reduced. Circumstances are thus important, but are more peripheral in their nature. Nevertheless, their use and occurrence from the experiential perspective needs to be analysed, alongside processes and participants, to fully account for the lexicogrammatical construal of experience.[61]

6.2.1. Process types

I noted above that not all processes require two participants to 'function.' In fact, different types of process call on different configurations of participants, depending on the type of experience that is being construed in the clause. In addition, the potential range of meanings that can be construed experientially is vast; we can construe myriad experiences with the linguistic tools at our disposal. However, this does not mean that every process is unique in its composition: there are patterns between similar processes, although their identification is not always obvious. To explain this in more detail, I use terminology proposed by Whorf (1945), specifically the use of phenotypical (overt) and cryptotypical (covert) categories. These categories and this approach have been used across various systemic functional works (see, e.g., Halliday, 1985/2003; Quiroz, 2008; Halliday and Webster, 2009; Halliday and Matthiessen, 2004, 2014), and (along with the work of Gleason that I expand on below) are considered as "fundamental to Halliday's work on grammatical analysis" (Martin, 2016, p.41).

[61] Process, participant and circumstance form part of the 'transitive' model of experience, concerned with the "extension or impact" (Matthiessen, Teruya and Lam, 2010, p.232) of experiences between participants. However, the experiential metafunction also incorporates the ergative model (i.e. the (non-)presence of external causes on processes). Halliday (1985) notes that all languages could be "some blend of [...] the transitive and the ergative" (p.149), but this thesis focuses primarily on the former model. Nonetheless, I present a few brief remarks on the ergative model of BSL in Section 6.4.2 below.

In Whorf's (1945) words, phenotypical categories are those containing linguistic units with "a formal mark which is present (with only infrequent exceptions) in every sentence containing a member of the category" (p.2). Amongst other instances, Whorf presented the example of the English plural: most English words overtly mark the plural using an *-s* suffix, with only infrequent exceptions. Conversely, cryptotypical categories do not display overt marking: "the class-membership of the word is not apparent until there is a question of using it or referring to it in one of these special types of sentence, and then we find that this word belongs to a class requiring some sort of distinctive treatment" (ibid.). In other words, cryptotypical patterning appears once multiple instances of language have been compared. Again, Whorf uses examples from English, such as the use of gender marking in forenames. English has no overt marking to identify whether a forename is masculine or feminine, and "there are plenty of names of overt similarity but contrasted gender" (p.3) such as John and Joan, or Christopher and Christine. However, anaphoric referencing found later in a text may contain the personal pronouns 'he' or 'she,' which display a gender distinction, depending on whether the related forenames fall into the masculine or feminine category. If further sample sentences containing other categories of words were introduced, including big animals, small animals, and countries, along with a neuter gender category represented by 'it,' it then becomes apparent that these are "covert grammatical categories, and not reflections in speech of natural and non-cultural differences" (ibid.).

Another cryptotypical category proposed by Whorf (1945) was English intransitive verbs, in the sense that these verbs cannot be altered into the passive voice nor used in causative constructions: "one does not say *I gleamed it, I appeared the table*" (p.3, original emphasis). This covert category is uncovered once members of the category are tested in situations such as those above, demonstrating the category's "reactance" (p.2). This notion was furthered by Gleason's (1965) ideas on enation and agnation: enate structures contain linguistic units of identical classes in identical syntactic arrangements (e.g. 'She found it' and 'He obtained it'), whereas agnate structures contain the same core linguistic components in different syntactic structures (e.g. 'She found it' and 'It was found by her;' 'He obtained it' and 'It was obtained by him'). Importantly, agnation "is based on the pervading patterns of language" (p.202) instead

of casual occurrences, therefore requiring multiple instances to be deemed as an agnate pattern.

The enation-agnation relationship can be used to uncover cryptographic patterns in language. Looking again at English intransitive verbs, to use Gleason's (1965, p.203) example, 'The man saw a stranger' and 'The man seemed a stranger' appear enate, yet their agnate patterns (in terms of shifting from the active to the passive voice) are not permissible in English: 'A stranger was seen by the man' is acceptable, whereas *'A stranger was seemed by the man' is not. Conversely, a similar agnate pattern allows for the possibility of 'The man seemed to be a stranger' in English, but does not allow for *'The man saw to be a stranger.'

Whorf's (1945) and Gleason's (1965) works are certainly not without their criticism, particularly from those in areas of linguistic study that are more 'distal' from the systemic functional perspective (see, e.g., Pinker, 2007). Nonetheless, it is still possible to find concepts such as agnation, reactance and cryptotypical categories applied to questions in more modern literature (e.g., Heyvaert, 2003; Quiroz, 2008; Hao, 2015). In particular, systemic functionalists working with the English language have studied agnation patterns and reactances from the experiential perspective in great depth.[62] As a result, numerous process types have been derived based on cryptotypical patterns observed in relation to the domain of experience being construed. Although deviations occur, I present the six generally accepted process types in English – and their relationships to the domains of experience that they construe – in Figure 6-1:

[62] It must be remembered that agnation is not bound to the experiential metafunction alone. In fact, systemic relationships rely on agnation to explain how elements within various system networks contrast with one another (see Halliday and Matthiessen, 2014).

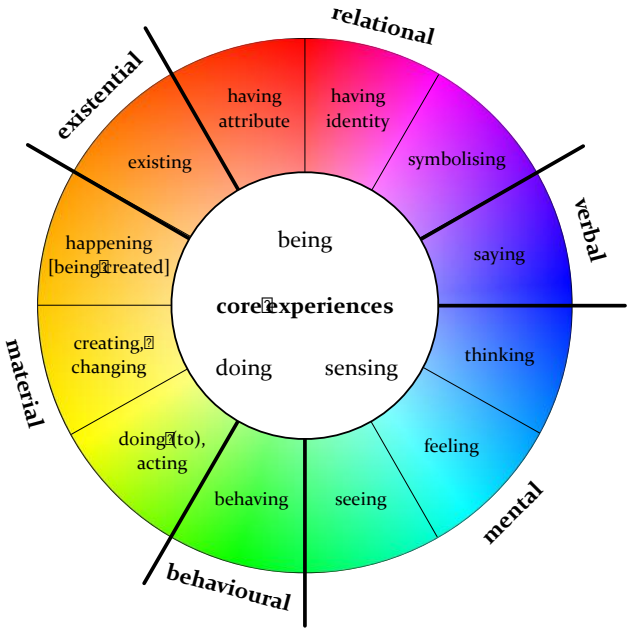


Figure 6-1 - The six process types of English and their relations to domains of experience, based on Figure 5-3 of Halliday and Matthiessen (2014, p.216).[63]

Figure 6-1 displays the six process types of English on the outer edge: relational, verbal, mental, behavioural, material and existential. Each process type relates to certain domains of experience (in the shaded circle) that are derived from the three 'base' experiences of being, doing and sensing.

Systemic functional descriptions of English and of other languages (see Caffarel, Martin and Matthiessen, 2004) denote similar process types, derived from agnation patterns and reactances. The differences between process types are not therefore purely semantic; the grammar of the language echoes the construal of experiences (see Table 5-45 of Halliday and Matthiessen, 2014, p.354). For instance, compare the two English enate clauses below in 6-02 and 6-03:

[63] Permission for non-exclusive, English Language rights to use the adapted figure has been granted by Taylor and Francis publishers.

(6-02)

English	She	gave	something	to her son
Experiential	Actor	Process:material	Goal	Recipient

(6-03)

English	She	said	something	to her son
Experiential	Sayer	Process:verbal	Verbiage	Receiver

From a semantic perspective, the processes of 'give' and 'say' are distinguishable into 'material' (doing) and 'verbal' (saying) respectively, and the participants in both clauses change accordingly to reflect this. Yet, there is also the possibility of further grammatical distinctions. For 6-02, it is possible to create an agnate construction by switching the positions of the Goal and the Recipient and by removing the word 'to:'

(6-04)

English	She	gave	her son	something
Experiential	Actor	Process:material	Recipient	Goal

Attempting to create an enate structure for the verbal process in 6-03 results in a structure that is not permitted in English:

(6-05)

English	She	said	her son	something
Experiential	Sayer	Process:verbal	Receiver	Verbiage

For 6-05 to be a permissible structure, 'to' (or in some cases 'of') needs to be lexicogrammatically realised as a part of the Receiver, specifically prior to the nominal group (i.e. 'to her son'). As such, there is a cryptotypical distinction between material and verbal processes, which is stated in the English system network of TRANSITIVITY (see Figure 5-46 of Halliday and Matthiessen, 2014, p.355).

While the above examples appear somewhat clear-cut, analyses such as these do not always lead to irrefutable patterns. It is important to note that while the lines radiating from the centre of Figure 6-1 above appear to show specific divisions between domains

of experience, it is the blending of the background that takes prominence. In other words, experiences from one domain may easily shade into other domains, and the interpretation of these experiences – both semantically and structurally – may not 'fit' into one process type alone. Gwilliams and Fontaine (2015) note this, commenting that "even for highly experienced SFL linguists an agreement on the realised process type is not guaranteed" (p.11; see also O'Donnell, Zappavigna and Whitelaw, 2009). Even with the most intricate and delicate of experiential system networks, there will still be instances of "systemic indeterminacy" (Halliday and Matthiessen, 2014, p.217).

As the realisation of the experiential metafunction forms a part of the descriptive dimensions of a language, it is to be expected that different languages lexicogrammatically realise domains of experience in distinctive ways. Caffarel, Martin and Matthiessen (2004) demonstrate how experiential process types differ regarding their prominence and relationships to other process types across various languages. For instance, Caffarel (2004) groups the six process types presented in Figure 6-1 above into a tripartite of pairs: verbal and mental processes as 'projecting;' behavioural and material as 'doing;' and existential and relational as 'being.' Furthermore, Steiner and Teich (2004) in German, and Teruya (2004) in Japanese, give prominence to material, mental, relational and verbal processes, subsuming behavioural and existential processes as parts of the other four processes. BSL is also no exception to this rule: the construal of experience in the lexicogrammar of BSL is not identical to that of another language, and I argue that this is bolstered by the difference in communicative modality (i.e. visual-spatial). As such, it is first necessary to explain how experiential elements are realised in BSL, before moving on to the process types and systems that I observe in my BSL dataset.

6.2.2. Identifying experiential elements in BSL

In Section 3.5.2 above, I presented the lexicogrammatical rank scale of BSL. Within this rank scale, I noted that recognition of simultaneous elements in the morphemic rank plays a critical part in the creation of meaning in BSL. I argue here that the information

conveyed from the manual, non-manual and spatio-kinetic elements of BSL production are pivotal from the experiential perspective.

The analysis of the experiential metafunction of BSL requires a deconstructive approach: it is not sufficient to observe only the manual components of a sign, and it is imperative that all morphemic elements within each sign are considered. For instance, 6-06 shows a simplified three-tier gloss of a clause containing a depicting construction:

(6-06)

Manual	RABBIT	PT:PRO3SG	DC:RABBIT-RUN-FAST-FROM-$_X$-TO-$_Y$
Experiential	Actor		
			Pr:material / Circumstance(s)
Translation	"The rabbit ran quickly from there to there."		
Video	tinyurl.com/bslsfl6-6		

The main participant (Actor) in this clause is signed and defined in the signing space at the beginning, as elements in the signing space need to be 'set up' prior to expressing a process via a depicting construction (see Johnston, 1996). However, as I noted in Section 2.4.3 above, depicting constructions of motion have the potential to convey a wealth of information simultaneously via the use of non-manual and spatio-kinetic elements. In the case of 6-06, the depicting construction conveys process and participant information: the movement encodes the process, while the Actor is realised within the depicting construction as a manual classifier representing RABBIT. Furthermore, circumstantial information is presented in the depicting construction, namely the way RABBIT travels, and the change in location of RABBIT. Therefore, while 6-06 is accurate, it is also too reductive, and more information is required to understand how the functional elements are realised in such instances. I therefore present a more in-depth version of 6-06 below in 6-07:

(6-07)

BSL	RABBIT	PT:PRO3SG	DC:RABBIT-RUN-FAST-FROM-$_X$-TO-$_Y$
Manual	RABBIT	PT	CL:ANIMAL (Actor)
N-m: mouthing			puffed cheeks (Circ:manner)
N-m: eye aperture			squint (Circ:manner)
N-m: eye gaze			following CL (Pr:material)
Sp-k: movement			rapid (Circ:manner)
Sp-k: location			$_{X \rightarrow Y}$ (Pr:material/Circ:Loc)
Experiential	Actor		
			Pr:material / Circumstance(s)

Translation "The rabbit ran quickly from there ($_X$) to there ($_Y$)."

Based on this expanded gloss, I present a tabulated view of the different elements of meaning produced in 6-07 in Table 6-1:

Morphemic component		**Functional component**
Manual	right hand = classifier (animal)	Actor
Non-manual	mouth = puffed cheeks	Circ:manner
	eye aperture = squint	Circ:manner
	eye gaze = following hands	Pr:material
Spatio-kinetic	right hand movement = $_{X \rightarrow Y}$	Pr:material/Circ:Loc
	speed = rapid	Circ:manner

Table 6-1 - The tabulated morphemic components of clause 6-07.

Other instances of depicting constructions of movement in my dataset appear to display a pattern between the morphemic elements and their associated functional components. Although a handful of exceptions occur, I propose Table 6-2 below as a guide to analysing depicting constructions of movement in BSL from the experiential perspective:

Morphemic component		Functional component
Manual	handshape(s)	Participant(s)
Non-manual	facial manipulations	Circ:manner
	eye gaze	Process
Spatio-kinetic	displacement in signing space	Process/Circ:loc
	speed and repetition	Circ:manner

Table 6-2 - The relationships between morphemic elements of depicting constructions of motion and experiential functional elements.

Table 6-2 may also be applied to instances of constructed action (i.e. where the signer embodies the actions of the referent in question): the hands encode the overall process (in tandem with other upper-body articulators); the face encodes circumstantial information; and the signer as a whole entity encodes the participant.

Nonetheless, it must also be remembered that not all clauses contain constructions as complex as 6-07. In fact, it is often the case that one sign (and indeed one morpheme) encodes one or two functional elements as a maximum. I now explore this range of constructions as I present the different process types of BSL.

6.3. Towards a system of TRANSITIVITY for BSL

In this section, I present the system networks that I have schematised from my dataset, forming part of the overall TRANSITIVITY system related to the experiential metafunction of BSL. Following what I discussed above, I analysed each of the 1,375 clauses in my dataset to derive the different process types observed in BSL, alongside the participants that each process entails. As is noted in systemic functional descriptions of other languages (i.e. German and Japanese; see Steiner and Teich, 2004, and Teruya, 2004, respectively), I identify four major process types: material, mental, relational and verbal. I exemplify and expand on each of these below, and provide commentary on my 'omission' of behavioural and existential process. I also present a preliminary insight on the complementary system to TRANSITIVITY (i.e. AGENCY, or

the ergative model; see Halliday and Matthiessen, 2014), although my dataset only allows me to posit areas to explore further, rather than drawing any firm conclusions.

Where appropriate in this section, I also identify how circumstances (i.e. the peripheral or 'non-core' information; see example 6-01 above) are expressed in a BSL clause, especially with regards to the 'circumstantial relational' process and the resultant intertwining of networks. However, I investigate these circumstances in greater detail later in this chapter, wherein I present a set of networks that are not dissimilar from those proposed by Matthiessen (1995) and Caffarel (2006).

6.3.1. Process type

The first choice to be made is in the system of PROCESS TYPE. At its most simplistic, the network appears as follows in Figure 6-2:

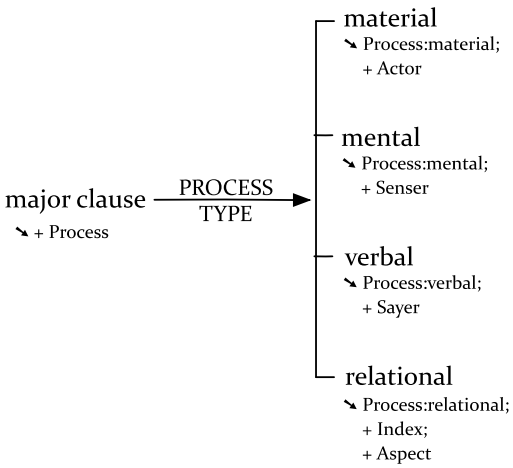


Figure 6-2 - The system of PROCESS TYPE for BSL at its lowest delicacy.

The entry condition of this network states that there must be a process in the clause. Following this, one of four process types is chosen, at which points other elements can be added (e.g. in Process:material, the Actor is added as a participant), and then further options can be chosen, as I explain below.

6.3.1.1. Material clauses

Material processes are those that "construe doings [...] and happenings" (Matthiessen, Teruya and Lam, 2010, p.135). They are concerned with actions that occur in the 'outside world,' as opposed to what happens 'internally' (cf. mental and verbal processes below). I present the system network for material processes in Figure 6-3:

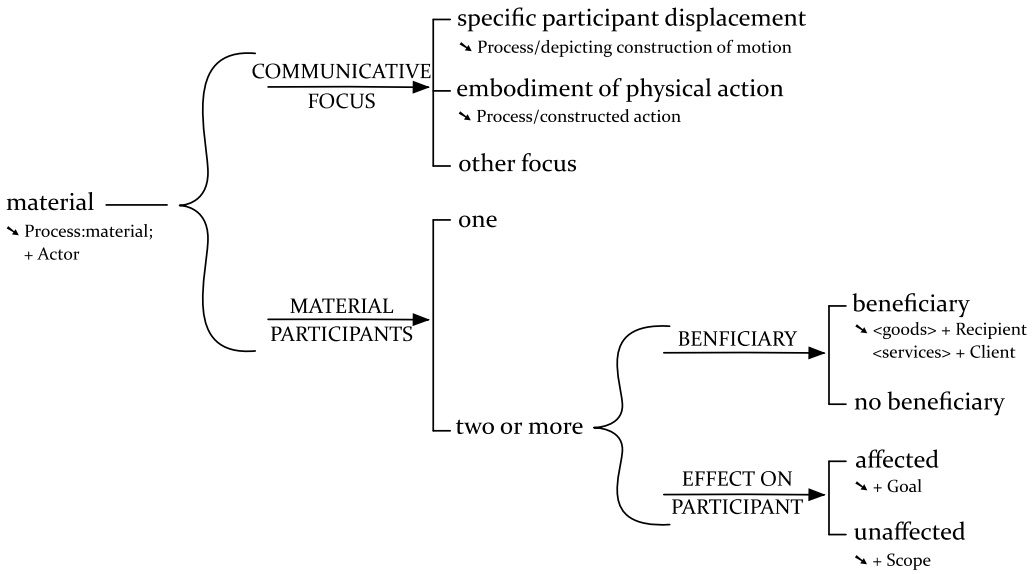


Figure 6-3 - The system networks of material clauses in BSL.

In BSL, material processes incorporate fully lexical signs such as MAKE, TAKE, PAINT, WALK, JUMP, GROW and OPEN, alongside the use of partly lexical signs and other discourse strategies (e.g. depicting constructions; see Section 2.4.3 above). Over one-third of clauses in my dataset are classed as material (N = 522; 37.96% of total clauses), each containing at least one participant, namely the 'doer' of the process: the Actor.[64]

The realisation of a material clause is influenced by the focus of the communication, depicted in the system of COMMUNICATIVE FOCUS. If the focus is on the path of displacement of the Actor and/or other participants, the clause is realised as a depicting

[64] I noted in Section 5.3 above that the Subject of the clause (which often conflates with Actor in material clauses) may be elided. As such, a material clause with no overt Actor is not a case of element omission, but instead of ellipsis, making it recoverable from prior clauses.

construction of movement. If the focus is on a specific physical action of one of the participants, it is realised as constructed action. Otherwise, material clauses use fully lexical verb signs such as those mentioned in the previous paragraph.

The number of participants also affects the composition of material clauses. If only one participant is involved in the action, the participant is classed as the Actor (as this participant is added at an earlier point in the network). However, two or more participants introduce further complexity, in which more semantic information is necessary. If a participant benefits from the material process in question, therefore having "a benefactive role" (Matthiessen, Teruya and Lam, 2010, p.73), it is classed as one of two roles: the Recipient if benefitting from goods, or the Client if benefitting from services. Conversely, a clause without any such benefaction would include neither element (i.e. selecting for 'no beneficiary' in the BENEFICIARY system). Other than the Actor and any potential Recipient or Client, further participants in the material clause need to consider the effect that the Actor has on them: a participant that is directly affected by the Actor is the Goal, whereas a participant which remains unaffected by the Actor is the Scope.

To exemplify these participant types and configurations further, I provide a selection of material clauses from my dataset in 6-08, 6-09, 6-10 and 6-11:

(6-08)

Manual	PT:PRO1SG	CAR	BUY	PT:DET
Experiential	Actor	Go-	Pr:material	-al
Translation	"I bought that car."			
Video	tinyurl.com/bslsfl5-1			

(6-09)

Manual	FRIENDS	PT:PRO3PL	PT:PRO1SG	BALL	KICK
Experiential	Recipient		Actor	Goal	Pr:material
Translation	"I kicked the ball to my friends."				
Video	tinyurl.com/bslsfl6-9				

(6-10)

Manual	WEEKEND	PT:PRO1SG	FOOTBALL	CA:PLAY-FOOTBALL
Experiential	Circumstance	Actor	Scope	
				Actor/Pr:material
Translation	"On the weekend, I played football.			
Video	tinyurl.com/bslsfl6-10			

(6-11)

Non-manual					puffed cheeks
Manual	DOG	PT:PRO3SG	FIELD	PT:LOC	DC:RUN -THROUGH-FIELD
Spatio-kin.		3		x	x→y
Experiential	Actor		Circumstance		
					Actor/Pr:material
Translation	"The dog ran quickly across the field."				
Video	tinyurl.com/bslsfl6-11				

6-08 shows a basic material clause with two participants. Although the Goal is split by Pr:material, the process may also be placed clause finally without altering the meaning. 6-09 increases in complexity by adding another participant, namely the Recipient. This is because the Goal BALL (i.e. that which is affected by the Actor) is transferred via a physical action as 'goods' towards the Recipient. 6-10 is yet more complex, including a circumstance and an instance of constructed action to encode what the Actor is doing. Unlike BALL in 6-09, FOOTBALL realises the Scope because the Actor does not directly affect this participant. Rather, the Scope elaborates on the material process being enacted. Finally, 6-11 presents a depicting construction wherein the Actor, Circumstance and Pr:material conflate within the depicting construction (Actor = handshape; Circumstance = space and manner of movement; Process = movement; see Table 6-2 above).

While there are no particularly 'unique' cases to comment on from my dataset, I did observe a potential counterargument to a previously-mentioned observation by Sutton-

Spence and Woll (1999; see Section 2.4.4 above) regarding sign order in clauses classed as 'effective' (i.e. bringing into existence) and 'affective' (i.e. modifying that which already exists). The authors state that in instances of effective clauses, the verb is produced prior to that which is being made (i.e. Pr:material^Goal) whereas affective clauses reverse this order (i.e. Goal^Pr:material). However, no such patterning is found in my data to support this: there are instances of both Goal^Pr:material and Pr:material^Goal, but no relationship with regards to whether the Goal is being brought into existence, or already exists. In most cases, Goal^Pr:material is used to introduce a new participant, followed by Pr:material^Goal in later clauses wherein Goal refers to the same referent. To me, this does not suggest an 'effective – affective' dichotomy, but is instead an effect of referencing in the signing space: Goal is initially set up in the first instance before Pr:material to ensure clarity of referencing.

6.3.1.2. Mental and verbal clauses

Mental clauses are those that "construe processes of consciousness" (Matthiessen, Teruya and Lam, 2010, p.137), as opposed to material clauses which construe the 'outside world.' Somewhat in-between these construals of inner and outer experience are verbal clauses, converting what is 'inner' into a form that is 'outer,' or "symbolic relationships constructed in human consciousness and enacted in the form of language" (Halliday and Matthiessen, 2014, p.215). I provide the convergent systems for mental and verbal clauses in Figure 6-4:

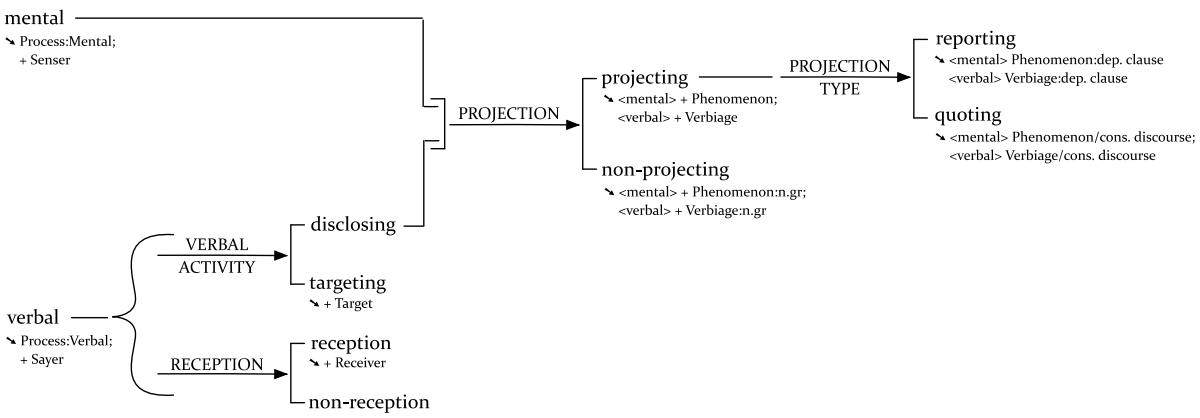


Figure 6-4 - The system networks of mental and verbal clauses in BSL.

Mental verbs in BSL include LIKE, WANT, THINK and KNOW, whereas verbal verbs include ASK, SIGN, SAY, and REPLY. I have chosen to discuss mental and verbal clauses together because, as seen in Figure 6-4, their respective system networks intertwine (cf. Caffarel, 2004, and the combination of mental and verbal processes as 'projecting').

Both mental and verbal processes start with one participant: the Senser and the Sayer respectively.[65] The Senser is the participant directly related to the conscious process expressed, and the Sayer is the participant forming the communication, whether it be verbal, written or visual. Added complexity is seen in verbal clauses, given that these processes construe 'inner-to-outer' experiences towards other participants. As such, verbal clauses must select for two further options: whether the communication is towards an addressee, thereby adding the Receiver; and if the communication verbally 'targets' someone (e.g. as an object of praise or criticism), thereby adding the Target, or if it is instead to disclose further information.

If the option of 'disclosure' is chosen in VERBAL ACTIVITY, the mental and verbal systems align in the system of PROJECTION. Figure 6-4 shows this convergence, and the subsequent realisation statements contain processes between chevrons to disambiguate between the process types. In both cases, entry into PROJECTION requires the addition of a further participant: mental Phenomenon (i.e. what is 'felt'), or verbal Verbiage (i.e. what is 'said'). If the purpose of the clause from this point is to provide "ideas in a mental clause [...] or locutions in a verbal clause" (Matthiessen, Teruya and Lam, 2010, p.165), they will select for 'projection,' otherwise the Phenomenon/Verbiage will be realised as a nominal group element. Finally, if the projection is reporting, the Phenomenon/Verbiage takes the form of a dependent clause, whereas if it is quoting, the Phenomenon/Verbiage is realised as an instance of constructed dialogue (i.e. an embodiment of Senser or Sayer).

[65] In-keeping with my visuocentric approach to this description of BSL, the role of Sayer is used with caution. Given the nature of BSL, signs are not 'said' but are instead 'signed' or, in broader terms, 'produced.' However, as seen below, the verb SAY is present in BSL, and it is the case that BSL users sign SAY to report both what was signed in BSL or said in a spoken language by another person.

Together, mental clauses (*N* = 242; 17.60% of total clauses) and verbal clauses (*N* = 223; 16.22% of total clauses) formed just under one-third of my dataset. Again, I present a selection of examples from my dataset below in 6-12, 6-13, 6-14, 6-15, 6-16 and 6-17, demonstrating how various levels of complexity in these systems are realised lexicogrammatically:

(6-12)

Manual	PT:PRO3SG	SAME	QUESTION	ASK	ASK	ASK
Spatio-kin.	3			3→1	3→1	3→1
Experiential	Sayer	Verbiage		Sayer/Pr:ver/Recipient/Circ		
Translation	"He asked me the same question many times."					
Video	tinyurl.com/bslsfl6-12					

(6-13)

Manual	PT:POSS1SG	FIRST	CAR	PT:PRO1SG	LOVE
Experiential	Phenomenon			Senser	Pr:mental
Translation	"I loved my first car."				
Video	tinyurl.com/bslsfl6-13				

(6-14)

Manual	LETTER	SAY		PT:PRO1SG	MUST	PAY
Experiential	Sayer	Pr:verbal		Verbiage		
				Actor	Pr:material	
Translation	"The letter stated that I needed to pay."					
Video	tinyurl.com/bslsfl6-14					

(6-15)

Manual	PT:PRO1SG	THINK	PT:PRO3SG	CRITICISE
Spatio-kin.	1		3	3→1
Experiential	Senser	Pr:mental	Phenomenon	
			Sayer	
				Pr:verbal/Target
Translation	"I thought that she criticised me."			
Video	tinyurl.com/bslsfl6-15			

(6-16)

Non-manual			headshake; gaze right	
Manual	PT:PRO3SG	REPLY	PT:DET	TRUE
	Sayer	Pr:verbal	Verbiage	
Experiential			Index	Aspect
			Pr:rel[66]	
Translation	"She replied, "That isn't true.""			
Video	tinyurl.com/bslsfl6-16			

(6-17)

Non-manual		gaze and torso left		
		headshake		cheek puff
Manual	PT:PRO3SG	SEE		LONG-TIME
Spatio-kin.	3	1 → X		
Experiential	Sayer	Verbiage		
		Senser/Pr:mental/Phenomenon		Circ.
Translation	He (said), "I haven't seen you in a very long time."			
Video	tinyurl.com/bslsfl6-17			

6-12 presents a simple verbal clause with three participants: the Sayer, Verbiage and Recipient. However, the Recipient is derived not from an overt sign, but from spatio-kinetic elements in ASK (i.e. the final position of the sign in the signing space). Additionally, ASK is repeated in such a way that it communicates circumstantial information, which in this case is related to the frequency of the event. Similarly, 6-13 shows a simple mental clause with both the Senser and the Phenomenon present, although there is a marked displacement of the Phenomenon to the start of the clause, reflecting a textual effect (see Section 7.3.3 below).

The remaining four examples show greater complexity as they each choose 'projecting' from the system of PROJECTION, leading to a two-level analysis of the clauses

[66] I explain relational processes and their associated participants in the follow section.

(indicated by dotted horizontal lines in the glosses). As such, the second clause of 6-14 can be analysed as the Verbiage of the verbal process and, from a secondary experiential level, as a material clause. An important differentiating factor between mental and verbal clauses is also shown in the first clause of 6-14: the Sayer is realised as LETTER, which is not a conscious entity. In this case, SAY is used in the sense of 'display' or 'communicate.' This is similar to what is observed in English by Halliday and Matthiessen (2014): "unlike 'mental' clauses, 'verbal' ones do not require a conscious participant. The Sayer can be *anything that puts out a signal*" (p.304; emphasis added).

6-15 displays a mental clause projecting in the same way as the verbal clause in 6-14. However, the second (verbal) clause employs Target – "the object of judgement by the Sayer" (Matthiessen, Teruya and Lam, 2010, p.216) – as CRITICISE implies a negative judgment value. The Target is identified by the movement displayed in CRITICISE.

Finally, both 6-16 and 6-17 present instances of constructed dialogue encoded by a change in non-manual features in the projected clauses. They differ in one crucial aspect: 6-16 presents the overt process REPLY prior to the projected clause, while this is absent in 6-17. In fact, a pattern and an accompanying degree of optionality concerning the use of element ellipsis and constructed dialogue is observable. If the projection does not employ constructed dialogue (thereby being classed as an instance of 'reporting'), there needs to be an overt realisation of the process. However, in an instance of 'quoting,' the use of constructed dialogue in the projection can employ an overt process before the projection, or it can elide the process altogether. I summarise this in Table 6-3:

Type of projection	**Overt process sign**	**Phenomenon/Verbiage as CD**
reporting	Yes	No
quoting	Yes	Yes
	No	Yes

Table 6-3 - Use of overt signs and constructed dialogue in verbal and mental (projected) BSL clauses.

The reason for this patterning is as follows: a BSL signer can shift between a 'narrator' and a 'character' role, usually by a shift in eye gaze but also by other non-manual features, and seen in examples 6-16 and 6-17 above (see also Kaneko and Mesch, 2013). This action serves to inform other parties that whatever is signed is not done from the point of view of the signer themselves, but from that of someone else. These 'characters' tend to be identified prior to any constructed dialogue as participants (i.e. a Sayer or a Senser). However, these participants may be elided if it is clear who the 'character' is. This results in consecutive instances of constructed discourse until a 'character' changes, a new 'character' is introduced, or 'narration' is resumed for an extended period (Cormier, Smith and Zwets, 2013).

Before moving on, I briefly propose a final observation on mental processes. Each mental process I observe in my dataset is formed of verb signs wherein the phonological parameter of location is around the head, neck, or chest. Examples of these mental processes articulated at or from these locations include KNOW, GUESS, UNDERSTAND, HATE, RECOGNISE, SEE, THINK, LEARN and TEMPT. Examples of mental verbs requiring neck and/or torso contact include LIKE, LOVE, WANT, WISH, and NEED. Some exceptions exist (e.g. HOPE which is articulated away from the body), but it possible that mental processes show phenotypical (overt) patterning, as well as cryptotypical patterning.

6.3.1.3. Relational clauses

The final process type I present is the relational process, concerned with "being, having and being at" (Matthiessen, Teruya and Lam, 2010, p.178). I begin by explaining some of the difficulties in accurately schematising this network, comparing that which is found in English.

English relational clauses operate using two simultaneous systems: MODE OF RELATION and TYPE OF RELATION. MODE OF RELATION identifies how two participants are associated with each other: 'attributive' if "an entity has some class ascribed or attributed to it" (Matthiessen, Teruya and Lam, 2010, p.57); or 'identifying' if "one entity is used to identify another" (p.116). TYPE OF RELATION splits into three

options: intensive (being) encoding 'x is y' relationships; possessive (having) encoding ownership and possession relations; and circumstantial (being at) encoding the locational or temporal aspects of an entity (see Eggins, 2004). Similar systems are observed in German (Steiner and Teich, 2004), although languages such as Mandarin Chinese offer different schematisations (Halliday and McDonald, 2004). I exemplify how these systems interact in English in Table 6-4:

	attributive	**identifying**
intensive	Harriet is tall.	David is the actor.
possessive	Mario has a puppy.	He owns the film.
circumstantial	Some students are in a hallway.	The meeting is next Tuesday.

Table 6-4 - Sample realisations of the English systems of MODE OF RELATION and TYPE OF RELATION.

Further to what is mentioned above, in identifying clauses participants may 'switch places' around the verb and still carry the same general meaning, with any appropriate grammatical alterations made (e.g. passivisation). For instance, 'David is the actor' and 'The actor is David' carry the same meaning despite the positions of the participants. However, in attributive clauses, this switching cannot happen as one participant is deemed the Carrier and the other as the Attribute. Therefore, in the clause 'Harriet is tall,' 'tall' is ascribed to Harriet, rather than identifying Harriet as 'tall.' Should the phrase be modified to 'Harriet is the tallest one,' the process then becomes identifying as Harriet is now, to use Rose's (2004) terms, related to a unique characteristic.

While the reality of relational processes in English are far more complex than what I suggest here (see Section 5.4 of Halliday and Matthiessen, 2014, for a more thorough explanation), this short review provides sufficient information to help in explaining what occurs in BSL relational clauses. In brief, my data shows clear divisions in terms of relational type (i.e. intensive, possessive and circumstantial) but relational modes are difficult to identify. Among other things, this may be stifled by the lack of an explicit process sign for the copula in BSL, the relatively free order of signs, and the simultaneity

found in BSL production. Matthiessen (2004) also identifies that the use of definite articles or determiners in English means that "'attributive' and 'identifying' clauses are typically formally distinct" (p.596), whereas no such distinction exists in BSL, not least because articles are not present in the language. Although other languages which do not use definite articles still "have distinct textual patterns" (Matthiessen, 2004, p.598) between attributive and identifying clauses, I can find no such patterns in my dataset.

The difficulty in identifying relational mode may be exemplified further. In BSL, relational clauses are formed by the juxtaposition of two nominal groups and a marked change in non-manual features in-between these groups to identify a relationship (see Stassen, 1994, regarding zero copula languages and the use of juxtaposition). As such, PT:PRO3SG TALL may be understood as 'He/She/It is tall,' thereby assigning an attribute (TALL) to a token (PT:PRO3SG). However, the enate clause PT:PRO3SG BOSS may provide a trait about a person ('He/She/It is <u>a</u> boss;' attributive) or a specific disambiguating feature ('He/She/It is <u>the</u> boss;' identifying). Even when considering the non-manual and spatio-kinetic elements of these and similar clauses, ambiguity remains.

As I discuss briefly below, there may be patterning in possessive relational clauses appearing as something akin to 'attributive' and 'identifying' relational modes. Yet, as I cannot firmly apply this to all relational types, I cannot confirm a simultaneous network of relational mode. Nevertheless, I am still able to present a preliminary network for relational clauses in Figure 6-5:

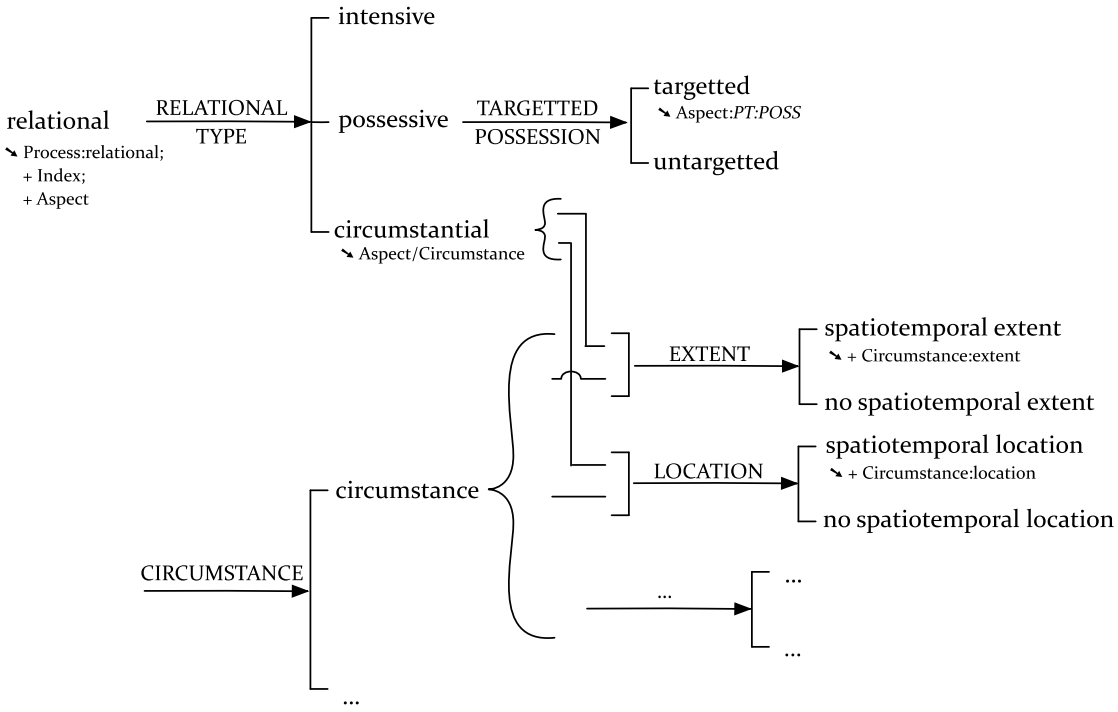


Figure 6-5 - The system networks of relational clauses in BSL.

Relational clauses (*N* = 388; 28.22% of total clauses) involve two participants as a minimum, which I label as the Index and the Aspect. I define these participants in a manner similar to the Topic-Comment structure noted by sign linguists including Sutton-Spence and Woll (1999): the Index is the 'central' point on which the Aspect provides further information, more often than not following an Index^Aspect order. I use these terms for three reasons: to represent the aforementioned blur in relational modality (i.e. it is neither an attributive element nor an identifying element, but something in-between); to prevent confusion with other terminology currently associated with different relational modes in other languages (e.g. Identifier, Identified, Token, Value, Carrier, Attribute, etc.); and to maintain a distance between terminology suited towards the textual metafunction (i.e. Topic, Comment, Given, New, etc.; see Chapter 7).[67]

[67] The proposed functional element of Aspect is not to be confused with the system of ASPECT found in the English verbal group system (see Halliday and Matthiessen, 2014).

6.3.1.3.1. Intensive

Most intensive relational clauses in BSL show no overt process due to the lack of an overt copula sign mentioned above. Nonetheless, signs such as BECOME are understood as intensive relational, and this is seen on occasion in my data set.[68] I present 6-18, 6-19 and 6-20 as examples of intensive relational clauses:

(6-18)

Non-manual	raised eyebrows	head nod
Manual	PT:PRO3SG	NICE
Experiential	Index	Aspect
	Pr:relational	
Translation	"She is nice."	
Video	tinyurl.com/bslsfl6-18	

(6-19)

Non-manual	raised eyebrows	puffed cheeks; squint
Manual	FRIEND	TALL
Experiential	Index	Aspect
	Pr:relational	
Translation	"(My) friend is very tall."	
Video	tinyurl.com/bslsfl6-19	

(6-20)

Manual	OVER-TIME	PT:PRO1SG	BECOME	TEACHER
Experiential	Circ.	Index	Pr:relational	Aspect
Translation	"Later on, I became a teacher."			
Video	tinyurl.com/bslsfl6-20			

6-18 and 6-19 show the most common structure of intensive relational clauses in my dataset. There is no realised manual sign for the copula (unlike 6-20 where BECOME is used) but there is a difference in non-manual features between the juxtaposed Index

[68] The use of Wh- elements seen in Chapter 5 were also seen as 'substitutes' for a copula in BSL, although this is predominantly a textual effect. I discuss this further in Section 7.3.6 below.

and Aspect, usually changing from raised eyebrows into another marked non-manual feature. Furthermore, 6-19 shows how non-manual features may simultaneously signal information about the co-occurring manual sign while signalling the type of clause in use: the change in non-manual features identifies a relational process, and the puffed cheeks and squinted eyes modifies TALL to VERY-TALL.

6.3.1.3.2. Possessive

Possessive relational clauses construe meanings of 'having' and 'ownership.' Most possessive relational clauses lexicogrammatically realise the process as HAVE, with the Aspect realising what is possessed by the Index. However, I also observe instances where the Aspect is realised as a possessive pointing sign (i.e. PT:POSS1/2/3|SG/PL) and HAVE is omitted from the clause. These latter instances appear to 'target' the ownership of the Index onto an entity, to the exclusion of others. I exemplify a sample of these occurrences below in 6-21, 6-22 and 6-23:

(6-21)

Manual	PT:PRO1SG	HAVE	NEW	JOB
Experiential	Index	Pr:relational	Aspect	
Translation	"I have a new job."			
Video	tinyurl.com/bslsfl6-21			

(6-22)

Manual	PT:PRO3SG	PT:POSS2SG	KEYS	HAVE
Experiential	Index	Aspect		Pr:relational
Translation	"He has your keys."			
Video	tinyurl.com/bslsfl6-22			

(6-23)	**Non-manual**	raised eyebrows	nod
	Manual	CAR	PT:POSS3SG
	Experiential	Index	Aspect
		Pr:relational	
	Translation	"The car is his."	
	Video	tinyurl.com/bslsfl6-23	

6-21 and 6-22 represent instances of the most common possessive clause structures seen in my dataset. Both show that the Index is in possession of the Aspect, and the position of HAVE appears to have no effect on the function of the clause. 6-23 displays a targeted possessive structure, wherein HAVE is omitted and a structure similar to that of intensive clauses is found: non-manual features change at the boundary between the Index and the Aspect. 6-23 also conveys the idea that there is a specific car and it is owned only by whomever or whatever is referenced in the clause. As such, structures such as 6-23 appear to flip the meaning observed in 6-21 and 6-22: rather than the Index possessing the Aspect, the Index is possessed *by* the Aspect.

6.3.1.3.3. Circumstantial

The third and final type of relational clause encodes the meaning of 'being at.' As noted in Figure 6-5, the selection of the circumstantial feature leads to an intersection with two sub-systems of CIRCUMSTANCE, namely EXTENT and LOCATION (on which I expand in Section 6.5 below). This area of the system is interpreted as follows: in a circumstantial relational clause, the Aspect conflates with the element(s) of spatiotemporal extent and/or spatiotemporal location. As all relational clauses require two participants, this presents instances of 'circumstance as participant' as seen in other languages (e.g. Caffarel, 2006; Lavid, Arús and Zamorano-Mansilla, 2010; Halliday and Matthiessen, 2014). I present a sample of these clauses below in 6-24, 6-25 and 6-26:

(6-24)

Non-manual	raised eyebrows		
Manual	MEETING	EVERY	TUESDAY
Experiential	Index	Aspect/Circ:manner	
	Pr:relational		
Translation	"The meeting is every Tuesday."		
Video	tinyurl.com/bslsfl6-24		

(6-25)

Non-manual	raised eyebrows			grimace
Manual	PT:POSS1SG	BIRTHDAY	FRIDAY	RECENT
Experiential	Index		Aspect/Circ:manner	
		Pr:relational		
Translation	"My birthday was this Friday just gone."			
Video	tinyurl.com/bslsfl6-25			

(6-26)

Manual	PICTURE	DC:PICTURE-ON-WALL
Experiential	Index	
		Pr:relational/Aspect/Circ:location
Translation	"The picture is located on the wall."	
Video	tinyurl.com/bslsfl6-26	

6-24 and 6-25 exemplify circumstantial relational clauses wherein the Aspect and the circumstance of manner conflate. In both instances, a time is being referred to, with 6-24 being a regular occurrence and 6-25 being a specific point in time. Again, both display changes in non-manual features between Index and Aspect. However, 6-26 uses a depicting construction to identify the location of the Index in topographical signing space (i.e. in 'real-world terms'). In doing so, Index, Process, and the conflated Aspect/Circumstance are articulated all at once: Index is construed by the handshape representing PICTURE, Pr:relational by the use of a depicting construction, and Aspect/Circumstance by the location of the hand in the signing space.

6.4. Interim Summary

The above section displays the four main process types that I observe in my data. Before I move on to the two remaining process types noted in Figure 6-1 (i.e. behavioural and existential processes), I present a tabulated summary in Table 6-5 below, noting the distinguishing features of the four process types based on observations from my dataset:

Process type	Core experience(s)	Primary participant consciousness	Projection potential	Minimum number of participants	Phenotypical patterning
Material	Doing (outer)	Yes or No	No	1	n/a
Mental	Sensing (inner)	Yes	Yes	2	Process sign location = head to chest
Verbal	Communicating (inner *to* outer)	Yes or No	Yes	2	n/a
Relational	Being/Having (inner *or* outer)	Yes or No	No	2	n/a

Table 6-5 - The features of BSL process types.

It bears repeating that Table 6-5 is subject to further investigation into BSL, just like the system networks that I present in this thesis. When compared with similar tables such as that of English (see Table 5-45 of Halliday and Matthiessen, 2014, p.354), there are many more features that can be added, serving to distinguish these process types.

6.4.1. The status of behavioural and existential clauses in BSL

At the start of this chapter, I presented Figure 6-1 which displays six process types in relation to domains of experience. I also mentioned that systemic grammars of languages other than English tend to differ both in the schematisation and the number of these process types. The two remaining process types that I have yet to cover are behavioural and existential, which are understood cross-linguistically by Matthiessen (2004) as "swing categories" (p.600).

According to Halliday and Matthiessen (2014), behavioural processes are those reflecting "physiological and psychological behaviour, like breathing, coughing, smiling, dreaming and staring" (p.301). Matthiessen, Teruya and Lam (2010) identify that behavioural processes are also "the least distinct of all process types" (p.64), bearing very similar realisation patterns and semantic relations to mental, material and verbal processes. Within my BSL dataset, I also found this to be the case: processes that may be classed as semantically behavioural (or on the borderline between behavioural and another type of process) could not be easily distinguished from the realisation patterns already observed in other process types. I provide 6-27 as an example:

(6-27)

Manual	COLLEAGUE	PT:PRO3SG	CA:DANCING
Experiential	Actor		
			Pr:material
Translation	"(My) colleague was dancing."		
Video	tinyurl.com/bslsfl6-27		

Halliday and Matthiessen (2014) note that 'dancing' in English is understood to be a near-material behavioural process, as it expresses "bodily postures and pastimes" (p.302). In 6-27, the process is expressed as a constructed action; the physical embodiment of the participant performing the process. When observing the above system networks for BSL, this clause appears to fall more into the area of a material process, both in terms of its lexicogrammatical realisation and its construal of a 'doing' experience rather than a 'behaving' experience.

Nonetheless, I do not assert that behavioural clauses do not exist in BSL. Rather, more data is required to investigate the potential systemic distinction between behavioural and other process types. For instance, it could be argued that CA:PANIC (e.g. someone panicking) presents an overt display of 'doing' and may be classed as a material process. Yet, while the notion of panicking can display physical effects, it may be understood as a more mental or behavioural process (i.e. a mental effect brought on by fear, or a manifestation of a mental effect in physical form). As such, it becomes an 'internal' process that is 'externally' exhibited due to the productive options available in BSL as a

visual-spatial language. A specific study into the visual manifestations of 'behavioural' processes and any such grammatical reactances would help to clarify this area.

As for existential processes – those realising the meaning that "something exists or occurs" (Matthiessen, Teruya and Lam, 2010, p.91) – my dataset shows little evidence for discerning such a process from others. One reason for this might be the frequent use of copula verbs and 'existential particles' in other languages. For instance, 'there is a woman' and 'there were lots of trees' are both classed as existential clauses in English, with 'there' deemed "neither a participant nor a circumstance [...]; it serves to indicate the feature of existence" (Halliday and Matthiessen, 2014, p.308). Other languages may use the copula with specific existential particles such as 'il y' ('there is/are') in French (Caffarel, 2004) and 'hay' ('there is/are') in Spanish (Lavid, Arús and Zamorano-Mansilla, 2010). In addition to the lack of a copula sign in BSL, there are no existential particles either: while THERE exists as a sign in BSL, it is used in the locational sense, thereby placing it in the circumstantial category.

As such, this leaves BSL in the position where the equivalent structure of 'there is a woman' is not observable. For example, if a production WOMAN PT:PRO3SG were used, this would be viewed as incomplete (i.e. there would need to be another element, whether process, participant or circumstance, to 'complete' the clause). If the pointing sign were understood to be locative, as in WOMAN PT:LOC, the pointing sign would then provide circumstantial information, similar to if the production were WOMAN THERE. In other words, the use of PT:LOC or THERE appears to 'convert' the clause into a circumstantial relational clause, with a meaning of 'a woman is over there.' Another potential strategy could be to indicate WOMAN in the signing space followed by a depicting construction to indicate existence, as in WOMAN DC:WOMAN-STANDING-IN-LOCATION. However, there is nothing to distinguish this from a more elaborate circumstantial relational clause, providing further spatial information about the location of WOMAN instead of using PT:LOC or THERE.

Given my dataset and my communications with the data verifiers and participants, I would suggest that there is not yet enough evidence to warrant an existential process

type for BSL. Specifically, I have not found a strong enough grammatical distinction between what may be classed as an existential process and what I have interpreted as a circumstantial relational process. Further investigation focusing on instances that may result in such productions (e.g. a signer describing a picture that is hidden from the view of another signer) may present contrasting data. Nonetheless, based on my current understanding, I believe that such an investigation would produce clauses that identify participants in topographical signing space through the use pointing signs and depicting constructions, as I previously suggested. These would therefore resemble circumstantial relational clauses, rather than existential clauses.[69]

6.4.2. A brief note on experiential ergativity in BSL

Before finalising my analysis of processes, one final area requires brief commentary. I noted above that many systemic functional grammars present two models of representation in the experiential metafunction: the transitive model (as I explore in this chapter) and a complementary ergative model. In brief, the ergative model focuses on the system of AGENCY, wherein "the variable is not one of extension but one of causation" (Halliday and Matthiessen, 2014, p.340). In combining both the transitive and ergative models, clauses may be analysed both in terms of the type of experience construed *and* the way in which this experience is 'caused.' Although I did not overtly analyse this type of relationship in my dataset, I wish to provide some brief commentary regarding how the ergative model may be applied to BSL.

A simplistic view of AGENCY suggests that clauses may be understood to be 'effective' or 'middle,' wherein the former contain an Agent (i.e. an entity causing an action) and the latter do not. For instance, in BSL, the production PT:PRO3SG DOOR CA:CLOSE-DOOR ('he closed the door') can be viewed ergatively as an Agent (PT:PRO3SG) closing a door,

[69] Somewhat of a parallel may be drawn with Finnish. Välimaa-Blum (1988) notes that all Finnish existential clauses "have a location adverbial" (p.48), similar to how I note a potential overlap between circumstantial relational clauses and existential clauses. However, Välimaa-Blum performs a deeper exploration of this clause type in Finnish due to a larger pool of data with which to work, leading to the identification of specific verbs and syntactic constructions. I believe that languages such as Finnish may assist in identifying existential clauses in BSL, but only when more BSL data is obtained.

making this an effective clause. This is opposed to DOOR DC:DOOR-CLOSE ('the door closed'), wherein there is no Agent, therefore making it a middle clause. This difference appears to be reflected by the kind of verbal elements employed: the former is a constructed action presented from the viewpoint of the Agent (i.e. the one shutting the door), and the latter is a depicting construction of motion denoting the movement of the door itself.

However, the nature of certain verbs in BSL mean that the 'middle' interpretation cannot be applied, as there will always be an Agent stated via visual-spatial elements. For instance, the verb GIVE in the clause PT:PRO1SG GIFT GIVE (e.g. 'I gave the gift to her') requires movement between two spaces in the signing space – the giver and the receiver. As such, the Agent must be expressed in this verb, and it is not possible to remove the Agent via strategies used in other languages, such as passivation (i.e. 'the gift was given;' see Deuchar, 1984).

This also presents issues when comparing AGENCY from the ergative perspective and PROCESS TYPE from the transitive perspective, as seen in other languages (see Caffarel, Martin and Matthiessen, 2004). For instance, both CLOSE and GIVE are classed as material processes, yet whereas CLOSE can change between 'effective' and 'middle,' GIVE cannot. Other process types may also be considered, such as the mental process LIKE. This verb may only appear in effective clauses, such as PT:PRO1SG FILM LIKE ('I like the film') where the Agent performs the liking. In BSL, it is not possible to construct an instance where an element is 'liked' without stating the Agent, such as the English passivised form of 'the film is liked.' As such, the utterance FILM LIKE would be understood as '(someone) likes the film,' with ellipsis of the Agent.

To summarise, I believe that it will be fully possible to explore and comment on the ergative model of BSL, just as I explore and comment on the transitive model in this chapter. Yet, the visual-spatial elements of BSL and how verbal groups may be lexicogrammatically realised (i.e. plain verbs, indicating verbs, constructed action, etc.) create another level of complexity that must be understood in further detail prior to establishing how transitivity and ergativity interact.

6.5. The system of CIRCUMSTANCE

The final system network that I present in this chapter is concerned with the more 'peripheral' elements of the clause. I noted at the start of this chapter that a clause may be viewed experientially as containing (up to) three different overall elements: process, participant, and circumstance. I have discussed these first two elements in the previous sections, and I now move on to circumstances, which serve to 'augment' the clause (Matthiessen, Teruya and Lam, 2010). I present the system network of CIRCUMSTANCE in Figure 6-6 below, adapting the style of CIRCUMSTANCE networks presented by Matthiessen (1995) and Caffarel (2006): each clause may be realised without a circumstantial element, but there is the potential for more than one kind of circumstantial element to be present in any one clause.

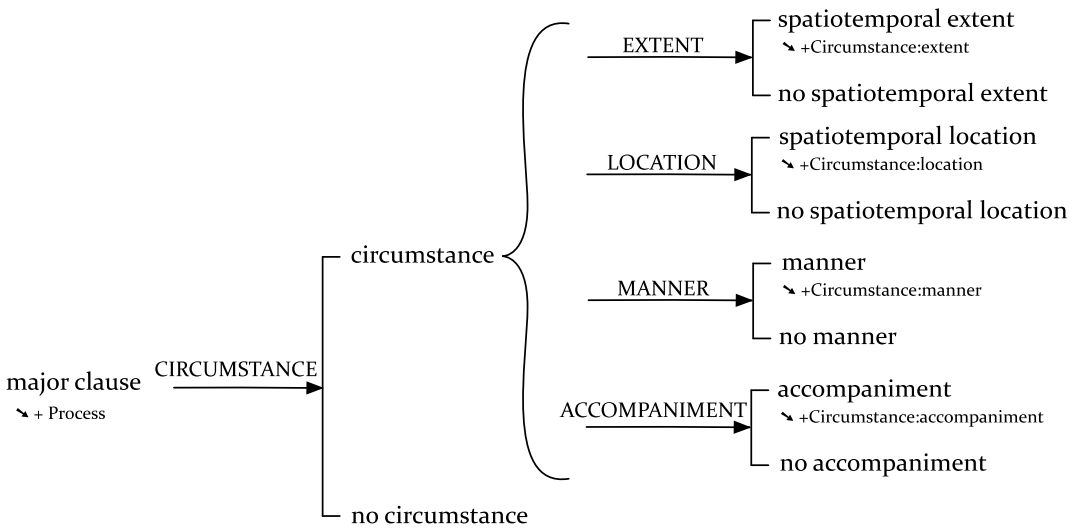


Figure 6-6 - The system of CIRCUMSTANCE in BSL.

CIRCUMSTANCE works simultaneously with PROCESS TYPE. From my dataset, a large majority of clauses have one or more circumstances encoded (*N* = 1,145; 83.27% of total clauses), and most (if not all) kinds of circumstance appeared irrespective of process. The only clear pattern of process type and 'circumstance type' was seen for circumstantial relational clauses (see Figure 6-5 above), wherein there must be a selection from either the system of EXTENT or LOCATION.

The four varieties of circumstance that I observe in my dataset follow the definitions seen in other systemic functional grammars (see Table 5-41 of Halliday and Matthiessen, 2014, p.344), with the main difference being that circumstances may be realised via manual, non-manual or spatio-kinetic elements.[70] The brief definitions of these four types of circumstance is as follows: spatiotemporal extent is concerned with length of time, measures of distance, and frequency of occurrence; spatiotemporal location is to do with specific times or places; manner denotes the way in which a process is performed or the quality of the performance; and accompaniment concerns both animate and inanimate additional parties who do not form participants of the clause.

I present 6-28, 6-29 and 6-30 below displaying instances of these circumstantial elements from my dataset:

(6-28)

Manual	EVERY-DAY	PT:PRO1SG	START	NINE-O-CLOCK
Experiential	Circ:extent	Actor	Pr:material	Circ:location

Translation "Every day I start at 9 'o' clock."

Video tinyurl.com/bslsfl6-28

(6-29)

Non-manual		head tilt (back)	tongue out; body sway
Manual	PT:PRO3SG	CA:DRINK-LOTS	DC:WALK-DRUNKENLY
Spatio-kin.	3	repeated sign	swaying hand motion
Experiential	Actor		Ac/Pr:mat/Circ:manner
		Pr:mat/Circ:manner	

Translation "He drank a lot (and he) staggered around."

Video tinyurl.com/bslsfl6-29

[70] Other systemic functional grammars identify further circumstance types, which is also possible for BSL. Again, the systems I provide here reflects what is present in my dataset.

(6-30)

Manual	FRIEND	WITH-PRO1SG	GO		BECAUSE	PT:PRO1SG	NERVOUS	
Spatio-kin		3→1				1		
Experiential	Circ:acc/Actor		Pr:mat			Index	Aspect	
							Pr:rel	
Translation	"I went with a friend because I was nervous."							
Video	tinyurl.com/bslsfl6-30							

6-28 shows a typical juxtaposition between extent and location. Both circumstantial elements are to do with time, although the first element indicates for how long the process occurs, and the second element presents when the process occurs. Both elements are also realised as separate manual signs, whereas 6-29 shows two instances of circumstantial information provided through other productive elements: the manner of drinking is presented by the repeated movement of the manual sign, and the manner of walking is presented by the swaying path motion in the depicting construction and the use of a tongue protrusion to add to the notion of 'unbalanced.'

I present 6-30 for two reasons. Firstly, it shows how a typical accompaniment circumstantial was used, which in this case uses WITH combined with movement between participants to show association. Secondly, it presents the use of BECAUSE. Initially, I believed that this may have been a circumstantial element similar to what is seen in English (i.e. a 'cause' circumstantial; see Halliday and Matthiessen, 2014). All uses of BECAUSE (and its associated signs WHY-THROUGH and THROUGH) are followed by a new clause, rather than something akin to a prepositional phrase in English (e.g. "I went with a friend because of my nervousness"). As such, I could not provide evidence for a cause circumstantial existing in my dataset, and instead suggest that it functions as a logico-semantic element (i.e. part of the logical metafunction) acting between clauses.

6.6. The experiential networks combined

The experiential system networks that I presented above can be placed into a full network as seen in Figure 6-7:

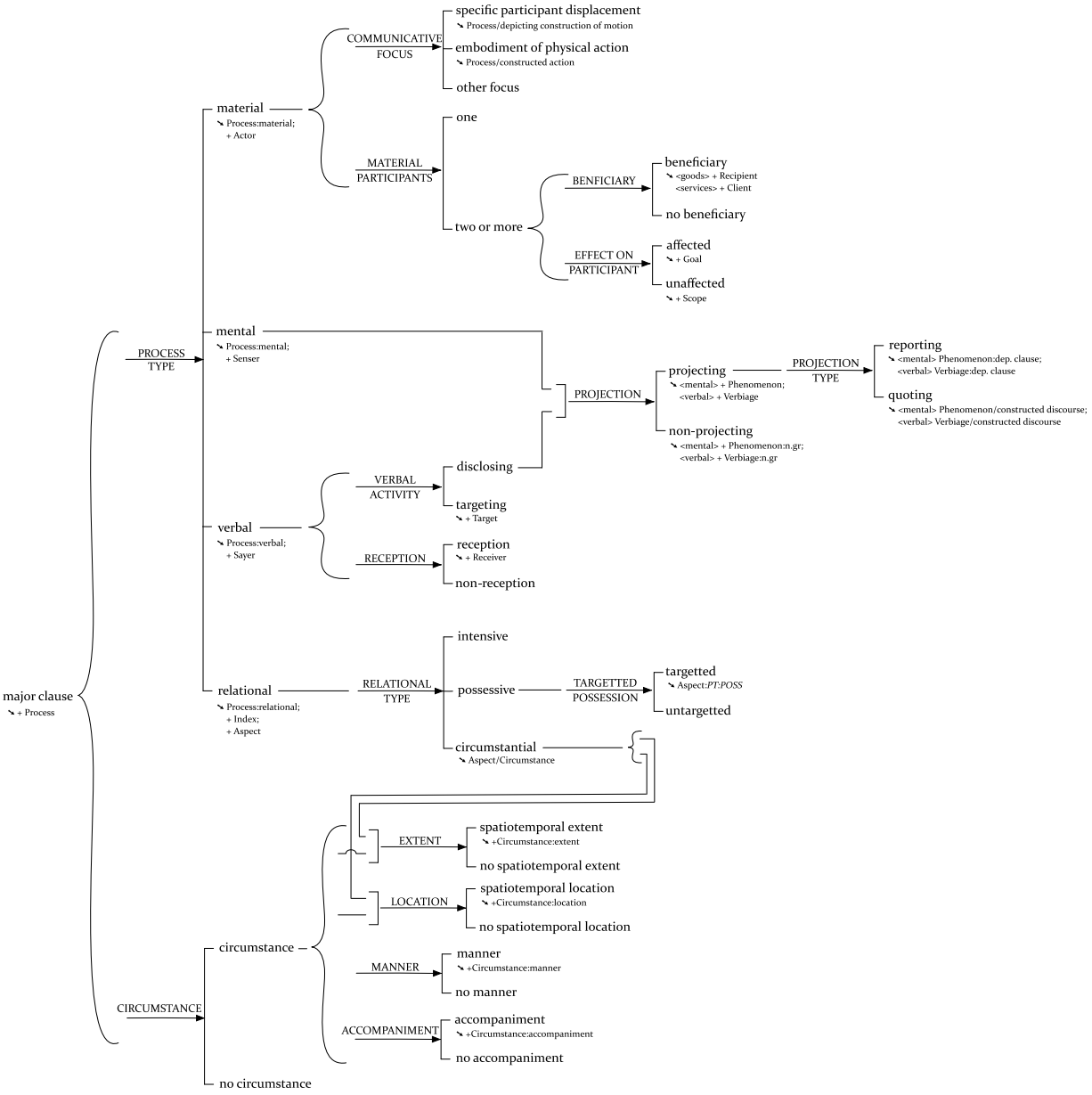
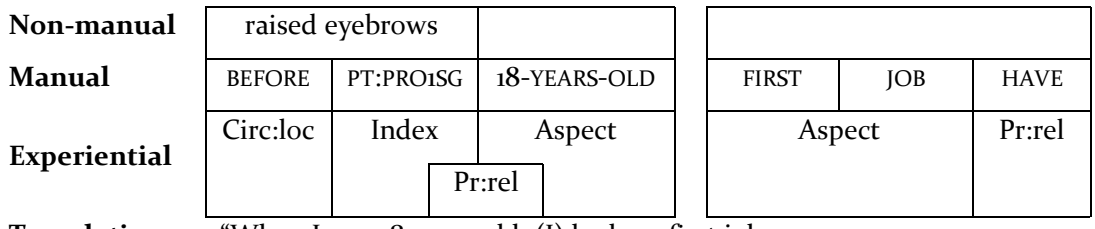


Figure 6-7 - The simultaneous system networks of the experiential metafunction in BSL.

As in Chapter 5, I analyse the same example from my dataset that I analysed from the interpersonal perspective (the analysis of this text for all three metafunctions is

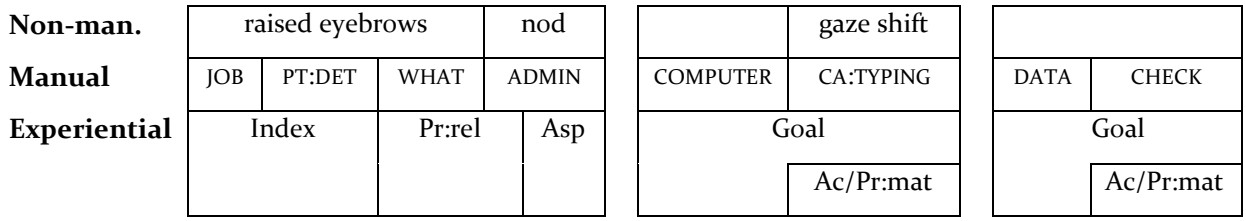
provided in Appendix III. Again, only non-manual and spatio-kinetic tiers relevant this metafunction are shown.[71]

1, 2



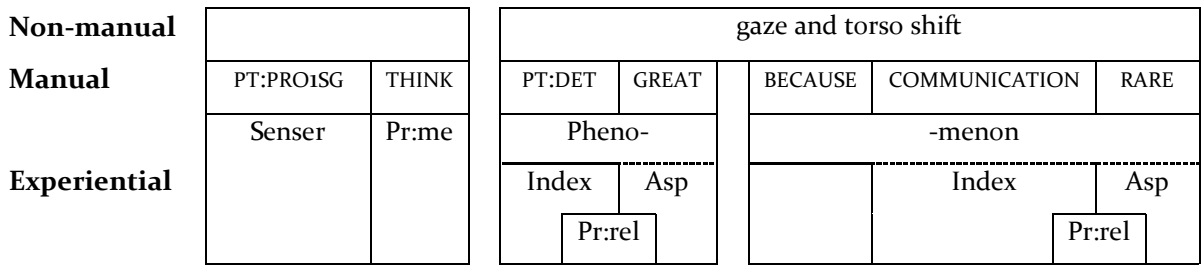
Translation "When I was 18 years old, (I) had my first job.

3, 4, 5



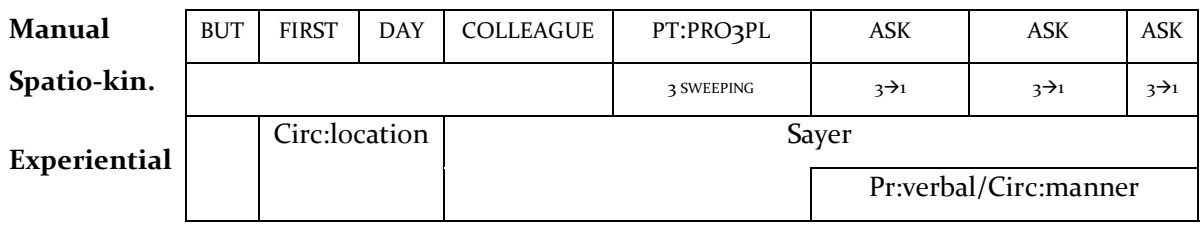
Translation As for the job, it was administration: (I) typed on the computer (and I) checked data.

6, 7, 8



Translation I thought, "This is great because I won't have to communicate very much."

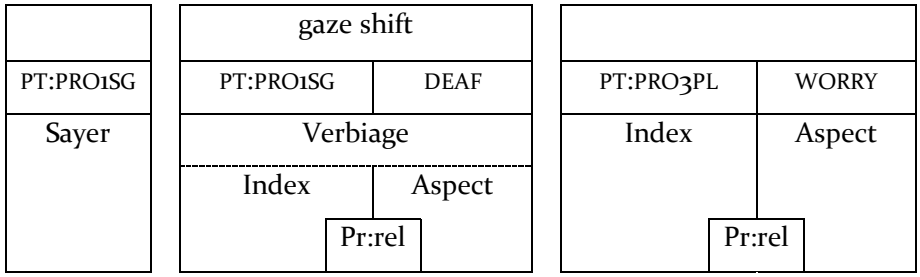
9



Translation But, on my first day, my colleagues asked me (a lot of questions).

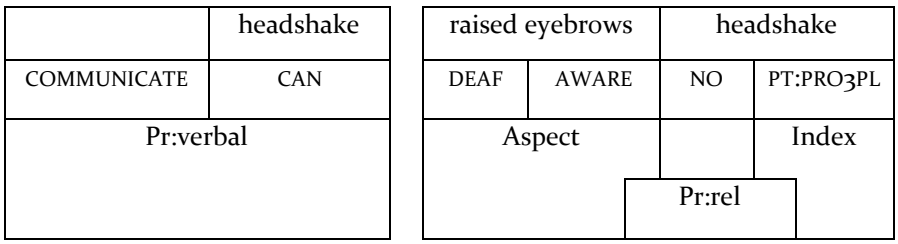
[71] Video: tinyurl.com/bslsfl-sample

10, 11, 12



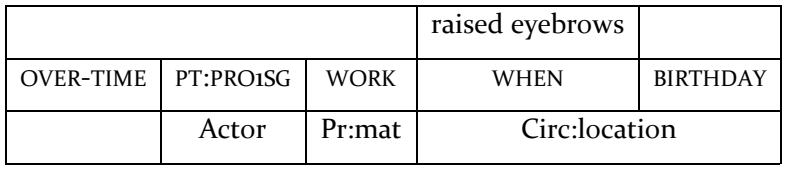
Translation I (signed), "I'm Deaf." They all became worried.

13, 14



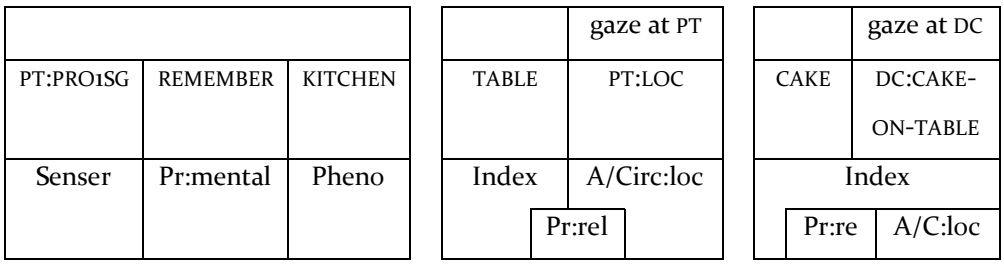
Translation (They) couldn't communicate (with me). They were *not* Deaf aware.

15



Translation Later on, the day that I was working was my birthday.

16, 17, 18



Translation I remember the kitchen: the table was there and a cake was on top of the table.

19, 20

Non-man.				r. eyebrows					
Manual	COLLEAGUE	PT:PRO3SG	DC:WALK	DO	WHAT	SIGN	HAPPY	BIRTHDAY	
Spatio-kin.		3	3→1						
Experiential	Actor			Pr:verbal		Verbiage			
			Pr:mat/Sco						

Translation A colleague approached me and what (she) did was sign happy birthday.

21, 22 ,23, 24

Non-manual		wide eyes			gaze shift							
					low brows			raised eyebrows				
Manual	PT:PRO1SG	SURPRISE	PT:PRO1SG	ASK	SAY	WHAT		SIGN	AGAIN			
Experiential	Index	Aspect	Sayer	Pr:ve	Verb-			-iage				
	Pr:rel				Pr:ve	Ver		Pr:verbal	C:ma			

Translation I was really surprised! I asked "What did (you) say? Sign (that) again!"

25, 26

	gaze shift					
Manual	PT:PRO3SG	CA:SIGNING	PT:PRO3SG	LEARN	BSL	PT:PRO3SG
Experiential	Actor		Sen-	Pr:mental	Phenom	-ser
	Pr:material/Client					

Translation She signed to me. She learned BSL."

The above sample from my data shows various instances of all four process types that I have identified in BSL, along with a selection of circumstantial elements throughout. I comment further on a selection of key points below.

In clauses 7, 8, 11, 23 and 24, mental and verbal projections are used, in which I have performed a two-level analysis in the experiential rows: the Verbiage or the Phenomenon and the respective analysis of the projected clause (separated by dotted lines in the glosses). Furthermore, the transition between clause 10 and 11 contains no overt manual expression representing the verbal element of the clause, but this participant is still classed as Sayer. This is because of the change in non-manual features,

resulting in constructed dialogue in clause 11, and the resulting Verbiage found in the projection. As I mentioned in Section 6.3.1.2 above with regards to mental and verbal clauses, an overt manual sign may be elided if the signer's purpose is to quote what has previously been communicated (i.e. if constructed dialogue follows; see Table 6-3 above).

Just under half of the clauses in this sample are relational, which is anomalous, given that only roughly 29% of the total clauses in my dataset are relational. In most instances, the process is reflected by the juxtaposition of Index and Aspect along with a change in non-manual features. However, clause 2 displays an instance of the possessive relational with Pr:relational realised as HAVE. It is also worth noting that, although it is not visible above, there is a cross-metafunctional conflation between the Index of a relational clause and the interpersonal Subject of these clauses (see Section 5.4 above and Appendix III). This is to be expected as that which is the 'aboutness' of a clause from the interpersonal perspective is that which is commented on from a relational perspective.

As I demonstrated in Chapter 5 and in this chapter, multiple elements can conflate in one part of a clause, and/or these elements may spread across numerous parts of the clause. For instance, clause 9 shows how Sayer is introduced as a specific entity (COLLEAGUE), is referenced in signing space (PT:PRO3PL) and is then still referred to in the process by the spatio-kinetic elements of the manual production (i.e. ASK starts at the location of PT:PRO3PL, and is thereby referenced with each production of ASK).

Clauses 18 and 19 present instances of depicting constructions, but do so in two separate ways. The former is done in a circumstantial relational clause, where the relative location of CAKE is depicted via various handshapes. The latter is a material clause representing the motion of PT:PRO3SG moving from a location towards the participant. This type of construction used for these purposes confirm observations by Pfau (2016a) who states that these constructions are "restricted to verbs of motion or location" (p.221).

Clause 25 also requires further elaboration. The notion of signing, as suggested in clause 25, is a verbal process: information is communicated in an 'inner to outer' manner via signs. However, in clause 25 the participant does not relay what is signed. Rather, they present a mimicked action of the person signing to them (i.e. an instance of constructed action). If the participant had instead used, for instance, PT:PRO3SG SIGN BSL ('She signed BSL') then I would consider this to be a verbal clause comprising of Sayer, Pr:verbal and Verbiage. However, given the participant's focus is on the physical action of signing, I have interpreted this as a material clause consisting of Actor, Pr:material and Client (as this participant is 'benefitting from the services' of the Actor's process).

Finally, there are two instances where textual effects are present: once in clause 26 with a 'repetition' of Senser at the end of the clause, and another with the Index in clause 1 carrying over to clause 2. I elaborate and discuss both effects in the following chapter.

6.7. Conclusion

In this chapter, I have shown that it is possible to analyse productions in BSL from an experiential perspective. I began by presenting the notion of the experiential metafunction as understood from the systemic functional perspective, and how the lexicogrammar of a language (whether phenotypical or cryptotypical) can encode information reflecting experience. Additionally, the visual-spatial nature of BSL requires that all component parts of signs are observed to fully understand what is communicated from the experiential perspective. In other words, manual, non-manual and spatio-kinetic features each have the potential to carry specific values of process, participant and circumstance.

I then presented data with relation to the processes that I have observed in BSL, namely: material, mental, verbal and relational. I provided each part of the system network in isolation, showing how choices throughout these networks present different

realisations depending on communicative need, alongside examples from my dataset. In some instances (e.g. material clauses), there are levels of similarity with that which is found in other systemic functional grammars, but other areas (e.g. relational clauses) present further levels of complexity and 'uniqueness' based on the nature of BSL. I also schematised a system network of CIRCUMSTANCE to show the circumstantial elements that I observed in my dataset, how these may be realised, and the intersection of CIRCUMSTANCE and circumstantial relational clauses.

Finally, I presented the abovementioned systems altogether in a preliminary set of simultaneous networks relating to the experiential metafunction. As with the interpersonal systems in Chapter 5, these are extensible once further data is analysed, and are certainly open to extra simultaneous systems being added (e.g. the system of ASPECT with regards to the ergative model). I used this combination of systems to present an analysis of a sample of 26 clauses from my dataset, with additional commentary where appropriate.

With the systems for the interpersonal and experiential metafunctions now presented, it is now possible to move on to the third and final metafunction: the textual metafunction. I do so in the following chapter, where I call on what I have discussed in this chapter and in Chapter 5 to draw together how all three metafunctions operate simultaneously.

7. The textual metafunction of BSL

7.1. Introduction

In the previous two chapters, I have demonstrated how BSL can convey meaning as an exchange between two or more parties (the interpersonal metafunction; see Chapter 5) and how it can convey meaning with regards to experience (the experiential metafunction; see Chapter 6). However, a third level of meaning is also retrievable from the way in which BSL clauses are structured, namely how the general message of the communication is presented and commented on. Turning once more to my previous examples of the reporter and the author, both will structure their discourse to allow for messages to be introduced and developed throughout. The reporter may provide her statements on a bleak economic outlook by introducing the topic, and then moving on to explain its causes, its effects, and its potential resolutions. The author may present the notion of the preterite tense alongside examples of this conjugation, and then prompt the reader to attempt some conjugations of their own. This flow of information is structured to allow receivers of the communication to understand what is prominent versus what is not; what is already understood versus what is new. The textual metafunction deals with this area of meaning.

I begin this chapter by looking at the theoretical perspectives of the textual metafunction, alongside observations of this metafunction in languages such as English. I call on the work of the Prague School linguist Mathesius (1939/1975), who worked on how clauses may be split into different zones of 'prominence,' and how these ideas were carried across into the realm of systemic functionalism.

I then present the various system networks associated with the textual metafunction in BSL. Once again, there are similarities that I observe in my dataset that reflect findings in other systemic functional grammars. For instance, this metafunction appears to call on the use of manual and non-manual features in similar ways to what I have demonstrated in interpersonal and experiential networks. Conversely, the use of spatio-kinetic elements, particularly the use and exploitation of the signing space, appears to

play a less important role in the textual metafunction (at least at the level of the clause). Rather, the concatenation of elements within the clause and their combinations with certain non-manual features appear to play the most vital roles in this metafunction.

I then move on to analyse a 26-clause sample from the textual perspective, showing once again how systemic functional theory can be put into practice with a text. As with previous chapters, most of the system networks that I present in this chapter are present in this analysis.

I finalise this chapter by presenting a short commentary on a few areas of uncertainty and potential expansion concerning the textual metafunction of BSL. This includes potential links between clauses via logico-semantic and interdependency relations, and the productive constraints of BSL in certain constructions, namely the relationship between clause-initial signs and the textual element of Theme.

7.2. The textual metafunction

A language may encode various meanings simultaneously, as I have noted in Chapters 5 and 6 regarding the interpersonal and experiential metafunctions respectively. However, these are not the only meanings that can be encoded within the lexicogrammar of a language. A third metafunction must also be considered: the textual metafunction. In this section, I demonstrate how the textual metafunction can be observed and analysed. I also present the key notions of Theme and Rheme, and how these elements may be employed to create marked effects in a text.[72]

[72] The textual metafunction is also concerned with numerous other parts of the development of a text, including such things as 'given vs. new' in terms of information structure (see Matthiessen, Teruya and Lam, 2010, p.107). I have chosen to cover only a handful of topics given space constraint and the relevance of these topics to my dataset and analysis.

7.2.1. The purpose of the textual metafunction

The importance of the textual metafunction can be demonstrated in the following English sentence:

(1) 'I like coffee, but I can only drink one cup a day.'

(1) is formed of two clauses. Interpersonally, there are two declarative statements. Experientially, the statement is formed of a mental clause followed by a material clause. It is possible to modify these clauses to varying degrees in order to produce, amongst others, statements (2), (3) and (4):

(2) 'Although I like coffee, I can only drink one cup a day.'
(3) 'Despite only drinking one cup a day, I like coffee.'
(4) 'The thing that I like to do although I only do it once a day is drink coffee.'

In (2) and (3), the interpersonal and experiential 'values' have not changed from the configuration observed in (1) (i.e. two declarative clauses, one material and one mental). However, the meanings expressed in (2) and (3) are not equal to what is expressed in (1): in (2), the conjunction 'but' has been modified to 'although' and placed at the start of the sentence; and in (3) there is a similar alteration, alongside an accompanying switch in the experiential clause configuration (i.e. Pr:mental^Pr:material becomes Pr:material^Pr:mental). (4) also presents a similar meaning to what is seen in (1), (2) and (3), but in this case the clause structure has drastically changed: it is now a relational clause overall, containing multiple embedded clauses prior to the process 'is.'

Examples (1) to (4) demonstrate how somewhat similar utterances can present different meanings and configurations, and how these differences may not be highlighted sufficiently by the interpersonal and experiential metafunctions alone. In brief, each example contains an element that the communicator wishes to mark as more prominent or more relevant than other parts. From a textual perspective, this notion of 'relevance' is espoused by Halliday (1974) as the main area of concern in this domain.

As I discussed in Section 3.3.1 above, and as may be derived from examples (1) to (4), there is a close link between the three metafunctions discussed in this work. The textual metafunction can be understood to provide a basis on which the interpersonal and experiential metafunctions may operate. Halliday (1978) notes that the textual metafunction has "an 'enabling' function vis-a-vis the other two: it is only through the encoding of semiotic interactions in text that the [experiential] and interpersonal components of meaning can become operational in an environment" (p.145). The textual metafunction therefore helps to tie interpersonal and experiential meanings together as it "serves to guide the speaker/listener through the unfolding text so that s/he can process the information" (Caffarel, 2006, p.165). Furthermore, Matthiessen (2004) notes a marked separation between what the interpersonal and experiential metafunctions construct, and that which is constructed by the textual metafunction. Namely, the former metafunctions "are oriented towards realms that lie outside language […]. In contrast, the textual metafunction is oriented towards the realm of semiosis itself" (p.636). The textual metafunction is thereby concerned with how the text is created over time, or the 'logogenesis' of a text (see Matthiessen, 1995).

During this logogenesis, there are options available to the communicator with regards to how to structure information. Although in isolation, examples (1) to (4) show possible changes in structure "based on degrees of prominence" (Matthiessen, 2004, p. 548). In combining the idea of variable prominence within a text over time, this metafunction is often presented via the metaphor of a wave, wherein its peaks and troughs denote the varying levels of importance of information. From the systemic functional perspective, the core elements associated with these peaks and troughs in prominence are known as the Theme and the Rheme.

7.2.2. Theme and Rheme

Theme (základ) and Rheme (jádro) were developed in the Prague School of Linguistics by Vilém Mathesius (1939/1975) as elements contributing to the structuring of information in utterances. According to Prague School reference guides, Theme is defined as "the basis (starting point) of an utterance" (Vachek, 1960/2003, p.157), and

the remainder of a clause is designated as Rheme: "the core (focus) of an utterance" (p.141). Although appearing simplistic in their definitions, developments and divergences of these terms have occurred since their inception, as I briefly explore below.

From Mathesius' (1935/1975) perspective, Theme is based on two factors: the initial position of the element in the clause, and whether the referent of the Theme is discernible within the communicative context. Davidse (1987) notes that these two elements are interpreted and used in distinctive ways by different schools of thought. This has resulted in two approaches: the combining approach and the separating approach. The former identifies the Theme as that which "is contextually given *and* is the point from which the speaker proceeds" (p.65; original emphasis), whereas in the latter approach, "the only criterion is initial position" (p.66). Davidse (1987) initially states that systemic functionalism falls into the separating approach, although she does identify greater levels of complexity in Halliday's definition of Theme, wherein a combination of position and meaning are understood (thereby suggesting that it is a combining approach that Halliday takes). This can be verified in more recent works, such as Halliday and Matthiessen (2014), wherein Theme is identified as the element that "serves as the point of departure of the message; it is that which locates and orients the clause within its context" (p.89). From Halliday and Matthiessen's (2014) perspective, the Theme may therefore be understood in terms of its position (i.e. 'the point of departure' as the start of the clause) and in terms of meaning (i.e. the Theme gives the clause a local context from which to expand on).

Cross-linguistically, Matthiessen (2004) similarly comments on Theme with regards to its position in the clause and the meaning that it carries. In terms of position, he states that "Theme tends to be realised by initial position in the clause" (p.642), but it must be remembered that some languages may place the Theme in other positions due to linguistic elements serving to identify that which is thematic (e.g. topic/theme postpositional particles in Japanese; see Teruya, 2004). Regarding the meaning carried by the Theme, Matthiessen (2004) identifies this based on three factors: thematicity, newsworthiness and specificity. Thematicity is concerned with "the specification of the

local context or environment of the clause" (p.638), newsworthiness with "that element of meaning that the speaker considers the most important for the listener(s) to integrate with existing meanings" (p.639) and specificity with "the recoverability status of an element of the clause" (ibid.). Using these three variables, Matthiessen describes Theme as the element that, across multiple languages, specifies the local context of the clause, encoding already-known information that is recoverable by the recipient of the message.

Finally, with regards to Rheme, Halliday and Matthiessen (2014) abide closely to the Prague School definition presented above. The authors identify the Rheme as "the part in which the Theme is developed" (p.89), or in other words, the remainder of the clause that is not classed as the Theme. Depending on the complexity of the utterance, it may span anywhere from the rest of the immediate clause to multiple subsequent dependent clauses. Furthermore, identifying where the Theme ends and the Rheme begins is resolved by calling on the experiential elements of process, participant and circumstance attributed to the clause: "Theme contains one, and only one, of these experiential elements." (p.105). Therefore, the Theme is attributed to the first instance of a participant, process or circumstance encountered in the clause, and the remaining elements are understood as the Rheme. With regards to my dataset, I employ this recognition of experiential components alongside the definition of Theme provided by Matthiessen (2004). I refer to this in more detail in Section 7.3 below.

7.2.3. Markedness and multiple Theme

Based on Section 7.2.2 above, it may appear that Theme and Rheme are two clear-cut elements, yet the reality is far more complex. As I demonstrated above in examples (1) to (4), it is possible to create utterances that are similar in interpersonal and experiential meaning, but that are textually diverse. One way of elaborating on these differences is to observe how a structure may be classed as 'unmarked' or 'marked.'

From the textual perspective, the notion of markedness is concerned with the elements that make up the Theme and deviations from a 'most common' or 'expected' structure. Matthiessen, Teruya and Lam (2010) state that there are three points to note in terms

of marked structures: they have more complex realisations and may select from greater levels of delicacy within a system network; they are less frequently used than unmarked terms; and they are selected for motivated reasons (whereas unmarked terms do not need a 'specific' requirement for their use).[73] Markedness appears to be particularly prominent within the textual metafunction, evidenced by its regular appearance in the system networks of various other languages (see, e.g., Teruya, 2004; Caffarel, 2006; and Halliday and Matthiessen, 2014), wherein distinctions between marked and unmarked clauses at low delicacies are observed.

Furthermore, it is possible that the first element of a clause may not carry an experiential value (i.e. it cannot be classed as a process, participant or circumstance), but this does not mean that the Theme – Rheme structure is reversed. Instead, elements prior to the first experiential element of the clause (otherwise known as the Topical Theme [74]), are textual or interpersonal elements. These are instances of multiple Theme, wherein Topical, Textual and Interpersonal Themes may be present.

A Textual Theme is used to relate the clause in question with another clause in some manner, often in a continuative or conjunctive manner. Textual Themes "[make] explicit the way the clause relates to the surrounding discourse" (Halliday and Matthiessen, 2014, p.109). Conversely, the Interpersonal Theme "[projects the communicator's] own angle on the value of what the clause is saying" (ibid.), realised lexicogrammatically in English by words including 'probably,' 'maybe,' 'personally' and 'surprisingly.' Cross-linguistically, these thematic elements follow the order of Textual^Interpersonal^Topical, wherein only the Topical Theme is mandatory. Consequently, "the Theme of a clause extends from the beginning up to, and including, the first element that has an experiential function" (p.112).

[73] 'Markedness' is a term that can be applied across metafunctions. For instance, interpersonally (see Chapter 5), a clause may select for negative polarity. This is marked when compared to affirmative polarity as it requires additional productive features (i.e. negative non-manual markers), it is less commonly selected), and it is used specifically to alter the polarity of the clause.

[74] Topical Theme may also be referred to as Experiential Theme in systemic functional literature.

To exemplify both markedness and multiple Theme, I return to examples (1) to (4) from above. I have re-written each of these examples in (1.1), (2.1), (3.1) and (4.1) below, and I have emboldened the Theme of each clause in accordance with the abovementioned definitions and explanations. The Rheme of each example are elements that remain in standard typeface:

(1.1) '**I** like coffee, **but I** can only drink one cup a day.'

(2.1) '**Although I** like coffee, **I** can only drink one cup a day'

(3.1) '**Despite only drinking one cup a day, I** like coffee.'

(4.1) '**The thing that I like to do although I only do it once a day** is drink coffee.'

The first clause of (1.1) and the second clause of (2.1) demonstrate typically unmarked structures in English: the Topical Theme of each clause is the participant 'I,' situating the context for the remainder of the clause to be about the communicator. In both cases, the Theme conflates with the interpersonal element of Subject (see Section 5.3 above), and when Subject and Theme conflate in English, the clause is viewed as unmarked (see Halliday and Matthiessen, 2014). Had (1.1) have started as 'coffee I like, but…,' then the first experiential element would have been a Complement from the interpersonal perspective, therefore resulting a marked structure.

However, (1.1) and (2.1) contain other clauses, both of which incorporate more than one element as the overall Theme. Again, 'I' is present in each instance as the Topical Theme, but they are preceded by the conjunctions 'but' and 'although.' These latter elements are textual in nature as they are conjunctions that "[set] up a relationship of expansion or projection" (Halliday and Matthiessen, 2014, p.107). As such, both (1.1) and (2.1) contain clauses using multiple Theme in a Textual^Topical construction.

(3.1) displays a more complex realisation of a Textual^Topical construction. In this utterance, 'despite only drinking one cup a day' is grouped as the Textual Theme (with 'I' once again as Topical Theme) as the whole phrase is concessive. In other words, its function is to provide a counterpoint to other information (i.e. the Rheme), but this is

formulated by a rankshifted clause (i.e. a clause that operates at the level of a group; see Halliday, 1961/2002).

Finally, (4.1) presents a complex relationship between Theme and Rheme, specifically one of equivalence. Halliday and Matthiessen (2014) refer to this structure as a thematic equative "because it sets up the Theme + Rheme structure in the form of an equation, where Theme = Rheme" (p.93). (4.1) displays an elaborate version of what is expressed in (1.1), (2.1) and (3.1), but the key difference lies in the organisation of this information: the bulk is 'fronted' into the Theme, and the Rheme (and thereby the resultant focus of the clause) is comparatively short.

Despite their differences, examples (1.1) to (4.1) are perfectly acceptable constructions in English. The techniques employed to alter or mark the Theme – and as a result, the Rheme – of these clauses are numerous, and I only present a handful of observed textual effects in this section. However, these examples present an initial appraisal of the textual elements and effects that may be found across languages. As I demonstrate in the following section, I find these elements and effects to be present in BSL. As such, I now move away from examples using English and into the results of my textual analysis on my BSL dataset.

7.3. The textual systems of BSL

In this section, I present the various textual system networks that I have schematised based on the analysis of my dataset. Prior to observing these, however, I briefly exemplify how a BSL clause may be analysed to identify the Theme and the Rheme. This is provided to demonstrate how the concatenation of signs is important in this metafunction, despite the heavy use of multiple articulators to create simultaneous meanings in BSL overall. Following this exemplification, I then present the systems of: MULTIPLE THEME (how interpersonal and textual elements may occur alongside experiential elements in BSL as thematic components); THEME MARKEDNESS (how a Topical Theme may be marked and unmarked); THEME CONTINUATION (how the Topical Theme may be ellipsed from a clause based on whether or not the Topical Theme alters between two clauses); THEME REPETITION (how thematic elements

within a clause may be repeated in different positions); and CLAUSE FOCUS (how the prominence of information can change in a BSL clause based on changes to otherwise unmarked clauses).

7.3.1. The importance of sign concatenation

Despite the preference for simultaneity in sign language production (see Johnston, 1996), it is still necessary for elements of meaning to be concatenated. In other words, most signed clauses will be produced by sequencing signs one after the other, allowing meaning to develop over time. While simultaneity is worthwhile to consider when analysing Theme-Rheme structure, it certainly does not make BSL clauses impossible to work with. I demonstrate how this may be achieved using 7-01 as an example:

(7-01)

Non-manual	raised eyebrows			
Manual	PT:PRO1SG	CAR	BUY	PT:DET
Textual	Theme	Rheme		
Translation	"I bought that car"			
Video	tinyurl.com/bslsfl5-1			

In 7-01, the Theme is classed as PT:PRO1SG because it is the first experiential element (i.e. a participant) in the clause. The remainder of the clause is the Rheme, wherein information developing the Theme is presented. In 7-01, each unit of meaning is expressed one sign at a time, sequenced over a short period, and where there is an obvious 'beginning' and 'end' to where one sign (and one part of meaning) ends and another begins.

It is also worth noting that 7-01 displays the non-manual feature tier, specifically with 'raised eyebrows' co-occurring with the Theme. Sutton-Spence and Woll (1999) note that this non-manual feature in BSL is used to mark the 'topic' in a topic-comment

structure.[75] The authors define 'topic' as "the subject of the sentence […], the focus, the old information, the theme of the discourse, or the person or thing about which the conversation is taking place" (p.59). Furthermore, Baker and van den Bogaerde (2016) note that "across sign languages, topics are marked by word order, with the topicalised element occurring in sentence-initial position, and by a non-manual marker" (p.83). While there appears to be a correlation in 7-01 between raised eyebrows and topic (and its resultant definition akin to Theme as understood in systemic functionalism), my dataset presents further questions in the identification of Theme. In short, the use of raised eyebrows at the beginning of a clause is not a sufficient identifier of Theme, although it may be present. I expand on this position in the following examples.

7.3.2. Multiple Theme

The first system that I present is that of MULTIPLE THEME, based on the abovementioned phenomenon of more than one 'thematic element' occurring in clause-initial position. I schematise this system as follows in Figure 7-1:

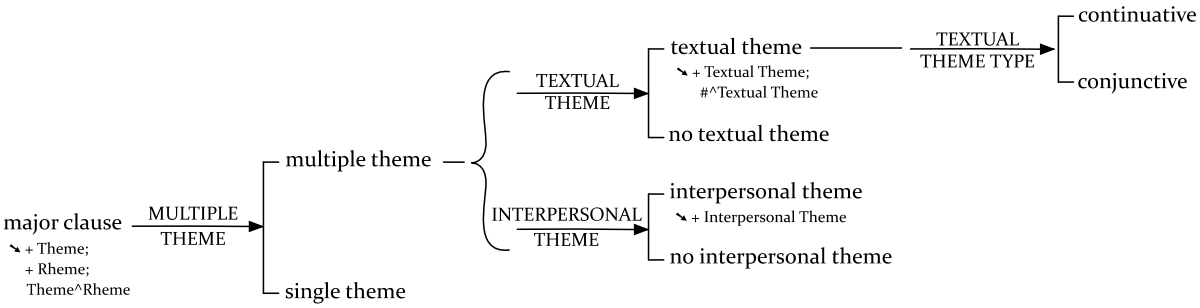


Figure 7-1- The system of MULTIPLE THEME in BSL.

The realisation of the entry condition (for this and other systems from the textual perspective) states that the (Topical) Theme and the Rheme are present in each clause, and concatenated as Theme^Rheme. Instances wherein other textual elements precede the Topical Theme, namely Textual Theme and Interpersonal Theme, select for

[75] The use of the eyebrows as a 'topic marker' is one of many other functions for which the eyebrows may be used. For instance, I demonstrated in Section 5.4.2 above that raised eyebrows can differentiate between declarative and interrogative statements.

'multiple theme' rather than 'single theme.' The Interpersonal Theme and the Textual Theme may occur individually or in tandem.

Clauses in my dataset containing a Textual Theme (*N* = 223; 16.22% of total clauses) always placed this element clause initially, as observed in other languages (e.g. Caffarel, Martin and Matthiessen, 2004; Halliday and Matthiessen, 2014). This ordering also matches Matthiessen's (2004) cross-linguistic observations that multiple themes are usually sequenced with Textual Theme in initial position.

I found that the realisations of Textual Theme could be further split into two distinctions: elements that are continuative and elements that are conjunctive, following the distinction observed by Halliday and Matthiessen (2014) in English. Continuative elements in monologic discourse fulfil the role of indicating "a new move to the next point" (p.107), and this was frequently realised in my dataset by a palm-up gesture at the beginning of a clause. Similarly, there were instances of NOW and OVER-TIME used not as identifiers of timeframe or tense (i.e. a temporal shift into the present tense; see my discussion on 'grounding' and the Quasi-Finite in Section 5.3 above), but as indicators of a change in topic or theme. Conjunctive elements, instead, represent relationships between adjacent clauses, which were realised in BSL as BUT, BECAUSE, and OR, to name a few.[76]

For the Interpersonal Theme (*N* = 591; 42.98% of total clauses), I did not find any noticeable complexity as that which I observed for Textual Theme elements, possibly due to the monologic nature of my dataset (e.g. there were no instances of vocatives in thematic position, although this is theoretically possible). Nonetheless, the instances that I observed relate to Halliday and Matthiessen's (2014) notion of Modal/comment Adjuncts: "[realisations that] express the speaker/writer's judgment on or attitude to

[76] These elements relate closely to the notions of parataxis and hypotaxis from the perspective of the logical metafunction. Again, I have not included a section in this thesis on the logical metafunction in BSL as there are greater levels of complexity that need to be understood before firm commentary can be made, such as how various areas in the signing space may represent different logical and dependency relations (see Pfau, Steinbach and Herrman, 2016).

the content of the message" (p.108). Examples of these realisations include MAYBE, POSSIBLY and OF-COURSE.

I present a sample of instances of clauses employing Textual Theme and Interpersonal Theme below in 7-02, 7-03 and 7-04:

(7-02)

Non-manual		raised eyebrows		headshake
Manual	G:PALM-UP	MAYBE	PT:PRO3SG	HAPPY
Textual	Textual Theme	Interpers. Theme	Top.Theme	Rheme

Translation "Well, perhaps she was not happy."

Video tinyurl.com/bslsfl7-02

(7-03)

Non-manual	raised eyebrows				r. eyeb.		
Manual	PT:PRO1SG	GO-TO	SHOP	SHOULD	BUT	PT:PRO3SG	SHOULD-NOT
Textual	Top. Th	Rheme			Tex. T.	Top. Th	Rheme

Translation "I should go to the shops but he shouldn't (go to the shops)."

Video tinyurl.com/bslsfl5-31

(7-04)

Non-manual	raised eyebrows			r. eyeb.		
Manual	G:PALM-UP	PT:PRO1SG	PICK	OR	PICK	
Spatio-kin.		1	X→1		Y→1	
Textual	Text. Theme	Top. Th	Rheme	Tex. T.	(To. T)	Rheme

Translation "Well, I (could) choose (that one) or (I could) choose (the other one)."

Video tinyurl.com/bslsfl7-04

7-02 presents an instance of both Textual Theme and Interpersonal Theme, both used prior to the Topical Theme. As with 7-01 that I presented above, each manual sign and functional element in 7-02 has a clear boundary. However, unlike 7-01, the use of raised eyebrows does not co-occur across thematic elements in the same manner. Instead, raised eyebrows co-occur with the Interpersonal Theme MAYBE, and could relate to the uncertainty proposed by the signer (i.e. raised eyebrows increase the level of indecision; see Mapson, 2014).

Clause 7-03 employs a Textual Theme to link the preceding clause in a conjunctive fashion. In this instance, BUT functions to present a contrast between the two clauses, similar to what is observed in English. Again, there are instances of raised eyebrows co-occurring with certain elements, although these occurrences do not seem to follow any pattern, other than that they appear clause-initially (cf. 7-02).

Finally, 7-04 displays the use of a Textual Theme at the start of the first clause and the second clause. The first of these is used continuatively, whereas the second is used conjunctively. However, it is also worthwhile to point out the identification of Theme and Rheme in these clauses. In the first clause, the Topical Theme is realised as the participant PT:PRO1SG, but the Topical Theme of the second clause, which is the same as the first, is not overtly expressed (I go into more detail about this effect in Section 7.3.4 below, wherein I explain element ellipsis from a textual perspective). Nevertheless, due to the way in which PICK is articulated in BSL (i.e. an indicating verb that expresses participants spatially via the start and end positions of the sign), the Topical Theme *may* be understood to be realised in the final position of the verb sign that indexes the 'picker.' As such, I have tentatively marked the Topical Theme as present in 7-04, although further study would clarify whether a spatio-kinetic element of an identifying verb can carry the same 'thematic prominence' as an overtly-produced sign.

To summarise before moving on, it is possible for BSL clauses to contain other elements present in 'thematic position' that cannot be attributed to the Topical Theme. As has been identified in other languages (e.g. Halliday and Matthiessen, 2014), there are elements in BSL that serve to organise a text and others that present judgements on the information presented in the clause.

7.3.3. Theme markedness

As I noted at the start of this chapter, the Topical Theme in BSL (referred to hereafter as the Theme for ease of identification) is the first experiential element (i.e. participant, process or circumstance) produced in the clause. The abovementioned system of MULTIPLE THEME can select for either the realisation of multiple thematic elements

or only one, thereby creating optionality in the production of Interpersonal Theme and Textual Theme. However, the Theme is a required element in a BSL clause, hence its addition at the entry condition (i.e. 'major clause'). I focus on this element in the remaining textual systems, the first of which is a small, simultaneous network relating to whether a clause is marked or unmarked, shown in Figure 7-2:

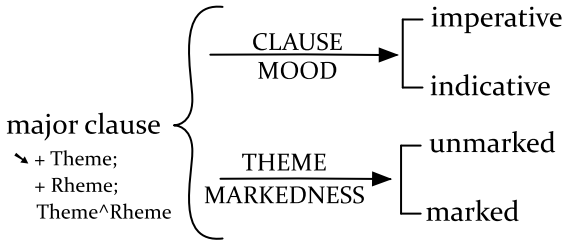


Figure 7-2 - The simultaneous systems of CLAUSE MOOD and THEME MARKEDNESS in BSL.

A notable aspect about the system networks in Figure 7-2 is the requirement to call on interpersonal aspects of the clause (i.e. the system of MOOD; see Section 5.4 above). All clauses will fit into one of these two interpersonal categories, and the subsequent realisation of the clause will be affected by whether the clause is textually marked (*N* = 348; 25.31% of total clauses) or unmarked (*N* = 1,027; 74.69% of total clauses).

The realisation of the clause is determined by the combination of selections from the two system networks in Figure 7-2. An unmarked clause is a realisation that is the most common or 'expected,' and as Matthiessen, Teruya and Lam (2010) note, they are "selected much more frequently in text than the marked [structures]" (p.236). Conversely, marked clauses display structures that are more 'deliberate' because "the selection of the marked term must be motivated" (Matthiessen, Teruya and Lam, 2010, p.237). The Theme of a clause, then, must conflate with the expected interpersonal elements of a clause to be unmarked, otherwise a marked construction will result. I present the intersection between these elements below in Table 7-1:

	indicative	imperative
unmarked	Theme/Subject	Theme/Quasi-Finite
marked	Theme/Quasi-Finite; Theme/Complement; Theme/Adjunct	Theme/Complement; Theme/Adjunct

Table 7-1 - A tabulation of the conflating elements based on clause markedness in BSL.[77]

The result of these combinations reveals a pattern that echoes what is observed in English (Halliday and Matthiessen, 2014): an unmarked indicative structure will conflate the Subject (i.e. the 'aboutness' of the clause; see Thompson, 2014) with the Theme, and an imperative will conflate the Quasi-Finite with the Theme, as the Subject is omitted in imperative clauses. Any other interpersonal element that conflates with the Theme will therefore create a textually marked clause.

To exemplify this, I present unmarked and marked BSL clauses from my dataset in examples 7-05, 7-06, 7-07 and 7-08 below, complete with interpersonal tiers to more overtly present the difference between unmarked and marked structures:

(7-05)

Manual	PT:PRO1SG	DAUGHTER	LAST-YEAR	BORN
Interpersonal	Subject		Adjunct	Q-F
Textual	Theme		Rheme	
Translation	"My daughter was born last year."			
Video	tinyurl.com/bslsfl7-05			

[77] My dataset only contained unmarked imperative structures, but I have tabulated the 'marked' interpersonal functional elements that would conflate based on what elements can occur in imperative clauses (i.e. Subject is absent as it is ellipsed in these structures; see Chapter 5).

(7-06)

Non-manual			raised eyebrows
Manual	PT:PRO2SG	CHOCOLATE	LIKE
Interpersonal	Subject	Complement	Q-F
Textual	Theme	Rheme	

Translation "Do you like chocolate?"

Video tinyurl.com/bslsfl7-06

(7-07)

Manual	MUM	SAY	SHOPS	PT:PRO1SG	GO-TO
Interpersonal	Subject	Q-F	Complement	Subject	Q-F
Textual	Theme	Rh-	-eme		
			Theme	Rheme	

Translation "Mum said that it's to the shops that I need to go."

Video tinyurl.com/bslsfl7-07

(7-08)

Non-manual	head forward; widened eyes		
Manual	LEARN	TODAY	PT:DET
Spatio-kin.	stressed movement		x
Interpersonal	Quasi-Finite	Adjunct	Complement
Textual	Theme	Rheme	

Translation "Learn it today."

Video tinyurl.com/bslsfl5-20

7-05 and 7-06 show two typically unmarked indicative clauses, the former a declarative and the latter a polar interrogative. Both show the conflation of the interpersonal Subject with the Theme. In addition, the first clause of 7-07 shows an unmarked Theme, although the quoted speech in the following dependent clause shows a conflation of the Theme with the interpersonal Complement, thereby creating a marked structure. This structure was likely created as communication prior to the clause in 7-07 was centred around where the signer's mother wanted them to go. Finally, the imperative structure in 7-08 is also classed as unmarked as the Theme conflates with the interpersonal Quasi-Finite.

7.3.4. Theme continuation

As I have pointed out in previous chapters, certain elements of a BSL clause may be ellipsed. Pfau and Bos (2016) note this effect from a formal perspective, identifying two types of element dropping in sign languages, namely pro-drop and topic-drop. The latter of these types is the main concern of the system of THEME CONTINUATION shown in Figure 7-3 below:

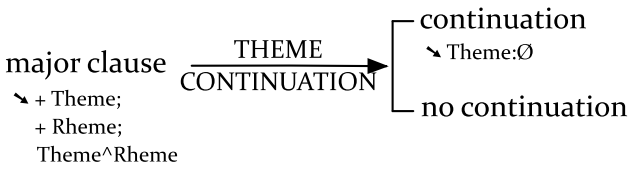


Figure 7-3 - The system of THEME CONTINUATION in BSL.

Pfau and Bos (2016) note that in sign languages "the topic of a sentence can be deleted under identity with a topic in the preceding sentence(s)" (p.142). From a typological perspective, Matthiessen (2004) also notes that "many languages use "ellipsis" as the unmarked strategy for continuous anaphoric reference: if a referent is identifiable and continuous, this is indicated iconically by leaving the reference implicit" (p.652). For instance, Halliday and McDonald (2004) note "Themes in Chinese are commonly presumed by ellipsis" (p.323). From the perspective of the clause rather than the sentence (see Section 4.3 above for a discussion of these terms with regards to BSL), this position appears to hold true for most of my dataset: if the Theme of the preceding clause is equivalent to the Theme of the clause in question, it is ellipsed as it is easily recoverable from the co-text (N = 413; 30.01% of total clauses). This was seen in 7-04 above, and I present 7-09, 7-10 and 7-11 below as further examples of this effect:

(7-09)

Non-manual			headshake	nod
Manual	COMPUTER	PT:DET	WORK	BROKE
Textual	Theme		Rheme	Rheme

Translation "That computer wasn't working. (It) was broken."

Video tinyurl.com/bslsfl7-09

(7-10)

Manual	PT:PRO1SG	DRIVE	DC:DRIVE-QUICKLY	BUT	LATE
Textual	Theme	Rheme		Text Th.	Rheme

Translation "I drove quickly, but (I) was late."

Video tinyurl.com/bslsfl7-10

(7-11)

Manual	PT:PRO3G	REALISE	FORGOT	KEY
Textual	Theme	Rh-	-eme	
			Rheme	

Translation "He realised (that he) forgot the keys."

Video tinyurl.com/bslsfl7-11

All three of the above examples demonstrate how the Theme of the first clause is ellipsed in the second clause due to the 'Theme equivalence' between clauses. It can also be observed that this effect occurs with different clause relationships: 7-09 and 7-10 display constructions of two independent clauses, although 7-10 also realises the Textual Theme element BUT for the purposes of comparing the statements within each clause. Conversely, 7-11 shows an instance of a mental projecting clause (see Section 6.3.1.2 above) wherein the second clause is dependent on the first, yet the Theme is still omitted in the second clause.

However, it must be stressed that this effect is not always as straightforward as the above examples may suggest. For example, there are instances in my dataset where the same Theme is overtly articulated between two concatenating clauses. I believe that this may be related to logico-semantic relationships between clauses (i.e. effects observed in the

logical metafunction including paratactic and hypotactic relationships) and the use of constructed action or constructed dialogue in a clause where Theme ellipsis could occur (see Cormier, Smith and Zwets, 2013). I return to this point in more detail in Section 7.4 below.

7.3.5. Theme repetition

In several instances in my dataset, I noted that the Theme of the clause was repeated and referred to outside of the typical 'thematic position' (i.e. the beginning of the clause). I have schematised this effect in the system of THEME REPETITION, shown below in Figure 7-4, which displays how the Theme may be realised more than once in the same clause:

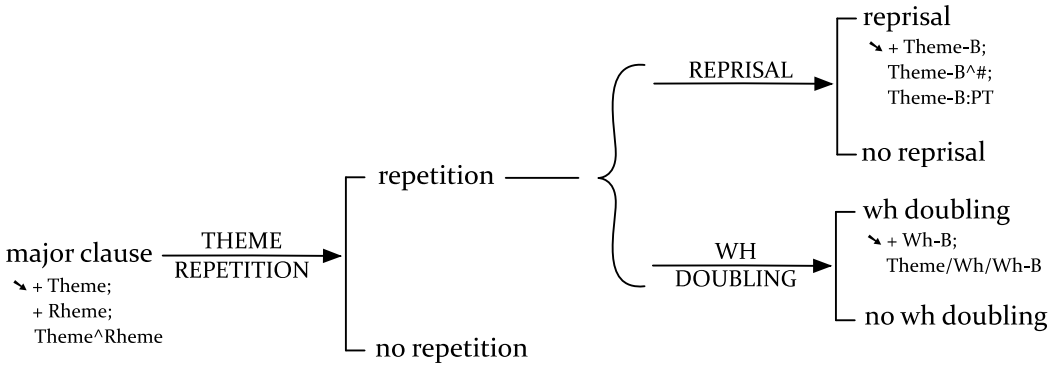


Figure 7-4 - The system of THEME REPETITION in BSL.

When 'repetition' is selected, two further systems are then encountered, the choice of which depends on the elements that are already present in the clause. In the system of REPRISAL, adapted from Caffarel's (2004) textual system networks of French, the Theme of the clause is repeated in final position as a pointing sign ($N = 98$, 7.13% of total clauses). Although it is not referred to as 'reprisal' in other literature, this effect has been noted to occur in multiple sign languages, including BSL. It is more commonly known by terms such as pronoun copy (Sutton-Spence and Woll, 1999) and double-indexing (Jantunen, 2007). Although Sutton-Spence and Woll (1999) identify pronoun copy in BSL, they do not provide a reason for this effect. However, similar occurrences in

Suomalainen Viitomakieli (FinSL; Finnish Sign Language) are analysed by Jantunen (2007), who identifies the reason for this effect as "an optional pragmatic means which signers use to increase textual cohesion within a sentence" (p.130). Based on what I have observed in my dataset, I agree with Jantunen that the repetition of the Theme (that I label as 'Theme-B') provides more emphasis and focus on the Theme.[78]

In a similar vein, Wh- elements in a clause (i.e. in wh- interrogative structures) may also be repeated within the same clause. As I stated in Section 5.4.2 above, most interrogative clauses in BSL place Wh- elements (e.g. WHO, WHAT, WHERE, WHEN, etc.) clause-finally. However, if the feature 'wh doubling' is selected in the system of WH DOUBLING, two instances of the Wh- element will be present the same clause. While my dataset shows this to occur only in a handful of cases ($N = 14$; 1.02% of total clauses), this phenomenon is also noted by Sutton-Spence and Woll (1999) who attribute the presence of the extra Wh- element to emphasising the question being asked. Furthermore, from a textual perspective, the use of a Wh- element at the start of a clause allows for it to be the Theme of the clause; it becomes the first element with an experiential value observed in the clause (hence its inclusion in this metafunction).

To exemplify the systems of REPRISAL and WH DOUBLING, I present examples of both types of repetition below in 7-12, 7-13 and 7-14:

(7-12)

Non-manual	raised eyebrows		squint		nod
Manual	PT:POSS1SG	BOSS	ALWAYS	HAPPY	PT:PRO3SG
Textual	Theme		Rheme		Theme-B
Translation	"My boss is always happy, she is."				
Video	tinyurl.com/bslsfl7-12				

[78] I have also previously noted (e.g. Section 4.3.3 above) that pointing signs at the end of clause have other functions. For instance, from a prosodic perspective, a point can serve to mark the end of a clause.

(7-13)

Non-manual	raised eyebrows					
Manual	FRIDAY	PT:LOC	PT:PRO1SG	GO-HOME	2-O-CLOCK	PT:LOC
Textual	Theme		Rheme			Theme-B
Translation	"On Friday, I go home at 2 'o' clock on that day."					
Video	tinyurl.com/bslsfl7-13					

(7-14)

Non-manual	furrowed eyebrows			
Manual	WHO	NEW	PERSON	WHO
Textual	Wh-B/ Theme	Rheme		Wh/ Theme
Translation	"Just who is the new person?"			
Video	tinyurl.com/bslsfl7-14			

Both 7-12 and 7-13 display instances where the Theme is repeated as a pointing sign at the end of the clause, hence selecting from the system of REPRISAL. Although the Theme of 7-12 is not designated a position in the signing space prior to the Rheme (unlike 7-13 where both pointing signs 'match'), the Theme-B element nonetheless refers to the Theme expressed at the beginning of the clause. Additionally, the Theme-B of 7-12 is co-articulated with a head nod, marking both the end of the clause (see Section 4.3.3 above) and further emphasising the assertion being made.

In the case of 7-14, the Wh- element is repeated both at the start and the end of the clause. I have analysed this based on the assumption that the clause-final Wh- element is the 'expected' sign and the clause-initial (or 'Wh-B') element is the duplicated element. In each clause where the use of Wh and Wh-B occur, it was always in the configuration of first and last element in the clause, therefore 'wrapping' around the other elements, and appearing to add emphasis to the question being posed. In the case of 7-14, the signer had previously expressed confusion at the presence of someone new to them, potentially explaining the use of two Wh- elements to emphasise the signer's confusion.

7.3.6. Clause focus

The final system network that I present is that of CLAUSE FOCUS, concerned with how prominence within the clause may be shifted to centre on specific elements, namely clause polarity and experiential information. I schematise this system in Figure 7-5 below:

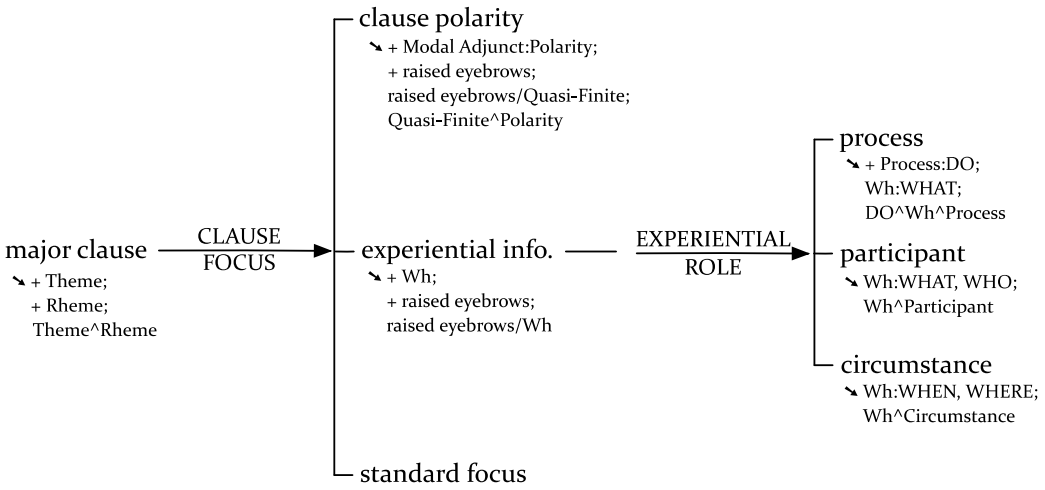


Figure 7-5 - The system of CLAUSE FOCUS in BSL.

I use 'focus' in this system and in subsequent descriptions to refer to the element of the clause that is imbued with the greatest importance; that which the communicator feels imperative for the receiver to understand. Often, this can be realised using marked intonation on a specific element in an otherwise standard clause, or by using marked structures as I noted in Section 7.3.3 above, but the structures I discuss here exploit further Theme - Rheme differences within the clause.

If the focus of the clause is not overtly modified, the 'standard focus' option may be selected. Otherwise, the clause will have focus on one of two elements: the polarity of the clause, or a specific experiential element of the clause. Interestingly, a choice of either option will result in a realisation that appears almost identical to the interrogative clauses that I observed (see Section 5.4.2 above), but they contain key differences that

ensure these clauses are indicative in their nature (i.e. presenting information, rather than requesting information).

If the polarity of the sentence is in focus (*N* = 83; 6.04% of total clauses), a construction similar to a polar interrogative is produced: the Quasi-Finite co-occurs with raised eyebrows. However, the Quasi-Finite is then immediately followed by a polarity marker without any prosodic boundary or gap. This polarity marker may be realised in one of two ways: as a head nod or a headshake while the previous sign is held in signing space (i.e. the hands 'frozen in position' rather than returning to a neutral location), or as a manual sign depicting polarity.[79] As I noted in Section 5.5 above, the system of POLARITY allows for a clause to take either an affirmative or negative value. Yet, when the polarity is shifted to the end of the clause, a greater focus is placed on the polarity itself. The closest English approximation would be adding a marked stress or intonation to the Finite element specifically highlighting polarity, such as "The dog *didn't* chase the ball."

If the prominence of the clause concerns an experiential element rather than an interpersonal element, then a similar effect is observed. Again, a seemingly interrogative clause is produced, although resembling a wh- interrogative structure rather than a polar interrogative structure. The key factor is observed via non-manual features, namely the use of *raised* eyebrows co-occurring with the Wh- element, as opposed using *furrowed* eyebrows in the interrogative form (see Section 5.4.2 above). Furthermore, there is the addition of an experiential element after the Wh- element, again without any obvious prosodic boundary separating them. The type of experiential element which takes the focus will lead to different Wh- elements being used, as can be observed in the network of EXPERIENITAL ROLE in Figure 7-5 above.

These latter structures have been observed in other works, but are referred to via different terminology including cleft, pseudo-cleft and rhetorical constructions (see,

[79] Despite this variation in realisation, I have yet to find any evidence to suggest that this difference is systemic. As such, I have not schematised any further levels of delicacy following the choice of 'clause polarity' in Figure 7-5.

e.g., chapters 14 and 21 Pfau, Steinbach and Woll, 2012). From a systemic functional perspective, these constructions appear to extend the Theme to cover all elements up to and including the Wh- element, leaving only the final experiential element as the Rheme. This can be exemplified in the clause PLANE DC:PLANE-LAND WHEN YESTERDAY: the arrival of a flight wherein the timing (i.e. the circumstance) is shifted into the Rheme position. Using WHEN with raised eyebrows and having no prosodic gap between WHEN and YESTERDAY allows for this clause to be interpreted as a declarative clause (rather than an interrogative clause finishing with WHEN). Similar to clauses that focus polarity, it is also possible for clauses that focus experiential elements to be produced in a more 'typical' fashion, such as YESTERDAY PLANE DC:PLANE-LAND. In this latter clause, the same overall information is conveyed as in PLANE DC:PLANE-LAND WHEN YESTERDAY, but the previously-focussed circumstantial element is now part of the Theme.

The closest English translation to PLANE DC:PLANE-LAND WHEN YESTERDAY would be 'when the plane landed was yesterday,' and as such, I propose that these constructions are similar to thematic equative constructions in English (see Halliday and Matthiessen, 2014). However, English thematic equatives only occur in relational identifying clauses (i.e. 'x is y' constructions; see Section 6.3.1.3 above), and introduce "a semantic component of exclusiveness: the meaning is 'this and this alone'" (Halliday and Matthiessen, 2014, p.95). In BSL, however, clauses that focus experiential elements may be of any process type, and the exclusiveness of identification noted in English is not always present.

To demonstrate some of the realisations that can be produced via the system of CLAUSE FOCUS, I provide examples 7-15, 7-16, 7-17, 7-18 and 7-19 below:

(7-15)

Non-manual	raised eyebrows				nod
Manual	PT:POSS1SG	DOG	NAME	WHAT	-b-i-l-l-
Textual	Theme				Rheme
Translation	"The name of my dog is Bill."				
Video	tinyurl.com/bslsfl7-15				

(7-16)

Non-manual					r. eyebrows	
Manual	TIME	PT:PRO1SG	ARRIVE	PT:LOC	WHEN	3-O-CLOCK
Textual	Theme					Rheme

Translation "The time that I arrived there was 3 'o' clock."

Video tinyurl.com/bslsfl7-16

(7-17)

Non-manual		raised eyebrows		squint	
Manual	PT:PRO3SG	DO	WHAT	EAT	ALL
Textual	Theme			Rheme	

Translation "What she did was eat everything."

Video tinyurl.com/bslsfl7-17

(7-18)

Non-manual		raised eyebrows	headshake
Manual	PT:PRO2SG	STAMP	NEED	NO
Textual	Theme	Rheme	

Translation "You do *not* need a ticket."

Video tinyurl.com/bslsfl7-18

(7-19)

Non-manual	raised eyebrows			headshake
Manual	PT:PRO1SG	EXAM	FINISH	NO
Textual	Theme	Rheme		

Translation "I did *not* finish the exam."

Video tinyurl.com/bslsfl7-19

7-15, 7-16 and 7-17 are all clauses wherein the focus is shifted onto the experiential element at end of the clause. In these instances, the Theme is extended to incorporate all elements that occur up to and including the Wh- element. This is reflected in the translations that I have provided for each clause, wherein I have written thematic equative statements in English. In 7-15, the entire Theme also co-occurs with raised eyebrows, although for 7-16 and 7-17, raised eyebrows only co-occur with their

respective Wh- elements. In addition, 7-15 presents an instance of a relational clause wherein an extra signed element is placed between the two juxtaposed nominal groups, rather than using only non-manual features (see Section 6.3.1.3 above). The Wh-element could be understood to act as a 'pseudo-copula' in such instances.

7-18 and 7-19 display instances where the focus is on the polarity of the clause, rather than an experiential element. There is not a marked change in the typical Theme – Rheme structure, unlike what is presented in 7-15, 7-16 and 7-17. Nonetheless, there is a marked focus in both clauses, especially as the negative non-manual markers could have co-occurred with the verbal group elements NEED and FINISH in otherwise 'unmarked' structures. In the case of 7-18, this clause was used in constructed dialogue to act as clarification on previously-given instructions. For 7-19, the clause was used after conveying that other people had finished the exam, in a similar fashion to using the Textual Theme BUT, but with a greater emphasis on the juxtaposition (i.e. the fact that the signer did not finish was unexpected).

7.4. The textual networks combined

The textual system networks that I have presented and exemplified above can be placed into a full set of simultaneous networks, shown below in Figure 7-6. Note that the system of THEME CONTINUATION is surrounded by a dotted line to indicate the uncertainty of this network based on my dataset, as I briefly noted above and will comment on further below.

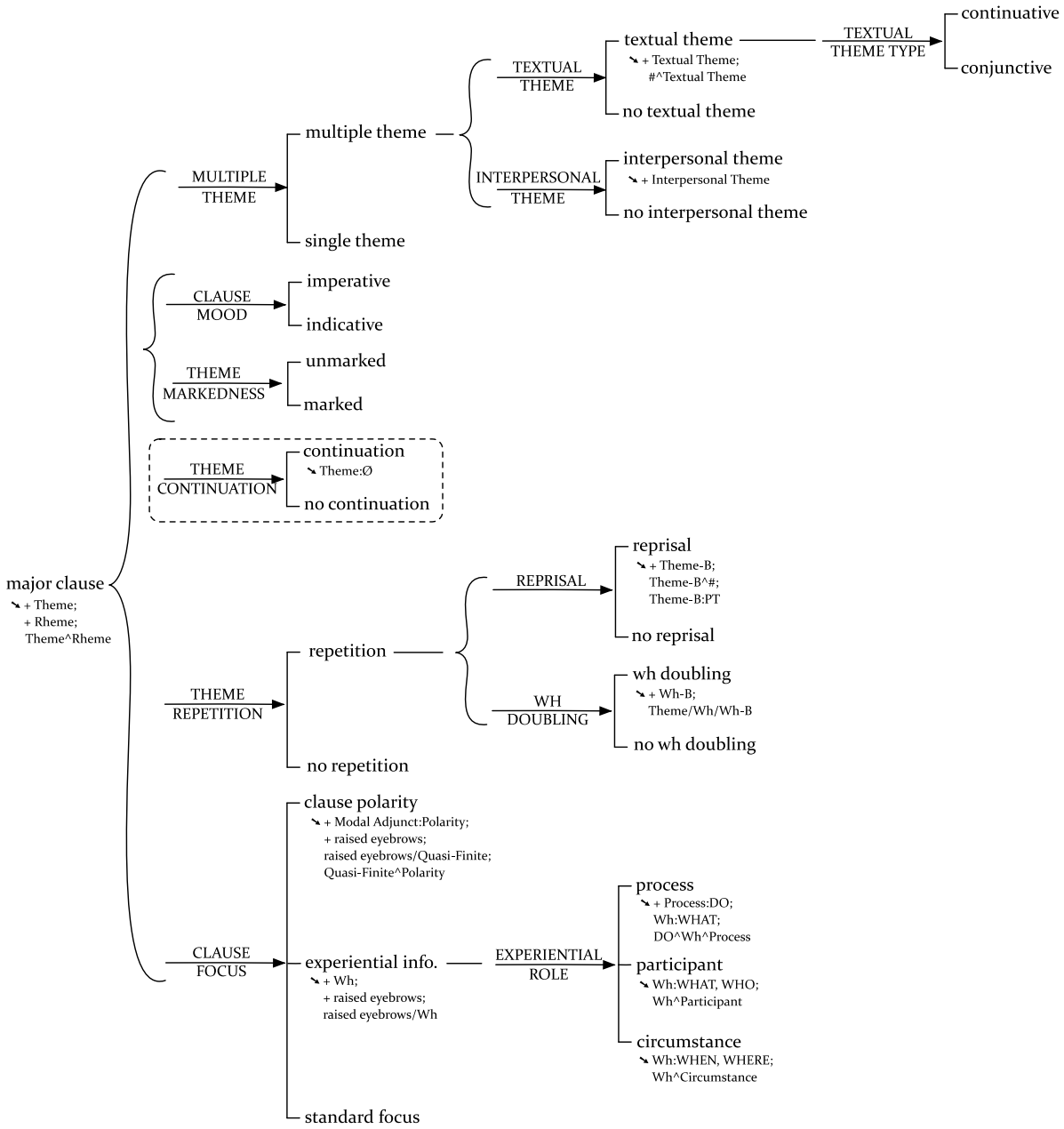


Figure 7-6 - The simultaneous system networks of the textual metafunction in BSL.

As in Chapters 5 and 6, I once more analyse the extended BSL sample from my dataset from the textual perspective (the analysis of this text for all three metafunctions is provided in Appendix III). Only non-manual and spatio-kinetic tiers relevant to this metafunction are shown.[80]

[80] Video: tinyurl.com/bslsfl-sample

1, 2

Non-manual	raised eyebrows						
Manual	BEFORE	PT:PRO1SG	18-YEARS-OLD	FIRST	JOB	HAVE	
Textual	Tex. Th	Theme	Rheme	Rheme			

Translation "When I was 18 years old, (I) had my first job.

3, 4, 5

Non-man.	raised eyebrows			nod		gaze shift				
Manual	JOB	PT:DET	WHAT	ADMIN	COMPUTER	CA:TYPING		DATA	CHECK	
Textual	Theme			Rh	Rheme			Rheme		

Translation As for the job, it was administration: (I) typed on the computer (and I) checked data.

6, 7, 8

Non-manual				gaze and torso shift							
Manual	PT:PRO1SG	THINK		PT:DET	GREAT		BECAUSE	COMMUNICATION		RARE	
Textual	Theme	Rh-		-e-			-me				
				Theme	Rh		Tex. Th	Theme		Rh	

Translation I thought, "This is great because I won't have to communicate very much."

9

Manual	BUT	FIRST	DAY	COLLEAGUE	PT:PRO3PL	ASK	ASK	ASK
Spatio-kin.					3 SWEEPING	3→1	3→1	3→1
Textual	T. Th	Theme		Rheme				

Translation But, on my first day, my colleagues asked me (a lot of questions).

10, 11, 12

Non-manual		gaze shift		raised eyebrows		
Manual	PT:PRO1SG	PT:PRO1SG	DEAF	PT:PRO3PL	WORRY	
Textual	Theme	Rheme		Theme	Rheme	
		Theme	Rheme			

Translation I (signed), "I'm Deaf." They all became worried.

13, 14

Non-manual		headshake		raised eyebrows		headshake	
Manual	COMMUNICATE	CAN		DEAF	AWARE	NO	PT:PRO3PL
Textual	Rheme			Rheme			Theme-B

Translation (They) couldn't communicate (with me). They were *not* Deaf aware.

15

Non-manual				raised eyebrows	
Manual	OVER-TIME	PT:PRO1SG	WORK	WHEN	BIRTHDAY
Textual	Tex. Theme	Theme			Rheme

Translation Later on, the day that I was working was my birthday.

16, 17, 18

Non-manual					gaze at PT		gaze at DC	
Manual	PT:PRO1SG	REMEMBER	KITCHEN	TABLE	PT:LOC	CAKE	DC:CAKE-ON-TABLE	
Textual	Theme	Rheme		Theme	Rheme	Theme		Rh

Translation I remember the kitchen: the table was there and a cake was on top of the table.

19, 20

Non-man.	raised eyebrows			rai. eyebrows					
Manual	COLLEAGUE	PT:PRO3SG	DC:WALK	DO	WHAT	SIGN	HAPPY	BIRTHDAY	
Spatio-kin.		3	3→1						
Textual	Theme		Rheme	(Theme)		Rheme			

Translation A colleague approached me and what (she) did was sign happy birthday.

21, 22 ,23, 24

Non-manual		wide eyes			gaze shift (towards $_3$)					
					low brows			raised eyebrows		
Manual	PT:PRO1SG	SURPRISE	PT:PRO1SG	ASK	SAY	WHAT		SIGN	AGAIN	
Spatio-Kin.	1		1	1→3						
Textual	Theme	Rheme	Theme	Rh-	-e-			-me		
					(Th)/Rheme			Theme	Rh	

Translation I was really surprised! I asked "What did (you) say? Sign (that) again!"

25, 26

Non-manual		gaze shift				
Manual	PT:PRO3SG	CA:SIGNING	PT:PRO3SG	LEARN	BSL	PT:PRO3SG
Textual	Theme	Rheme	Theme	Rheme		Theme-B

Translation She signed to me. She learned BSL!"

A few points of interest must be highlighted before moving on. Firstly, clause 2 shows an instance where the Theme of the previous clause is ellipsed. However, there is also an instance of Theme ellipsis in clauses 4 and 5, but they do not use the same Theme as that of clause 3. Instead, the ellipsed Theme in clauses 4 and 5 refer to the signer themselves. In BSL literature, only Sutton-Spence and Woll (1999) note the absence of the first person in such structures. In addition, this appears to go against the findings of McKee et al. (2011) who note for Auslan and NZSL (two sign languages in the same language family as BSL; see Johnston, 2003 and Section 2.3 above of this thesis) that "first-person–singular subjects are more likely to be expressed overtly than other subjects" (McKee et al., 2011, p.393). The reason for the ellipsis in clauses 4 and 5 could therefore be due to the implicit nature of who was performing the actions, the use of constructed action in clause 4, or even due to signer preference or productive error.

Another instance of Theme ellipsis occurs in clause 20, wherein the interpersonal Subject of clause 19 is the same as clause 20 (i.e. COLLEAGUE), but is not overtly realised. Clause 20 also shifts the focus of the clause onto the experiential information after the Wh- element. As such, the Theme of clause 20 is partially present: the shift in focus is realised, but the interpersonal Subject is not realised. As this clause is simultaneously

undergoing the effects from the systems of THEME CONTINUATION and CLAUSE FOCUS, I have glossed this Theme in parentheses to represent its 'partial' nature.

The use of Textual Theme occurs in clauses 1, 9 and 15, although there are no instances of Interpersonal Theme in this sample of data. Additionally, most constructions are unmarked, although clause 9 shows a marked construction as the first element that is produced is a circumstantial element. As such, the interpersonal Subject of the clause is incorporated into the Rheme, and the clause is marked.

Clauses 6, 10 and 22 are followed by projections that scope across one or two clauses. In these instances, the Rheme of these clauses also scopes along with their projections, while each dependent clause also contains its own Theme – Rheme structure. However, I present the Theme of clause 23 in parentheses because this clause realises the Theme not as a manual sign, but as a change in direction of the signers' eye gaze as the constructed dialogue begins (i.e. the gaze towards the recipient of the message in the signing space indicates the Theme). Additionally, the first manual element of this clause cannot be classed as the Theme, as this would conflate the textual Theme and the interpersonal Quasi-Finite: as I noted in Table 7-1 above, this would class clause 23 as an imperative clause (such as clause 24), when in fact it is interrogative.

Finally, while most clauses in this sample show no repetition of the Theme within the same clause, there are two instances of repetition in clauses 14 and 26. Interestingly, the use of Theme-B in clause 14 refers to the Theme of clause 12. This is because the Theme of clauses 13 and 14 are the same as that of clause 12, and have therefore been ellipsed. Theme-B in this instance serves to clarify who the signer was signing about, likely as they had not signed the Theme in the previous clause. Conversely, in clause 26, the use of Theme-B adds to the signer's surprise that someone had taken the time to learn BSL on their behalf, thus adding emphasis to the clause.

7.5. Further textual points

Before concluding this chapter, I wish to briefly discuss two final points with regards to the textual metafunction. The first of these concerns an observation I made when analysing my dataset with regards to how the visual-spatial medium may influence textual elements. The second notes a potential issue with the idea of Theme being counted as the first experiential element when there is the necessity to 'set up' the signing space prior to certain types of construction.

7.5.1. The use of space as 'hyper-Theme'

Unlike the interpersonal and experiential metafunctions, it appears that the use of signing space plays a smaller part in the textual metafunction. From what I have presented in this chapter, Theme and Rheme are identified via the sequencing of manual signs, with some influence from co-occurring non-manual features. However, this is not to say that space does not play a part in the textual metafunction, although it seems that such effects appear at levels higher than the clause.

In various chapters in this thesis, I have shown how clause references can be placed in the signing space, often by pointing signs and/or the interaction between manual signs within the signing space (e.g. in depicting constructions of motion). However, the signing space may be used in a broader sense: it is also possible to attribute sections of the signing space (e.g. to the left and right of the signer) with overall topics or themes. For example, if a signer were comparing the policies of two British political parties, the signer may attribute LABOUR to the signing space to their left, and CONSERVATIVE to the signing space to their right. These areas may be referenced throughout subsequent discourse, such as pointing to the left or the right to set LABOUR or CONSERVATIVE respectively as the Theme of the clause in question. However, anecdotal evidence from participants and the data verifiers, coupled with a handful of instances in my dataset, suggest that pointing is not always necessary. Instead, the signer may orient their torso to the left or the right to sign within these spaces, thereby causing the signs produced in these areas to be 'to do with' what was allocated to that space.

In these cases, the different areas of signing space are used to imbue clauses with something akin to an overall 'higher' Theme. Of course, each clause will still comprise its own Theme – Rheme structure, yet the use of signing in a space that is attributed to an overall topic cannot be ignored, as it undoubtedly affects the meanings produced. This effect may be related to Martin's (1992) work on hyper-Theme: an element that "provides a context or orientation for the paragraph" (Matthiessen, Teruya and Lam, 2010, p.113). Although sign languages do not use paragraphs in the traditional sense, a bulk of signing performed in an ascribed signing space could be understood as a 'visual paragraph,' wherein the turn towards a specific signing space, and the subsequent signing within that part of the signing space, sets the hyper-Theme.

Nonetheless, Martin (1992) also defines other components of the hyper-Theme, such as its ability to predict "a pattern of clause Themes constituting a text's method of development" (p.245). Given that I only observed such instances of associating space with 'hyper-Theme' twice in my dataset, I cannot provide detailed commentary on the further effects of this signing strategy, or whether it appears to be a true visual-spatial analogue of the hyper-Theme. However, its use in terms of employing the signing space to convey textual meaning, alongside the explanations provided by the participants and data verifiers, certainly warrants further study.

7.5.2. Identifying Theme alongside productive constraints

In certain BSL constructions, it appears that specific experiential elements favour an initial position in the clause. As I have argued for in this chapter, the first experiential element in the clause is generally understood to be the Theme. As such, a question arises with regards to the necessity of producing certain elements in order and whether or not they are really the Theme of the clause.

In their study of 42 languages, Napoli and Sutton-Spence (2014) refer to theories of visual perception and identify that "when two [manual noun phrases] occur in a locational expression that forms a single clause, the larger, more immobile objects

precede smaller more mobile ones, regardless of theta role or grammatical function" (p.11). In addition, Johnston (1996) states that "one cannot felicitously use the direction of a verbal sign to show the relationship between participants if at least one of their relative locations has not already been established" (p.25). With these constraints in mind, constructions that require the interaction of two elements in the signing space (e.g. a depicting construction of movement) would be influenced by the relative size and mobility of the elements, rather than their thematic prominence. I exemplify this in 7-20 below:

(7-20)

Manual	TREE	PT:LOC	CAT	DC:CAT-RUN-UP-TREE (LH: TREE; RH: CAT)
Spatio-kin.		x		RH towards and 'up' LH at x
Textual	Theme?		Theme?	Rheme
Translation	"The cat ran up the tree."			
Video	tinyurl.com/bslsfl7-20			

In 7-20, TREE is produced first as it is the more immobile and larger of the two participants. However, whether this makes TREE the Theme is debatable. Recalling Matthiessen's (2004) identification of Theme through the values of thematicity, newsworthiness and specificity, it may be argued that TREE is not the element that the signer wishes to denote as "the most important for the listener(s) to integrate with existing meanings" (p.639). In this instance, although TREE is the first experiential element, CAT may instead be the Theme.

Nevertheless, as seen in Section 5.4.1 above, there were also instances of depicting constructions such as 7-21 below, wherein the larger of the two animate participants are placed clause-initially, and seem to fit the requirements of Theme:

(7-21)

Manual	PT:PRO1SG	DOG	PT:PRO3SG	PARK	PT:LOC	DC:WALK-DOG
Spatio-kin.	1		3		x	motion in x
Non-manual		"dog"		"park"		gaze in x
Textual	Theme	Rheme				
Translation	"I walked the dog in the park."					
Video	tinyurl.com/bslsfl5-6					

There appear to be more instances of clauses such as 7-21 than of clauses such as 7-20, but this observation should not be ignored. Again, due to the size and depth of my dataset, I can only hint at this potential constraint, but further investigation into this area is thoroughly encouraged.

7.6. Conclusion

In this chapter, I have presented an insight into how the textual metafunction – the area of meaning concerned with conveying information and prominence – functions in BSL. To begin this chapter, I referred to examples from other languages and the theories from which the notions of Theme and Rheme stemmed, notably the Prague School of Linguistics and the interpretations of these notions by Halliday as noted by Davidse (1987). Although I predominantly used examples of English clauses to present these initial notions, I also noted the effects observed by other systemic functionalists in other languages (see, e.g., Caffarel, Martin and Matthiessen, 2004). This assisted in understanding the primary elements of a clause from a textual perspective, and how they may be applied to BSL.

Following this overview and exemplification of the theory, I moved on to the textual system networks that I derived from my dataset. It was seen throughout these systems that there are many links to the interpersonal and experiential metafunctions, reaffirming Halliday's (1978) identification of the textual metafunction as having an 'enabling' function for interpersonal and experiential meanings. For instance, the textual system of THEME MARKEDNESS has a close relationship to the interpersonal system of MOOD. Also, the textual system of CLAUSE FOCUS appears to 'mimic'

different interpersonal structures (i.e. polar and wh- interrogatives) dependent on whether an interpersonal or an experiential element is in focus.

To finish the chapter, I presented a 26-clause analysis from the textual perspective, and provided potential areas of further investigation once a larger dataset allows for such investigations to occur. This included how a hyper-Theme may be understood to occur in BSL, and how certain productive restrictions based on the visual nature of the language could affect the notion of the (Topical) Theme being the first experiential element of the clause.

Unlike the system networks that I presented for the interpersonal and experiential metafunctions, the textual metafunction does not appear to call on the use of the signing space to any great extent. Perhaps unsurprisingly, based on previous research in systemic functional linguistics, it is the concatenation of clause elements that is important in this metafunction, but this is not to say that the textual metafunction only relies on concatenation. For example, there are many instances that I have presented in this chapter that use non-manual features to identify textual elements and to disambiguate between structures seen in other metafunctions (e.g. in the system of CLAUSE FOCUS).

Overall, this chapter provides a stable basis from which to work on. It is certainly not the full extent of the textual metafunction in BSL, especially given that my dataset contains linguistic data of only one register. Undoubtedly, there is more to be discovered with regards to the construction and interaction of Theme and Rheme in BSL, especially when considering aspects such as the development of Theme in extended discourse between two or more participants. Nevertheless, as I noted in both the interpersonal and experiential chapters (Chapters 5 and 6 respectively), the system network that I have presented in Figure 7-6 above is secure enough to provide a basis for later research to improve and extend it.

As I have now presented the system networks for the experiential, interpersonal and textual metafunctions of BSL, I will draw this thesis to a close in the following, final chapter, reviewing my contributions and presenting my final position on this research.

8. Conclusion

Over the course of this thesis, I have worked towards demonstrating the goal that I set out in my introduction: to show how a language in the visual-spatial modality, BSL, can be described and analysed from a systemic functional perspective. By carrying out an empirical investigation into this area and presenting the results throughout this thesis, I believe that I have achieved this goal. The work that I present here not only adds to an ever-growing body of literature of languages in the visual-spatial modality, but also adds to the body of systemic functional literature that has, until this point, focused almost exclusively on languages in written and spoken modalities.

In this final chapter, I draw together my contributions to the field of linguistics, reflecting on my goal set out at the beginning of this work, and the development of my contributions within each chapter. I move on to speak about the impact and effect that this work can have from both academic and social perspectives. To draw this work to a close, I review the limitations of my work, alongside recommendations for a number of areas to explore in the future, and I present a final reflection on my position as a hearing researcher throughout the compiling of my doctoral thesis.

8.1. Chapter contributions

The overall goal of my work was to join two areas of linguistics. More specifically, having previously subscribed to the theory of SFL, I realised that there was an opportunity to explore how BSL operated from a systemic functional perspective, given that so much work in sign linguistics has been performed from more formal perspectives. Although the breadth of analysis in systemic functional studies covers a range of languages (e.g. Caffarel, Martin and Matthiessen, 2004; Halliday and Matthiessen, 2004, 2014; Lavid, Arús and Zamorano-Mansilla, 2010), including the application of SFL to communication that is not 'linguistic' in the stricter sense (e.g. Kress and van Leeuwen, 2006), only one piece of work by Johnston (1996) references a sign language in any detail. Even so, Johnston does not call on data to reaffirm his claims, and the work overall appears more as a cursory application of SFL to a sign language. As such, before any in-depth analysis

of visual-spatial languages from the systemic functional perspective can be explored (at least to the depth of what is seen in, for example, English), there was the need to understand how the systemic functional approach could be used to describe and analyse a language like BSL. This was the gap in knowledge that my thesis fills.

In my introductory chapter, I noted that there were a few primary audiences to bear in mind during my research. Based on the disparate link between SFL and sign languages (cf. Johnston, 1996), I imagined that there would be systemic functionalists who did not know about sign languages, and sign linguists who did not know about SFL. In addition, there would also be a general audience, perhaps with an interest in linguistics but without substantial knowledge of sign languages or SFL. As such, an introductory presentation of both BSL and SFL, alongside a literature review to display the development of current debates in these fields, was required. I provided these in Chapter 2 and Chapter 3 respectively.

In Chapter 2, I presented aspects of the linguistics of sign languages with a focus on BSL. However, as the link between BSL and British Deaf culture is so strong (Jackson, 2001; Ladd, 2003), it was also necessary to provide a historical background and a brief review of the sociocultural context of BSL. Doing so oriented the reader to understanding the current situation of the British Deaf community, and allowed for an understanding of why I approached my research in a way that involved the Deaf community as much as possible. Following this, I reviewed numerous works covering the linguistics of sign languages (Pfau, Steinbach and Woll, 2012; Baker et al., 2016) and of BSL (Sutton-Spence and Woll, 1999). I explained at a surface level how BSL operates in terms of its phonology, morphology and syntax, and identified further elements that are common or unique to languages in the visual-spatial modality, such as signing space and the use of 'established' and 'productive' lexicons.

Chapter 2 presents an up-to-date review and explanation of our current understanding of BSL from an introductory perspective. This is particularly important when considering the following three factors: the most recent work explaining the linguistics of BSL was compiled nearly twenty years ago by Sutton-Spence and Woll (1999); a

growing body of research concerning the linguistics of BSL has been published since then; and the foremost organisation for BSL qualifications base their assessment of candidates' linguistic knowledge on Sutton-Spence and Woll's work (see Signature, 2016a). Moreover, from first-hand experience of both completing and teaching towards these assessments, there is often ambiguity in what is expected of students, what is 'known' in the academic community, and what native BSL-using teachers argue to be correct, thereby leading to much confusion. One such example is the supposed variance in the overall size of signing space dependent on the level of formality of the interaction: while Sutton-Spence and Woll (1999) believe that a smaller space is used in more informal contexts, more recent research (e.g. Stone, 2011; Rudge, 2015) is yet to confirm this, and anecdotal evidence suggests that this is not always the case.

While the information provided by Sutton-Spence and Woll (1999) is undeniably useful, the research that has since been performed into BSL has not lead to an updated version of this publication, nor any similar publication devoted to the linguistics of BSL. Nonetheless, assessments of BSL continue to rely on resources that are quickly becoming dated. I hope that the information I provide in Chapter 2 demonstrates the need for an updated volume of work that focuses primarily on BSL, and that can be used as a point of reference for students, teachers and researchers of the language.

Following this exploration of BSL, I moved on to introduce and explain SFL in Chapter 3. In a similar vein to Chapter 2, it was not enough to present where systemic functionalism currently stands; there was also the need to explain how SFL had developed, thereby explaining its context-dependent stance and its view of language as a social semiotic (Halliday, 1978). This knowledge of the evolution of systemic functional theory enabled a clearer understanding of the sections that followed, wherein I presented and exemplified the five dimensions of language, as SFL understands language to be a "multidimensional semiotic system" (Caffarel, Martin and Matthiessen, 2004, p.13). These were split into three theoretical and two descriptive dimensions. The theoretical dimensions, which are generally similar across languages, are stratification (the 'layering' of elements of language and of context), metafunction (the simultaneous areas of meaning that are produced in a text) and instantiation (the cline between

potentials and instances of context and language). Conversely, the descriptive dimensions that differ according to the language in question are rank (the representation of part-whole relationships) and system (the paradigmatic sets of options at different ranks). Given that these latter two dimensions vary between languages, I focused on them in greater detail with regards to how they may be used to describe BSL.

In this third chapter, I presented my first major contribution of this thesis: the creation of a lexicogrammatical rank scale for BSL. I created this scale based on the information I provided in Chapter 2 and after feedback from a paper presentation at a systemic functional conference in mid-2016.[81] Overall, what I present in this rank scale is not extensively different from what is seen in other languages such as English (Halliday and Matthiessen, 2014), but the key difference is seen at the morphemic rank, given the complexity and simultaneity of meaning that can be expressed in any one sign. I propose a three-way split in the morphemic rank, in which the manual, non-manual and spatio-kinetic features are accounted for, as it is the simultaneous *combination* of these features instead of their *concatenation* that forms the 'sign' in the rank above.

The lexicogrammatical rank scale of BSL also provided the basis from which my subsequent chapters could work, wherein I explored the descriptive dimension of system in detail. However, to derive, schematise, and provide enough detail in my presentation of these system networks, it was necessary to collect and analyse a suitable set of BSL data. Hence, in Chapter 4, I presented my methodology in terms of the processes of data collection and data analysis. The approach that I took to collecting data and choosing participants was based on existing methods (e.g. Cormier, 2015; Orfanidou, Woll and Morgan, 2015), as well as on methods that I have used for prior research regarding my connections within the Deaf community (Rudge, 2015). Over many weeks, I obtained data that would eventually translate into a dataset comprising of 1,375 usable BSL clauses.

[81] The 26th European Systemic Functional Linguistics Conference (ESFLC26) held in Salzburg, Austria.

Regarding the analysis of these clauses, I reviewed several approaches that have been used by numerous researchers both inside and outside of the field of sign linguistics (e.g. Hodge and Johnston's (2014) work on Auslan from an RRG perspective). As my second contribution to knowledge, I developed a hybrid approach to analysing BSL data that focuses on the interpretation of prosodic and semantic factors to delimit and understand the elements of a BSL clause. In short, by combining these prosodic and semantic elements, it is possible to roughly delimit clauses from a string of signs, followed by a tightening of these clause boundaries based on the enclosed verbal and non-verbal elements. This same method was applied throughout my data, resulting in an adequately-sized and reliable dataset (after verification from third-parties and statistical analysis).

Once I had completed the annotation of my dataset in terms of clause boundaries and elements within each clause, I was then able to move on to the analysis of my dataset from the perspectives of the interpersonal, experiential and textual metafunctions in Chapters 5, 6 and 7 respectively. It is in these chapters that my main contributions to the field are detailed.

In Chapter 5, I explored how the interpersonal metafunction is realised lexicogrammatically in BSL. Prior to any in-depth analysis, I noted from Quiroz (2008) that the interpersonal functional elements often vary between languages, such as the use of Subject and Finite in English compared with the use of Predicator and Negotiator in Japanese. Referring to the concept of grounding also noted by Quiroz, I identified that both polarity and modality are marked within the verbal elements of a BSL clause, but the temporality of a clause is not (i.e. BSL verbs do not inherently inflect for tense). Rather, the timeframe set up by a preceding Adjunct can 'colour' the temporality of the verbal element and of the clause. I therefore identify these verbal elements in BSL as interpersonally Quasi-Finite: elements that can inflect in various manners, but require the 'colouring' of an external element to fully ground the clause.

From my dataset, I identified the networks of MOOD, MODALITY and POLARITY, all similar in form to what is observed in systemic functional descriptions of other

languages at lower delicacies (e.g. Caffarel, 2006; Halliday and Matthiessen, 2014). These networks show that it is possible for clauses in BSL to select for the kind of statement being produced (i.e. giving or requesting information), the level of certainty presented by the signer, and whether to mark the clause as grammatically affirmative or negative. It can also be noted in the realisation statements of these networks and in the examples that I provide throughout the chapter that lexicogrammatical differences are realised only partially by the order of functional elements. Rather, the non-manual and spatio-kinetic elements of BSL production need to be taken into consideration to fully understand the differences in play. This again reinforces the importance of recognising the split in the morphemic rank that I noted in Chapter 4: if these elements are not considered, the lexicogrammatical differences between options in these system networks (and of many others in this work) cannot be fully identified.

Furthermore, I proposed a system of SOCIAL DISTANCE which appears to exploit the signing space to suggest familiarity and/or deference between two or more parties. Similar phenomena have been observed in other sign languages (see Zeshan, 2000, and Barberà, 2014), but the lack of recognition of this effect in BSL literature combined with only fleeting occurrences in my dataset have placed it in a 'suggested but not certain' position. Nonetheless, it was my conversations with BSL users that lead to its inclusion in my work, suggesting that this effect is present but not widely accounted for.

In Chapter 6, I explored how the experiential metafunction is realised in the lexicogrammar of BSL. In a similar vein to Chapter 5, I began by exploring the theory proposed in systemic functional literature, noting how experience can be split into various domains based on the core concepts of 'being,' 'doing' and 'sensing.' I looked at this distribution not only via the semantic values attributed to processes, but also by comparing grammatical reactances (Whorf, 1945; Gleason, 1965) observed across clauses in my dataset.

It has been noted in various systemic functional descriptions of languages that both the realisation and the schematisation of experiences differ quite widely. For instance, there are six main process types identified in English (Halliday and Matthiessen, 2014), while

in German this is reduced to four (Steiner and Teich, 2004), whereas in French there are six processes grouped into three sets (Caffarel, 2006). Likewise, for BSL, I noted a divergence from these six areas of experience, identifying instead four primary selections in the system of PROCESS TYPE. Each appear congruent with what Matthiessen (2004) views as those process types that are more cross-linguistically perceptible: material, mental, verbal and relational process types. I presented examples of each of these alongside a table denoting the lexicogrammatical and semantic elements observed in the realisation of each process type, based on the abovementioned patterns of reactances.

In addition, I presented a simultaneous network of CIRCUMSTANCE to account for elements of the clause that were neither processes nor participants. I schematised this network in a manner similar to those of Matthiessen (1995) and Caffarel (2006), allowing for the selection of more than one type of circumstantial element within the clause, or for no circumstance to be selected at all. I also proposed a close link between PROCESS TYPE and CIRCUMSTANCE, specifically within relational circumstantial clauses wherein a participant is classed as a spatiotemporal circumstance of extent or location.

As a result, the combination of both PROCESS TYPE and CIRCUMSTANCE allows for the identification of all experiential elements – the process, participant(s) and circumstance(s) – within a BSL clause. Each instance of my dataset can be comfortably attributed to one of the four process types (i.e. material, mental, verbal or relational) based both on semantic values the patterns of grammatical reactance. These systems may arguably be applied to further BSL data.

In Chapter 7, I explored how the textual metafunction is represented in BSL. Again, I started by observing how this metafunction is understood in other languages and from a historical perspective, calling on the work of the Prague School (i.e. Mathesius, 1939/1975) that initially developed the notions of 'Theme' and 'Rheme.' I chose to present this metafunction as the last of the tripartite, as the system networks that I derived in this metafunction reflect close links to both the interpersonal and

experiential metafunctions, reaffirming the textual metafunction as 'enabling' (see Halliday, 1978).

I demonstrated numerous different systems with regards to the textual metafunction. Firstly, I identified the system of MULTIPLE THEME, focussing on elements that may precede the first experiential element in the clause (i.e. the first process, participant or circumstance) but are still classed as thematic. While it is not necessary for elements other than the experiential one to appear in Theme position, their occurrence does follow cross-linguistic patterns proposed by Matthiessen (2004), such as the ordering of elements as Textual Theme, followed by Interpersonal Theme, and then Topical Theme.

I then presented the systems of CLAUSE MOOD and THEME MARKEDNESS which operate in tandem. These systems display a distinct relationship to the interpersonal and experiential metafunctions: the choice of MOOD coupled with the choice of whether to highlight an experiential element by moving it into Theme position leads to different conflations of interpersonal and textual elements. In the unmarked case, the most common or 'expected' conflation of elements occurs. Marked structures, conversely, alter the development of the clause and the overall development of the text, to bring prominence to an otherwise non-prominent element.

I also identified the system of THEME CONTINUATION, in which the Topical Theme of a clause may be omitted if the preceding Topical Theme is the same, removing the need to 're-state' the Theme. I added this as a tentative system (similar to the interpersonal system of SOCIAL DISTANCE) as there appear to be other factors at play, likely concerning logico-semantic and interdependency relations across clauses that are related to the logical metafunction which I have not overtly covered in this work (see Section 8.3 below). Nonetheless, looking within the same clause instead of across clauses, I more securely schematised the system of THEME REPETITION to identify whether the Topical Theme is reduplicated. I observed this effect in clauses where the signer wished to provide further emphasis or clarity on these elements.

Finally, I presented the systems found within CLAUSE FOCUS based on the use of structures that appeared to be interrogative in nature but were in fact declarative. Depending on the element of the clause that the signer wishes to focus on – either its polarity or an experiential element – the structure of the clause can be altered in one of two ways: by adding an overt polarity adjunct immediately after appearing to form a polar interrogative, or by using a Wh- element conflating with raised eyebrows (as opposed to furrowed eyebrows; see Section 5.4.2 above) immediately followed by an experiential element. In the former cases, the polarity of the clause takes prominence, whereas the latter cases form something resonant with Halliday and Matthiessen's (2014) thematic equative construction.

My exploration into the textual metafunction revealed that it is possible for BSL users to alter the order of clause elements and to use non-manual features in marked ways in order to change the prominence of certain elements, as has been seen in spoken and written languages (see Caffarel, Martin and Matthiessen, 2004). Furthermore, at the end of this and the other chapters focussing on data analysis (i.e. Chapters 5 and 6), I analysed the same stretch of BSL text from the three different perspectives. These are all compiled into one overall document in Appendix III, where I present how a triple analysis of BSL clauses can be performed both to show the simultaneity of meaning produced in any given clause, and how elements from each metafunction commonly conflate. Although the full analysis presented in Appendix III may appear 'bulky,' it nonetheless reinforces the fact that a triple-perspective analysis can be reasonably performed.

Based on my contributions across these chapters, I can present the following three statements. Firstly, I have shown that it is entirely possible to schematise the lexicogrammar of BSL into system networks related to the interpersonal, experiential and textual metafunctions as understood in the Hallidayan tradition of systemic functionalism (see Halliday, 1978; Halliday and Matthiessen, 2014; cf. Fawcett, 2008). Just as for similar networks in other languages, these represent the paradigmatic organisation of BSL, schematising the choices that are available to a BSL user when making meaning. As I have noted throughout these chapters, the networks are stable

although small, meaning that future research can expand on these 'bases' to greater levels of delicacy and complexity.

Secondly, I have demonstrated that all productive aspects of BSL must be considered when understanding the realisation of functions in BSL. For instance, many of the realisation statements across the networks require the addition and/or ordering of functional elements, but there are also variable uses of space (e.g. SOCIAL DISTANCE), manner of articulation (e.g. the imperative feature of MOOD) and non-manual features (e.g. CLAUSE FOCUS). While the acknowledgement of the co-occurring features other than the 'manual sign' is nothing new in the domain of sign linguistics and of BSL (see, e.g., Deuchar, 1978), such a focus is arguably new to SFL, given that this is the first in-depth systemic functional description of a sign language. As such, if the system networks were to contain realisation statements consisting purely of functional elements understood from what is articulated manually, these realisations would be incomplete, and the systems would not function appropriately.

Although simultaneity plays a big part, the third and final argument that I propose is that the sequential production of elements is still necessary to consider. Johnston (1996) states that "what is noteworthy in sign languages is not the fact of simultaneity but, rather, the number of, and clear preference for, simultaneous elements" (p.3). However, it is also necessary to reflect on the fact that, like languages that operate in other modalities, the development of a text still occurs over time via the concatenation of elements. While some of these elements may show greater levels of simultaneous complexity in their production, there was no instance in my dataset (nor that I can think of in my time as a BSL user) when every element required to understand an utterance was articulated at one moment in time. BSL therefore displays logogenesis – "the creation of meaning over time" (Matthiessen, Teruya and Lam, 2010, p.196) and "the unfolding of meaning in the text" (p.198) – just as other languages do.

8.2. Impact

My contributions in this thesis have applications both within and outside of academia. As I noted above, the analysis of a sign language from the systemic functional perspective has not been completed in such depth before, and what is presented here can contribute to theory and to practice.

8.2.1. Academic impact

The most obvious impact of this work is the knowledge gained from studying a language in the visual-spatial modality through the lens of SFL. This has two possible directions of impact: towards the evolution of theory and analysis in SFL, and towards the expansion of approaches taken in the study of sign languages. Additionally, my work also provides the basis for which other sign languages may be analysed from a functional perspective, whether related to BSL (e.g. Auslan and NZSL) or distinct (e.g. ASL and Libras).

There is also the potential to feed back into the work of spoken and written languages as understood in SFL. Napier and Leeson (2016) identify that "we now know more about language in general as a consequence of research into sign languages" (p.24), so it is possible that the work I present here will assist in on-going studies in SFL, if not in other branches of linguistics. For instance, I drew various parallels between this work and what is observed in English from a systemic functional perspective. However, I also observed other cross-linguistic patterning, such as the ordering of thematic elements in the system of MULTIPLE THEME, and the identification of the four 'common' process types in the experiential metafunction (see Matthiessen, 2004). At the very least, my work goes towards confirming that which has already been hypothesised cross-linguistically in SFL, and reconfirms the linguistic status of BSL.

8.2.2. Outside academia

Studies in SFL have a broad application outside of research (see Halliday and Webster, 2009). One such application is in the domain of language teaching, as reviewed by Gebhard (2012). Observing English language teaching, Gebhard notes the usefulness of SFL-influenced pedagogical approaches, which have "the potential to support [English language learners] and their teachers" (p.5508) in numerous ways. Although preliminary, the work I present here could be used as an assistive tool for those teaching and learning BSL in the same way that systemic functional research has helped teachers and learners of English. Having access to these systems would hopefully enable learners of all levels (i.e. from beginners at Level 1 to trainee interpreters at Level 6) to understand how to create grammatically-appropriate BSL clauses based on the function of the communication.[82] It may also assist BSL teachers when presenting information on the linguistics of BSL, given that the results I present here are based on a corpus of recent data, as opposed to the resources used by the main BSL examination body that have not been updated in nearly twenty years (see above, and Signature, 2016a).

If used in a pedagogical manner, this work could also add to the body of evidence showing the need for BSL as an option in schools. Despite the recognition of BSL as a minority language in 2003 and of more recent developments in Scotland (British Sign Language (Scotland) Act, 2015), there are still many difficulties for both BSL users and those wishing to learn BSL (British Deaf Association, 2015; and De Meulder, 2015). This includes access to BSL as a modern or community language that could be learned in mandatory education, given that learning a second language is now obligatory at Key Stage 2 and Key Stage 3 (Department for Education, 2013). Although Signature (2016b) note that they commenced a pilot programme of BSL education in six schools around the United Kingdom in September 2015, there have been no further updates on this scheme at the time of writing this thesis. Equally, there has been no further recognition by the government that BSL will be an option for pupils to study in the future.

[82] Anecdotally, a common question and concern in the BSL classroom surrounds the idea of 'getting the right sign order.' The work I present here demonstrates that there may be orders in some instances, but it is often the use of non-manual and spatio-kinetic features that requires more attention.

8.3. Limitations and further study

Despite attempting to create a robust contribution to knowledge, there are of course limitations both in my approach and with the potential applications of this work. Throughout my work, I have noted instances where improvements or limitations have affected my research in some way (e.g. my discussion on the benefits and flaws of inter-rater reliability in Section 4.3.5 above), but I briefly summarise the larger limitations of this study below, alongside recommendations of how these may be resolved in the future.

The primary limitation of my study is the size of my dataset. I present a total of 1,375 clauses from 12 participants, which when compared to the size of corpora in other languages (e.g. the BNC) is minuscule. As I discussed in Chapter 4, the size of my dataset is partially due to the logistics of recruiting and recording participants during the time that I had available to complete this study. However, there was also a more pragmatic reasoning for this.

Each video file was subject to numerous viewings and annotations via ELAN (Crasborn et al., 2006), including but not limited to: initial parsing and annotation of individual manual signs; identifying all necessary non-manual and spatio-kinetic features produced by the signer; delimiting potential clauses; and individually annotating systemic functional tiers for the interpersonal, experiential and textual metafunctions. Given that participants signed at native speed, videos also needed to be slowed down to allow for accurate sign and clause delimitation. Furthermore, at the time of writing, no software for the automated analysis of BSL exists, neither from a systemic functional point of view such as the UAMCorpusTool (Version 3; O'Donnell, 2007), nor in general terms. Therefore, the amount of time taken to analyse the productions of 12 participants was extensive, especially as I pursued this as an individual researcher rather than being part of a larger research group.

Matthiessen (2009) notes that "describing a linguistic system takes orders of magnitude longer than analysing a text" (p.54), and hypothesises nine years as a timescale for the

production a complete initial account of a language. This is certainly true of this thesis, and I have pointed out several times above that the systems I present are to be used as a base on which other work can develop. While I propose a level of stability to these networks and their potential applications inside and outside of academia (see Section 8.2 above), I am equally as confident that they are still in the developmental stage. For example, I have looked at only one register of BSL when numerous registers exist (see, e.g., Stone, 2011), and the analysis of these registers will undoubtedly allow for the expansion of these system networks and their rate of selection.[83] For instance, more informal interactions in BSL may present a more frequent selection of the imperative structure in the MOOD system, similar to what is found in English by Eggins (2004).

Additionally, given that manual analysis of BSL is currently the most accurate, 'quickest,' and only way of analysing BSL text, I would only agree with Matthiessen's scale of nine years if multiple people were working on such a project for that amount of time. Even so, as Fontaine (2013) identifies for English, "there is no single volume which could manage a comprehensive view of English grammar" (p.174), thus a 'full and complete' systemic functional grammar of BSL would always be an unachievable target regardless of timeframe.

Another limitation that I noted regards system networks that have only partial evidence based on my dataset, namely SOCIAL DISTANCE in the interpersonal metafunction and THEME CONTINUTATION in the textual metafunction. I decided to schematise and include these systems in my work due to their momentary occurrences in my dataset, and based on the research of these occurrences in other sign languages or on the suggestions given from participants and data verifiers. Furthermore, as I noted in Chapter 7, it is extremely likely that the system of THEME CONTINUATION has a great dependency on the logical metafunction, given that this system observes elements both within and prior to the clause in question. The logical metafunction is concerned with

[83] In terms of variation, it is known that there is regional lexical variation (Stamp et al., 2015). However, a short investigation I performed into the differences between BSL users in Bristol and those in Manchester seem to show little variation on the level of the clause. I present this not as academic fact, but as a starting point for those interested at looking at BSL in different regions of the UK.

the complexing of units, including clauses, specifically with regards to their taxis (i.e. the coordination and subordination of elements) and how they relate to one another logico-semantically (see Chapter 7 of Halliday and Matthiessen, 2014). Pfau and Steinbach (2016) note that the relationships between clauses in sign languages is still debated, and that "complex clauses in general and subordination in particular are still understudied fields in sign language linguistics" (p.25). Moreover, very little work has been performed in this area for BSL. What has been suggested, however, in works such as Johnston (1996) is that the signing space plays a big part in this metafunction, wherein clauses can be 'placed' and re-referred to by manual movement and changes in body orientation (see Figure 8 of Johnston, 1996). While I am certain that my work presented in this thesis would assist in researching the logical metafunction, the amount of data and time required are beyond the scope of this thesis.

In terms of the range of future research that can be followed from my work, it is worthwhile to consider Matthiessen's (2007) overview of the 'directions' of research. I have tabulated his comments and provide them in Table 8-1:

Availability of resources		**Peirce's**	**Approach**
System description	*Text analysis*	**reasoning**	**type**
Existing	Non-existing	Deduction	Corpus-based
Existing	Existing	Abduction	Discourse analysis
Non-existing	Existing	Induction	Corpus-driven

Table 8-1- Directions and types of research (based on Matthiessen, 2007).

According to Table 8-1, my study has taken a largely inductive approach, as the descriptive features of BSL – the lexicogrammatical rank scale and multiple system networks – were created based on a set of instances of text. However, there were also times where I employed deduction (albeit in a minor fashion) during the research process, to ensure that what was presented in the system networks could be applied back onto the text under analysis. Fontaine (2013) reinforces this circular deductive-inductive process, noting that "the theory drives the approach to analysis and the results

of any analysis will then, in turn, inform the theoretical model" (p.220). Nonetheless, there are still many more deductive approaches that can be taken after further inductive processes have been completed. Given enough time and research, further abductive processes can then commence.

Of course, there are also issues surrounding recommended studies that require further deliberation. As noted above, the time taken to compile even a small corpus of BSL is extensive. There could be the option of performing such an analysis in a team, thereby reducing the time needed to analyse the data, but then issues of cross-coder accuracy could emerge. As such, guidelines similar to those produced by researchers in the BSL Corpus Project (Cormier et al., 2015) would be required.

A related issue involves the coding and analysis of data involving two or more participants communicating in BSL. Cursory observations of BSL users communicating with one another in informal scenarios present a range of methodological hurdles not addressed here, such as an extensive use of abandoned structures, the increased use of gesture and partially-articulated signs, and the use of shared signing space leading to frequent ellipsis of clause elements. While I doubt that these issues are impossible to overcome, they will certainly require extensions to the methodology that I have presented in this work.

8.4. The hearing researcher revisited: a reflexive view

Before concluding, I feel it is important to provide a brief reflection of my time as a hearing researcher in the Deaf community. In my introduction, I provided a short rationale with regards to my sociocultural and professional position as a hearing researcher who works with members of the British Deaf community. To reiterate, I understood my position as one of a "hearing interloper" (Napier and Leeson, 2016, p.66) from a positive perspective. In other words, my work involves interacting with and including the Deaf community in as many steps as possible, rather than 'taking' without reciprocation or acknowledgment. Although I am a relatively proficient BSL user, I do not identify as part of the Deaf community. In addition, I recognise that I form part of

a stereotypically privileged community (i.e. white, male, middle class, and University-educated), and that such sociocultural and physiological distinctions can present difficulties.

Aside from acknowledgement, one possible (albeit extreme) resolution to these difficulties is to step back from the research entirely. For instance, Obasi (2014), who worked as a hearing researcher with different minority communities including the British Deaf community, recognised herself as an 'outsider.' She argues that when researching communities that are outside of the researcher's sociological domain, "one's location as a researcher and the position in relation to 'knowledge' and 'experiences' will have an impact" (p.75). After reflection, Obasi withdrew data that involved the Deaf community, stating that any interpretation she could have given for those participants could "only be seen as limited, partial and boundaried" (ibid.).

Given the highly sensitive qualitative nature of Obasi's research on cultural experiences, I do understand her decision. I have not taken such a stance in this thesis for the following reasons. Firstly, despite not forming a part of the Deaf community, I can still use my specialist knowledge in linguistics to provide a professional viewpoint on what I believe is occurring in BSL. This is not to say that my contributions are infallible, as indeed any researcher's contributions are not without fault, regardless of group membership or audiological status. However, I believe that to create a division wherein only Deaf BSL users can research BSL would be misguided: although it is imperative to include those in whichever community is being studied to ensure validity, relevance, acknowledgement and cross-cultural cohesion, it is just as important to remember that each researcher brings with them their own background knowledge, experiences and opinions. Hearing researchers, hearing signers and positively-viewed hearing 'interlopers' may even exploit their privilege to promote awareness and understanding of Deaf culture, acting as a bridge between communities.

Relatedly, in every step that I took during my research, I reflected on how the Deaf community could be justly represented and included. This is particularly evident in Chapter 4 when I considered the collection, verification and interpretation of BSL data.

However, there were other instances of community presence, including but not limited to: being taught by members of the local Deaf community to ensure an adequate level of proficiency in BSL; meeting with members of the British Deaf community to discuss aspects, from sign linguistics to the importance of BSL as part of cultural identity; and inviting the British Deaf community to take part in a pilot study that was used as a catalyst to this thesis. Importantly, none of these things I did for 'appeasement' or 'recognition.' Rather, this was an ethically and morally sound approach for any researcher in my position to take, no matter the language, culture, or group in question.

Despite frequent reflection on and awareness of my sociocultural position, parts of the research process were not without issue. Although I implemented steps to mitigate issues caused by the disparity in sociocultural positions, some barriers remained. For example, I noted in Section 4.2.1 above that when I started to gather participants for the study, it was not possible to approach people in a cold calling manner. Despite providing explanations in BSL (both face-to-face and online) of who I am as a researcher and of the project itself, many did not feel comfortable in participating, or even communicating with me. I attribute this to my 'outsider' status, individual ideologies, and perceived communication difficulties. As I noted in Chapter 4, to solve this issue I called on members of the Deaf community with whom I had previously interacted and built rapport, who then became 'ambassadors' for my work and reassured others that my intentions were not untoward. Nevertheless, I believe that had this work have been performed alongside a member of the Deaf community, far more participation would have been registered.

Over the course of my doctoral research, I have become far more aware of the tensions that can exist between different communities. For example, several books in the domain of sign language linguistics were published prior to and during my research (see, e.g., Pfau, Steinbach and Woll, 2012; Orfanidou, Woll and Morgan, 2015; Schembri and Lucas, 2015; Baker et al., 2016; and Napier and Leeson, 2016). While each volume arguably provides useful insights, most contributors and editors of these works are hearing. On various occasions, there were instances of animosity from parts of the Deaf community as a result, particularly in the domains of online communication (i.e. mailing lists, social

networking, etc.), with concerns regarding the reflexivity enacted and privilege held by contributors and editors being raised, with some fearing misrepresentation and a return to oralist traditions. There have even been instances where these concerns were directed towards me and my research, both in electronic communications and in face-to-face interactions at conferences and elsewhere. I reassured those concerned that this work would be as accurate and as representative as possible, with input from the Deaf community wherever suitable. Nevertheless, the act of balancing community concerns whilst trying to be representative, coupled with difficulties of engaging the community when being a 'hearing interloper' creates a paradoxical situation. While I cannot provide a specific solution, it is hoped that any hearing researcher in this area of study – whether new or senior – understands the need for constant reflection and inclusion of the community in question throughout the research process.

To summarise, my study is the first recorded attempt of analysing British Sign Language through the lens of Systemic Functional Linguistics. The descriptive elements that I have provided, including the lexicogrammatical rank scale, the various system networks, and the examples from my dataset, are based on countless hours of transcription, verification, trial, error, amendment, and eventually approval. In every step, I have strived to create not only a piece of novel research, but also a resource that can be used by others to develop this area in whichever way they see fit. Nonetheless, I do acknowledge that even if this were the most detailed account of BSL with the most intricate and in-depth system networks, it would still be subject to change as new data is analysed. As Fontaine (2013) notes, "language itself is not designed to conform to our models so there will always be instances that will perplex even the best one" (p.217). Nevertheless, what I present in this thesis adds to our collective understanding of the use of human language in the visual-spatial modality, alongside links to human communication in general, even if it is just the tip of a very large iceberg.

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Appendix I: Aggregated features of context according to three systemic functional theorists

	Feature	Theorist(s)	Definition
Field	Socio-semiotic activity	C	The action(s) performed within of the communication
	Topic	C	The matter dealt with in the communication
	Institutionalisation	A	The cultural expectations of communication in certain environments
	Participant	A	The knowledge that each participant brings to the scenario
	Semantic domain	A; B	The extent to which the language employed is technical/specialised or everyday
Mode	Division of labour	C	The split between the semiotic systems in the interaction
	Orientation	C	The direction to which the text is semantically intended (either ideational or interpersonal)
	Rhetorical mode	C	The function of the communication
	Turn	C	The structure of the text (e.g. monologic vs. dialogic)
	Medium	A; C	How the communication is formed
	Channel	C	The sensory means by which the communication is performed
	Preparedness	A	Whether a text is produced spontaneously or has been planned prior to the interaction
	Feedback	A; B	The measure of response (time and distance) to a communication
	Experiential distance	A; B	To what degree the text relates to the surrounding environment
Tenor	Roles	A; C	The social functions played by the interlocutors
	Power	B; C	The perceived distributions of authority between the roles
	Familiarity	B; C	How well-known the participants are to one another
	Sociometrics	B; C	How emotionally committed participants are to a situation
	Valuation	C	The level of positivity or negativity with which the participants imbue the situation
	Contact	B	How regularly the participants interact
	Formality	A	How formal or informal the situation is interpreted by the participants
	Focus	A	The direction to which the interaction is semantically intended (either ideational or interpersonal)

Key (for 'Theorist(s)' column): A – Leckie-Tarry (1995); B – Eggins (2004); C – Halliday and Matthiessen (2014).

Appendix II: Inter-rater reliability (Krippendorff's α) data

Clause	*Original*	*Rater 1*	*Rater 2*	*Rater 3*
1	✓	✓	✓	✓
2	✓	✓	✓	✓
3	✓	✓	✓	✓
4	✓	✓	✓	✓
5	✓	✓	✓	✓
6	✓	✓	✓	✓
7	✓	✓	✓	✓
8	✓	✓	✓	✓
9	✓	✓	✓	✓
10	✓	✓	✓	✓
11	✓	✓	✓	✓
12	✓	✓	✓	**X**
13	✓	✓	✓	✓
14	✓	✓	✓	✓
15	✓	✓	✓	✓
16	✓	✓	✓	✓
17	✓	✓	✓	✓
18	✓	**X**	✓	✓
19	✓	✓	✓	✓
20	✓	✓	✓	✓
21	✓	✓	✓	✓
22	✓	✓	✓	✓
23	✓	✓	✓	✓
24	✓	✓	✓	✓
25	✓	✓	✓	✓
26	✓	✓	✓	✓
27	✓	✓	**X**	✓
28	✓	✓	✓	✓
29	✓	✓	✓	✓
30	✓	✓	✓	✓
31	✓	✓	✓	✓
32	✓	✓	✓	**X**
33	✓	✓	✓	✓
34	✓	✓	✓	✓
35	✓	**X**	**X**	✓
36	✓	✓	✓	✓
37	✓	✓	✓	✓
38	✓	✓	✓	✓
39	✓	✓	✓	✓
40	✓	**X**	✓	**X**
41	✓	✓	✓	✓
42	✓	✓	✓	✓
43	✓	✓	✓	✓
44	✓	✓	✓	✓
45	✓	✓	✓	✓
46	✓	✓	✓	✓
47	✓	✓	✓	✓
48	✓	✓	✓	✓
49	✓	✓	✓	✓
50	✓	✓	✓	✓
51	✓	✓	✓	✓
52	✓	✓	✓	✓
53	✓	✓	✓	✓
54	✓	✓	✓	✓
55	✓	✓	✓	✓
56	✓	✓	**X**	✓
57	✓	✓	✓	✓
58	✓	✓	✓	✓
59	✓	✓	✓	✓
60	✓	✓	✓	✓
61	✓	✓	✓	✓
62	✓	✓	✓	✓
63	✓	✓	✓	✓
64	✓	✓	✓	✓
65	✓	✓	✓	✓
66	✓	✓	✓	✓
67	✓	✓	✓	✓
68	✓	✓	✓	✓
69	✓	**X**	✓	✓
70	✓	✓	✓	✓
71	✓	✓	✓	✓
72	✓	✓	✓	✓
73	✓	✓	✓	✓
74	✓	✓	**X**	✓
75	✓	✓	✓	✓

Pairwise agreement:

Original vs. 1	94.67%
Original vs. 2	94.67%
Original vs. 3	96.00%
1 vs. 2	92.00%
1 vs. 3	93.33%
2 vs. 3	90.67%
Average agreement	**93.56%**

Krippendorff's α:

Number of cases	300
Krippendorff's α	**0.935**

Appendix III: A tri-metafunctional analysis of a BSL text (Video: tinyurl.com/bslsfl-sample)

1, 2

Non-manual	raised eyebrows						
Manual	BEFORE	PT:PRO1SG	18-YEARS-OLD	FIRST	JOB	HAVE	
Interpersonal	Adjunct	Subject / Quasi-Finite	Complement	Complement		Quasi-Finite	
Experiential	Circumstance:location	Index / Process:relational	Aspect	Aspect		Process:relational	
Textual	Textual Theme	Theme	Rheme	Rheme			

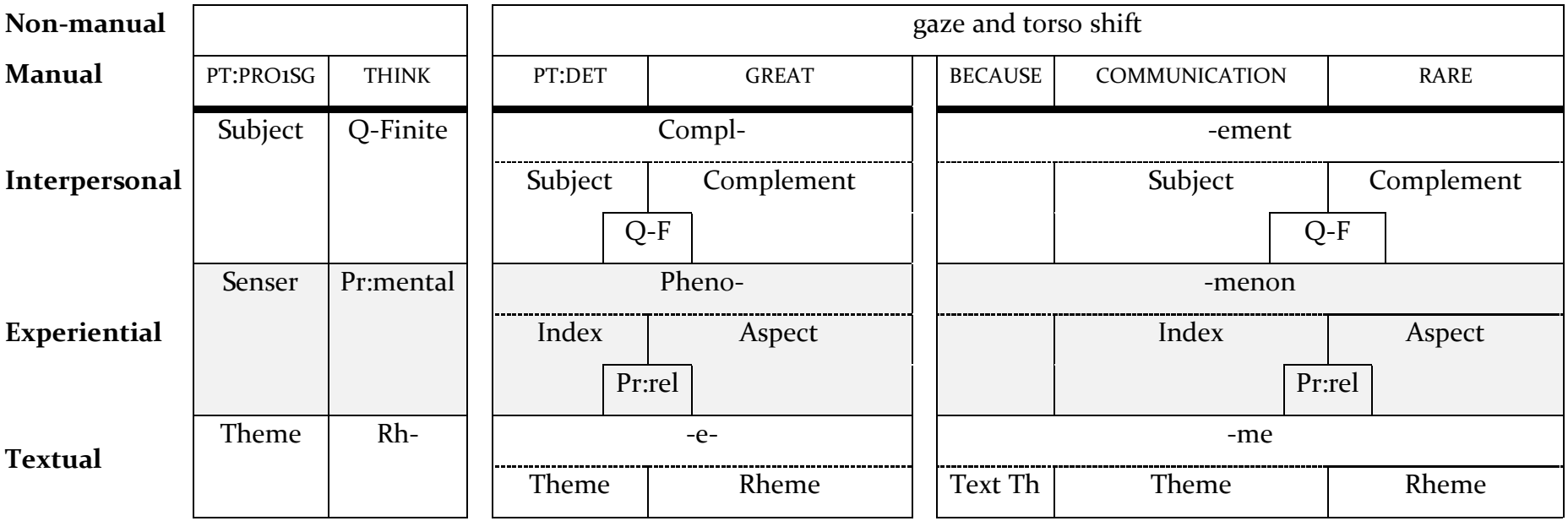
Translation "When I was 18 years old, (I) had my first job.

3, 4, 5

Non-manual	raised eyebrows			nod		gaze shift			
Manual	JOB	PT:DET	WHAT	ADMIN	COMPUTER	CA:TYPING		DATA	CHECK
Interpersonal	Subject		Wh	Complement	Complement / Subject/Quasi-Finite			Complement / Subject/Quasi-Finite	
Experiential	Index		Pr:relational	Aspect	Goal / Actor/Pr:material			Goal / Actor/Pr:material	
Textual	Theme			Rheme	Rheme			Rheme	

Translation As for the job, it was administration: (I) typed on the computer (and I) checked data.

6, 7, 8



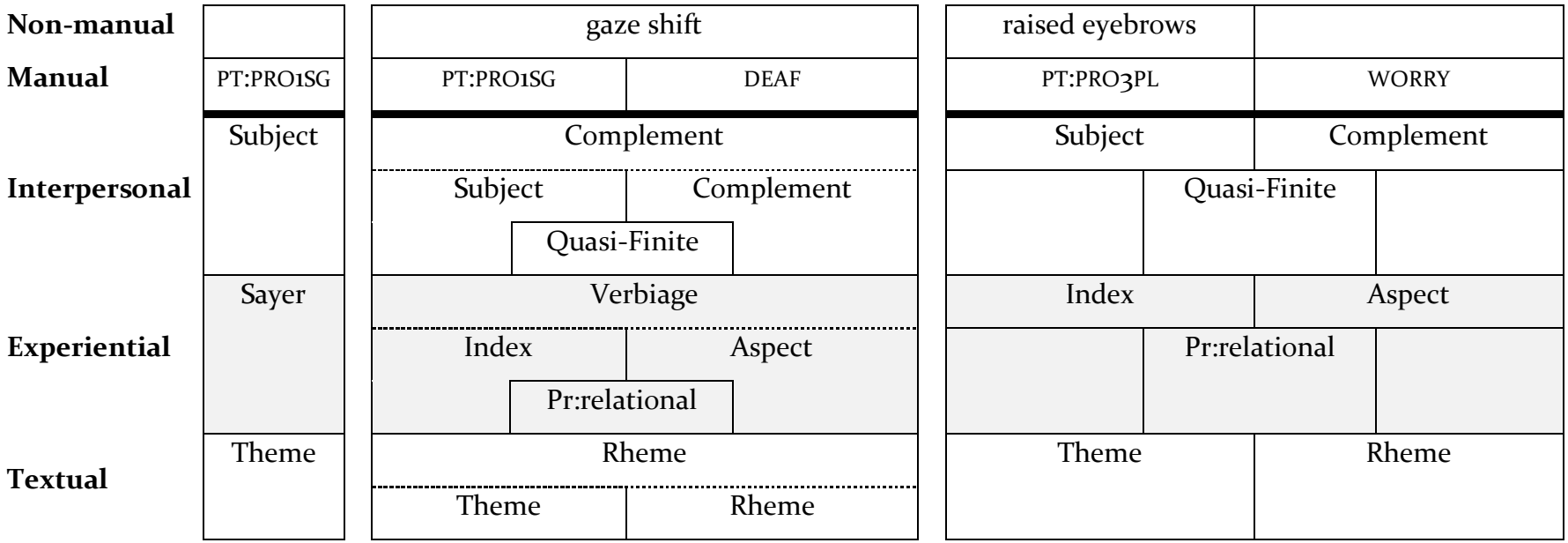
Translation I thought, "This is great because I won't have to communicate very much."

9

<table>
<tr><td>Manual</td><td>BUT</td><td>FIRST</td><td>DAY</td><td>COLLEAGUE</td><td>PT:PRO3PL</td><td>ASK</td><td>ASK</td><td>ASK</td></tr>
<tr><td>Spatio-kinetic</td><td colspan="4"></td><td>3 SWEEPING</td><td>3→1</td><td>3→1</td><td>3→1</td></tr>
<tr><td rowspan="2">Interpersonal</td><td rowspan="2"></td><td colspan="3" rowspan="2">Adjunct</td><td colspan="4">Subject</td></tr>
<tr><td colspan="3">Quasi-Finite/Complement</td></tr>
<tr><td rowspan="2">Experiential</td><td rowspan="2"></td><td colspan="3" rowspan="2">Circumstance:location</td><td colspan="4">Sayer</td></tr>
<tr><td colspan="3">Process:verbal/Recipient</td></tr>
<tr><td>Textual</td><td>Textual Theme</td><td colspan="3">Theme</td><td colspan="4">Rheme</td></tr>
</table>

Translation But, on my first day, my colleagues asked me (a lot of questions).

10, 11, 12



Translation I (signed), "I'm Deaf." They all became worried.

13, 14

Non-manual		headshake	raised eyebrows		headshake	
Manual	COMMUNICATE	CAN	DEAF	AWARE	NO	PT:PRO3PL
Interpersonal	Quasi-Finite		Complement		Adjunct	Subject
		Quasi-Finite:modal		Quasi-Finite		
Experiential	Process:verbal		Aspect			Index
				Pr:relational		
Textual	Rheme		Rheme			Theme-B

Translation (They) couldn't communicate (with me). They were *not* Deaf aware.

15

Non-manual				raised eyebrows	
Manual	OVER-TIME	PT:PRO1SG	WORK	WHEN	BIRTHDAY
Interpersonal		Subject	Quasi-Finite	Wh	Adjunct
Experiential		Actor	Pr:material	Circumstance:location	
Textual	Textual Theme	Theme			Rheme

Translation Later on, the day that I was working was my birthday.

16, 17, 18

Non-manual					gaze at PT		gaze at DC	
Manual	PT:PRO1SG	REMEMBER	KITCHEN	TABLE	PT:LOC	CAKE	DC:CAKE-ON-TABLE	
Interpersonal	Subject	Quasi-F	Complement	Subject	Complement	Subject	Complement	
				Quasi-Finite		Quasi-Finite		
Experiential	Senser	Pr:mental	Phenomenon	Index	Aspect	Index	Aspect	
				Pr:relational		Pr:relational		
Textual	Theme	Rheme		Theme	Rheme	Theme	Rheme	

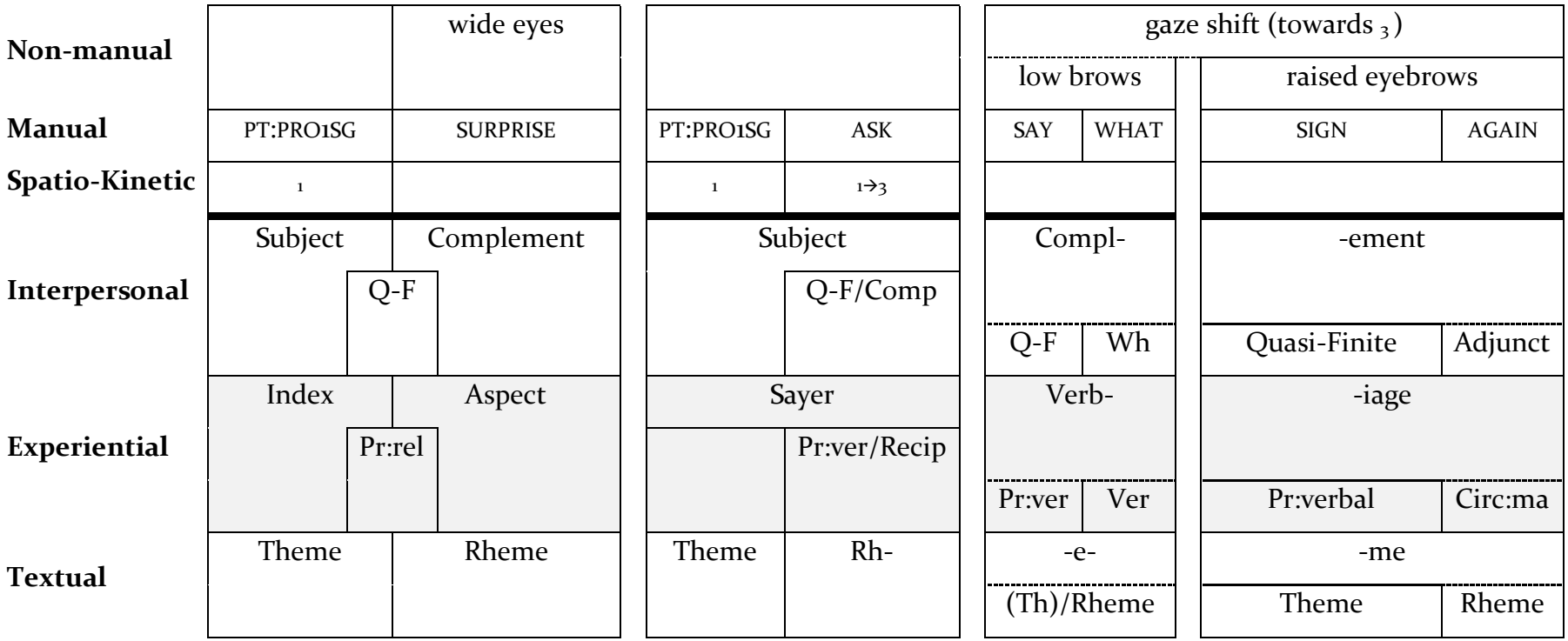
Translation I remember the kitchen: the table was there and a cake was on top of the table.

19, 20

Non-man.	raised eyebrows			raised eyebrows					
Manual	COLLEAGUE	PT:PRO3SG	DC:WALK	DO	WHAT	SIGN	HAPPY	BIRTHDAY	
Spatio-kinetic		3	3→1						
Interpersonal	Subject			Q-F	Wh	Q-F	Complement		
		Quasi-Finite/Complement							
Experiential	Actor			Pr:verbal			Verbiage		
		Pr:material/Goal							
Textual	Theme	Rheme		(Theme)		Rheme			

Translation A colleague approached me and what (she) did was sign happy birthday.

21, 22 ,23, 24



Translation I was really surprised! I asked “What did (you) say? Sign (that) again!”

25, 26

Non-manual		gaze shift	raised eyebrows			
Manual	PT:PRO3SG	CA:SIGNING	PT:PRO3SG	LEARN	BSL	PT:PRO3SG
Interpersonal	Subject		Sub-	Quasi-Finite	Complement	-ject
		Quasi-Finite/Complement				
Experiential	Sayer		Sens-	Pr:mental	Phenomenon	-ser
		Pr:verbal/Recipient				
Textual	Theme	Rheme	Theme	Rheme		Theme-B
Translation	She signed to me. She learned BSL!"					