# The Everyday Use of *pretend* in Child Language and Child-Directed Speech: A Corpus Study

Dissertation

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## List of Abbreviations

| | |
|---|---|
| AS | Action Schema |
| BNC | British National Corpus |
| CDS | Child-Directed Speech |
| CHAT | Codes for the Human Analysis of Transcripts |
| CHI | Child |
| CHILDES | Child Language Exchange System |
| CL | Cognitive Linguistics |
| CLAN | Computerised Language Analysis |
| CMS | Caused-Motion Schema |
| COCA | Corpus of Contemporary American English |
| DDB | Dense Database |
| ECD | English-Language CHILDES Database |
| EMS | Emotion Schema |
| Eng-NA | CHILDES Corpus Data from North America |
| Eng-UK | CHILDES Corpus Data from the United Kingdom |
| FDW | Force-Dynamic World |
| MC | Manchester Corpus |
| MOT | Mother |
| OS:P | Occurrence Schema: Processes |
| OS:S | Occurrence Schema: States |
| n | Sample size, most often referring to number of participants/subjects |
| PERCOG | Perception/Cognition Schema |
| POSS | Possession Schema |
| r | Pearson's r: the value of the Pearson product-moment correlation co-efficient |
| SES | Socioeconomic Status |
| SMS | Self-Motion Schema |
| SS:LS | Spatial Schema: Location Schema |
| TC | Thomas Corpus |
| TS | Transfer Schema |
| WEIRD | Western, educated, industrialised, rich and democratic |

## List of Relevant CHAT Transcription Markers

| | |
|---|---|
| 0word | omitted word (e.g., *I 0am a baby chicken.* = am was omitted) |
| [*] | error at the word level (e.g., *these balloon is [*] broken*) |
| <text> | indicates the words that a particular marker refers to |
| [>] and [<] | indicate conversational overlap. [>] = (overlap follows); [<] = (overlap precedes) |
| text(text)text | noncompletion of a word (e.g., *(pre)tend* = word is pronounced *tend*) |
| 0 | indicates an action without speech |
| (.) | indicates a pause |
| %act | action tier |
| %par | paralinguistic tier indicating behaviours such as laughing and crying |
| <bef> | indicates an occurrence before an action |
| <dur> | indicates an occurrence during an action |
| %mor | morphological tier |
| [/] | repetition, (e.g. *<just pretend> [/] just pretend*) |
| [//] | retracing of an utterance (e.g., *<we could pretend this> [//] is this the horse's field today?*) |
| + | marks compounds (e.g., *fire+enginge*) |
| xxx . | unintelligible speech |
| & | phonological fragment/filler (e.g., *&uh, &em*) |
| [=! text] | indicates paralinguistic material (e.g., *<la la la la la> [=! sings]*) |
| _ | marks linkages (e.g., *want_to; Fireman_Sam*) |
| [+ SR] | self-repetitions |
| [+ PI] | partially unintelligible utterances |
| @o | onomatopoeia (e.g., *psst@o*) |
| @c | child-invented form (e.g., *snipsnip+man@c: hairdresser*) |

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# 1. Introduction

With a total height of 829.8 metres, the Burj Khalifa in Dubai, opened in 2010, is the tallest building in the world. It has 163 floors, 57 lifts and eight escalators. Up to 12,000 workers were involved in its construction, which took over six years. Given these numbers, we could rightly say that the Burj Khalifa represents one of the pinnacles of human technological and cultural advancement. We could also rightly say that no other animal on the planet could achieve such an impressive feat.

Just as our ability to build skyscrapers, our capacity for language has no known parallel in the natural world. Other animal communication systems can be of exceptional complexity (see, e.g., Fitch 2010: 143-204; Hurford 2012: 3-99; Zuberbühler 2012 for reviews, but see Anderson 2004 for a sceptical view). Bees can indicate the location of flowers through dancing (e.g., von Frisch 1967). Several monkey species have a number of different alarm calls for different types of predators and situations (e.g., Cheney & Seyfarth 1990: 98-183; Zuberbühler 2012). In their study of the gestures used by wild chimpanzees, Hobaiter and Byrne (2014) found that they use 66 gestures to convey 19 different meanings, such as "groom me," "move closer," "initiate play" or "stop that," which they use flexibly and intentionally (see, e.g., Liebal et al. 2014: 77-84, 154-216; Genty & Zuberbühler 2015; Moore 2016; Pleyer 2017a: 76-77 for discussion).

Symbol-trained non-human animals have acquired an even more impressive inventory of form-meaning pairings, which they can use communicatively and in comprehension. Language-trained apes are reported to have acquired between 68 to 256+ signs in peer-reviewed publications (cf. Lyn 2012). The grey parrot Alex (1976-2007) was able to label ">50 objects, seven colors, five shapes, quantities to eight, three categories (color, shape, material) and used 'no,' 'come here,' 'wanna go X,' and 'want Y' (X, Y being appropriate location or item labels)" (Pepperberg 2012: 297). In addition, he was able to combine labels "to identify, request, comment on, or refuse >150 items and to alter his environment" (Pepperberg 2012: 297). Dogs also have been shown to be able to acquire a large number of sound-item mappings, with border collie Rico (1994-2008) having been shown to have an inventory of about 200 of such mappings (Kaminski et al. 2004), and border collie Chaser (*2004) being able to retrieve 1,022 toys by name (Pilley & Reid 2011).

Non-peer-reviewed reports even claim that the gorilla Koko (1971-2018) was able to use around 1,000 signs, and that the bonobo Kanzi (*1980) is able to use around 500 symbols and understand 3,000 spoken words (cf. Lyn 2012).

However, these numbers pale in comparison to humans. Estimates for how many words an adult speaker knows range from between 50,000 to 150,000 items (Tallerman 2009; Hurford 2012: 261). If we look at the acquisition of this inventory, we find that at around 18 months of age, children know about 50 words (they reach this stage between 15-24 months; Fenson et al. 1994). By 24 months, their vocabulary ranges from 100 to 600 words (Fenson et al. 1994). That is, by 24 months, the vocabulary of many children is already bigger in size than the inventories of language-trained great apes in the peer-reviewed literature.

Children's vocabulary grows rapidly in childhood (see, e.g., Clark 2009: 75-93; Hoff 2014: 138-167; Saxton 2017: 156-163 for reviews). This can be seen, for example, when analysing the type frequency of the Thomas corpus (Lieven et al. 2009) and the Manchester corpus (Theakston et al. 2001) in the CHILDES database (MacWhinney 2000), which are the two corpora the current study is based on. For the twelve children in the Manchester corpus, the type frequency for all transcripts between age 2 and 3 ranges between 1,211 types to 2,425 types.[1] In comparison, when we analyse the age range between 3 and 4 in the Thomas corpus, the type count of the one child in this corpus, Thomas, is 4,767. For the entire sampling range from 2 years to 5 years, Thomas produces 9,059 different word types in total. At the age of 6 children know an average of about 14,000 words (Templin 1957). This vastly outnumbers even the claims made for the vocabularies of Koko and Kanzi both in production and reception (cf. Pleyer 2017a: 78). Humans are an "animal symbolicum" (Cassirer 2006: 31), and our species is clearly marked as "the symbolic species" (Deacon 1997).

However, the human capacity for language goes well beyond merely storing large numbers of lexical items. Humans have knowledge of a vast number of constructions[2] of differing degrees of schematicity and abstractness. These are

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[1] This study will follow the usage in developmental psychology and will write ages as numbers (2) instead of words (two).

[2] As it is extremely hard to 'count' how many constructions there are, there are also no reliable estimates of how many constructions a speaker might know (William Croft, personal communica-

connected in a structured network and enable them to produce an unlimited number of syntactically well-formed utterances that have never been uttered before (cf. Chomsky 1957: 13; Chomsky 1965: 8-9; Goldberg 1995: 7; Chomsky 2002: 88-101), such as "colourless green ideas sleep furiously" (Chomsky 1957: 15), "wetting the sandwich is hereby explicitly relegated to a pretend mental space" (see Section 6.4.1), "we are the knights who say ni" or "hold the newsreader's nose squarely, waiter, or friendly milk will countermand my trousers." The key difference here is the following: There is evidence that some non-human animals can combine some of their signals to a limited degree into larger units with a meaning that is derived or transparent (e.g., Arnold & Zuberbühler 2006; Ouattara et al. 2009; Collier et al. 2014). However, in general, "no non-human has any semantically compositional syntax, where the form of the syntactic combination determines how the meanings of the parts combine to make the meaning of the whole" (Hurford 2012: 96).

Clearly, then, not only the ability to build skyscrapers but the capacity for language is also uniquely human. However, as Tomasello and colleagues (2005: 690) argue,

> [s]aying that only humans have language is like saying that only humans build skyscrapers, when the fact is that only humans (among primates) build freestanding shelters at all. Language is not basic; it is derived. It rests on the same underlying cognitive and social skills that lead infants to point to things and show things to other people declaratively and informatively, in a way that other primates do not do, and that lead them to engage in collaborative and joint attentional activities with others of a kind that are also unique among primates.

On this view, it is children's cognitive and especially social skills that enable them to learn language, which then enables humans to engage in complex human activities, from hunting together, to rowing a boat together, to building skyscrapers together.

Decades of research on the development of social cognition and language have shed light on the sociocognitive foundations of language acquisition and its expression in interaction and development. One prominent strain of research has focussed on the importance of perspective-taking and perspectivation for human

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tion). However, it is to be expected that the number of constructions entrenched in a speaker's inventory would go well beyond the number of lexical items they know (see Pleyer 2017a: 78 for discussion).

social cognition and our unique forms of interaction. Although both of these terms are highly complex, in general *perspective-taking* refers to attempts of seeing a situation from a different visual or cognitive point of view, and *perspectivation* refers to the process of setting, establishing, or expressing a particular perspective in interaction. In Cognitive Linguistics, our ability to adopt different viewpoints, and use language as an instrument for perspectivation, is often framed using the concept of *construal* (e.g., Verhagen 2007; Langacker 2015). These terms will therefore be of central importance to the present study.

The phenomenon of perspectivation in language, cognition, and interaction is a fundamental feature of how meaning is constituted and how knowledge and experiences are shared in discourse. It therefore captures a vital dimension of meaning construction. Both human cognition and communication are always tied to a particular frame of reference or perspective. We perceive and conceptualise objects, events and situations from a particular cognitive point of view, meaning that some aspects are highlighted while others are backgrounded. All conceptualisations, and meaning more generally, are therefore fundamentally perspectival in nature (Graumann & Kallmeyer 2002; Köller 2004: 3-27; Verhagen 2005: 1-27; Pleyer 2014b: 236).

This makes the notion of perspectivation an extremely important concept in cognitive science, for example in linguistics (Köller 2004), especially Cognitive Linguistics (e.g., Verhagen 2007; Langacker 2008: 55-89), as well as in historical linguistics (e.g., Fonteyn & Hartmann 2016; Hartmann 2016: 21-28; Fonteyn 2019), first and second language acquisition research (e.g., Clark 1997; Robinson & Ellis 2008), developmental and comparative psychology (e.g., Piaget 1974; Moll & Tomasello 2007a), psycholinguistics (e.g., Barr & Keysar 2006; Brown-Schmidt & Heller 2018), conversation analysis and the study of talk-in-interaction (e.g., Graumann & Kallmeyer 2002) as well as language evolution research (e.g., Tomasello 1999, 2008; Pleyer 2012a; Pleyer & Hartmann 2014). The concept of perspective can therefore be used as an interdisciplinary and integrative concept at the interface of these different disciplines. Studying the development of perspective can enable a fruitful mutual dialogue and make important contributions towards a more complete picture of the role of perspective and perspectivation in language, cognition, and interaction.

The current study sees itself as part of this research endeavour. In contributing to this research, I will adopt a developmental approach. Taking such an approach is essential in order to fully explain aspects of being human such as language (Carpendale et al. 2018: 2). In doing so, I will therefore elucidate the phenomenon of perspectivation by investigating one of the four questions, or levels of analysis, proposed by Tinbergen (1963) when explaining behaviour: How does a particular behaviour work (mechanism/causation)? What is its function? How does it develop (ontogeny)? How did it evolve (phylogeny)? (cf. Butz & Kutter 2017: 23-24).

This study investigates the acquisition of perspectivation using corpus data. Specifically, it does so within the framework of Cognitive Linguistics, sociocognitive, usage-based and emergentist approaches (see Section 2.1). In such an approach, the notions of perspectivation and conceptualisation take centre stage (see Section 2.1.2). I will use the terminological tools and the analytical framework of Cognitive Linguistics to study the development of perspectivation in language acquisition. In line with the interdisciplinary commitments of Cognitive Linguistics (see Section 2.1), I will integrate my analysis with research from other disciplines in cognitive science, especially developmental psychology and language acquisition research.

From a usage-based perspective, language is learned from instances of actual language use in social, interactive contexts (Langacker 1987; Diessel 2015). One of the implications that follows from this is that the frequencies and distributions found in actual language use play a fundamental role in describing the process of language acquisition, which is why the current study is based on corpus data.

Moreover, usage-based, and Cognitive-Linguistic approaches see language as being based on general cognitive abilities as well as sociocognitive abilities. Children's developing ability for perspective-taking therefore plays a central role in their acquisition of linguistic construal. Another important concept within Cognitive Linguistics is that of conceptualisation. Linguistic utterances express and evoke conceptualisations, or mental perspectives on situations in context (see Section 2.1.2). From a developmental perspective, it is therefore of central importance how children and their caregivers use language as an instrument of conceptualisation that enables them to establish and negotiate perspectives and how children acquire this complex ability.

Overall, as Cognitive Linguistics sees language as tightly integrated with human cognition, treating the notion of perspective as an interdisciplinary, integrative concept at the interface of these domains of research in cognitive science promises to be highly profitable. This will enable us to form an interdisciplinary, coherent, psychologically grounded, developmentally sound, and Cognitive-Linguistically adequate theory of perspectivation.

Although there is a wealth of research on language acquisition within these frameworks (see, e.g., Tomasello 2003; Clark 2009; Ambridge & Lieven 2011; Rowland 2014; MacWhinney & O'Grady 2015), only very few studies have taken an explicitly construal-oriented perspective (see, e.g., Kyratzis 2009). It is one of the goals of this study to contribute towards closing this gap in the research on language acquisition. Therefore, in its analysis, it will take such a construal-oriented approach.

One area where construal, perspective, language acquisition and cognitive development intersect is that of play. Play is a frequent feature of children's everyday life, especially in Western cultures. For example, American children between 0-5 years were found to engage in play activities for 30%-50% of their free time (Hofferth & Sandberg 2001). It has also been suggested to occupy an important role in children's social and cognitive development (Pellegrini 2012; Smith & Roopnarine 2019). Play has also been claimed to contribute positively to language development (Levy 1984). Specifically, it is often hypothesised that language in play contexts is more complex than language used in non-play contexts (Bruner 1983; Weisberg et al. 2013) and can therefore be seen as a scaffolding for the development of more complex linguistic abilities (cf. Langley et al. 2020).

This claim has especially been made for a special form of play, which also has been argued to be uniquely human in its complexity and expression, namely pretend play (Lillard et al. 2013; Quinn et al. 2018; Pleyer 2020, see Chapter 3).[3]

[3] For this reason, as noted by Quinn and Kidd (2019: 34), the terms 'pretend play' and 'symbolic play' "have been used interchangeably in the field." Other terms that can be found in the literature

Pretend play can be defined as "[p]layful interactions where make-believe, or fantasy, is invoked" (Pellegrini 2012: 126). In pretend play, objects, actions, situations and events are symbolically transformed to stand in for something else (Lillard 2015: 432), as in "pretend this is the oven" (Thomas corpus, 03-04-02.cha[4]). Just as play in general, pretend play has an important role in children's everyday lives. For instance, 2-year-olds spend approximately 5-20% of their playtime engaged in pretend play (Lillard et al. 2011: 287; see also Section 3.1.2). Crucially, most play behaviours are negotiated and coordinated through linguistic interaction. This means that the notion of perspective and construal plays a crucial role in pretend play (e.g. Dockett 1998; Rakoczy 2006; see Section 3.1.3).

This study investigates how the symbolic transformations found in pretend play are negotiated and expressed linguistically during language acquisition. To be more precise, it looks at the development of how children and their mothers share and negotiate perspectives on pretend situations in pretend play using the lexical item *pretend*. To do this, it will analyse corpus data from 13 English children from the ages of 2 to 5 years of age. Specifically, as mentioned above, the study is based on data from the Thomas corpus (Lieven et al. 2009) and the Manchester corpus (Theakston et al. 2001) from the CHILDES database (MacWhinney 2000; see Section 4.1).

The situation type of pretend play was chosen both for its importance in children's development of social cognition as well as for the high degree of perspective-taking and perspectivation that can be found. In pretend play, children and caregivers constantly negotiate what something should be seen as, and clarify the object and goals of the pretend play behaviour. For example, in the Thomas corpus (Lieven et al. 2009), we can find the following pretend play negotiation between Thomas, aged 3;00.11, and his mother:[5]

are 'fantasy' and 'imaginary' play (cf. Quinn et al. 2018: 121). For further discussion, see Section 3.1.1.

[4] References to corpus data will be made by citing the file name of the corpus transcripts, which have a "cha" (CHAT) file extension. So 3-04-02.cha refers to the file with the same name in the Thomas corpus (Lieven et al. 2019).

[5] In this study, in accordance with the usage in corpus linguistics, ages will be written in the format of YEARS;MONTHS.DAYS, so 3;00.11 means that at the age of recording, Thomas is exactly 3 years and 11 days old.

(1) CHI: come on, big chicken.
MOT: am I a big chicken ?
CHI: I little chicken.
MOT: and you're a little chicken.
[. . . ]
CHI: you're Daddy chicken, aren't you, Dad?
CHI: I small chicken.
CHI: I 0am[6] a baby chicken.
CHI: Mummy's a big large chicken.
MOT: and you're a small chicken.
(3-00-07.cha)

In this situation, Thomas and his mother negotiate and clarify a pretend play situation by using multiple terms for the same referent. That is, they try to construe objects and events from a certain perspective and in different relations. Thomas uses different construals and frames of reference in this situation to express his perspective on the pretend play situation. He first uses a construal related to size ('big chicken,' 'little chicken'). As the interaction unfolds, Thomas introduces a second, related construal that introduces the frame of reference of family relations ('daddy chicken,' 'baby chicken').

From a Cognitive-Linguistic perspective, Thomas profiles (Langacker 1987: 183-189; Ungerer & Schmid 2006: 163-206; cf. Pleyer & Schneider 2014: 40-41) or perspectivises certain aspects of conceptual content in his construals. In Thomas' first construal, he uses the conceptual base of size and directs attention to the dimensions of 'big' and 'little.' In his second construal, he introduces a new conceptual base, that of family relations, and then profiles the dimensions of being a father or a baby ('daddy chicken,' 'baby chicken;' cf. Pleyer 2014b: 250-251, 2017b: 179-180).

Previous research has uncovered a number of linguistic features that are more frequently found during pretend play interactions, including higher sentence complexity, higher frequencies of temporal expressions, including past-tense and future auxiliary verbs, as well as modals verbs, question tags, and explicit references to pretence (e.g. Giffin 1984; Garvey & Kramer 1989; Hall et al. 1995; Lillard

[6] "0" is used to indicate a missing word in the CHAT transcription format (MacWhinney 2019a: 109). So "0am" in this contexts means that Thomas actually said "I a baby chicken." CHAT transcription markers will be explained in a footnote the first time they appear in an example. They can also be found in the List of Relevant CHAT Transcription Markers.

2011). However, apart from explicit references to pretence, these and other discursive types of pretend construal as in (1) are hard to search for in corpus data in an automated fashion. In addition, apart from *pretend* these features only occur more frequently, but not exclusively in pretend play contexts.

For these reasons, the current study limits its search to pretend play situations where, unlike in the example in (1), the lexical item *pretend* is searched for via lexical tracking. Moreover, as many previous studies were experimental in nature, we still know relatively little about how children and caregivers use lexical items such as *pretend* in their everyday life (Bunce & Harris 2008). Therefore, the current study takes a corpus-linguistic approach, because as of yet, there have been no attempts to systematically verify and investigate the distribution of *pretend* utterances by using data from larger, naturalistic, longitudinal corpora as the ones found in the CHILDES database (MacWhinney 2000, see Chapter 4).

Of course, pretend play language also undergoes significant development, especially in children. For instance, explicit references to pretence such as "Let's pretend that…" become much more frequent as children grow older (Garvey & Kramer 1989; Lillard et al. 2007). For this reason, the focus of this research project adopts a longitudinal, cross-sectional perspective to track changes in the *pretend* utterances used by children and caregivers. Although this method does not capture all, or in all likelihood, not even the majority of pretend play scenarios, it provides us with a valid corpus for the analysis of explicit pretence behaviour.

Indeed, *pretend* is an important lexical item in English-speaking children's cognitive and linguistic development. For example, it is part of vocabulary development checklists such as the MacArthur-Bates Communicative Development Inventory: Words and sentences (Dale & Fenson 1996), and it is also found on the 200-word Level II Short Form Vocabulary Checklist of the CDI for young children aged 16-30 months (Fenson et al. 2000: 108-109). Its importance is also evident in the corpus data used for this study, which contain 1,392 *pretend* utterances in total. Compared to the spoken part of the Corpus of Contemporary American English (COCA) and the spoken part of the British National Corpus (BNC), the relative frequency of *pretend* in the utterances made by mothers analysed in this study is 19 times higher. For children, its relative frequency is 16 times higher than in the spoken COCA and the spoken BNC, respectively. Given this centrality to children's pretend play interactions, *pretend* can be said to occupy a special place in children's developing pretend vocabulary, which is why the acquisition of this lexical item is a central question in studies of cognitive development (Lillard & Witherington 2004).

In addition, this study elucidates the ways in which the lexical item *pretend* is used as an instrument of perspectivation in pretend play situations. Analysing the most central and important item in children's pretend lexicon can therefore serve as a window into children's cognitive development, especially their understanding of different perspectives. It also sheds light on how they use this item to negotiate perspectives on pretend play activities with their caregivers, and can yield insights into the kinds of concepts and activities children and caregivers evoke and relate to in their pretend play (cf. Hall et al. 1995). On this view, then, this study is explicitly cognitive-semantic in its approach. This study also adopts a construction grammar perspective on language and its acquisition. In construction grammar, language consists of form-meaning pairings that differ in their schematicity and complexity: constructions (e.g. Goldberg 2003; Diessel 2015). Importantly, constructions are associated with particular construal functions and are connected to each other in a network (e.g. Goldberg 2019). From this perspective, one of the key questions of this study is how children and caregivers use *pretend* constructions to perspectivise and construe pretend play situations and how children acquire the construal functions associated with *pretend*.

This study is structured as follows. It will first deal with the theoretical foundations of the study, then move to its methodological foundations, before the corpus analysis of *pretend* and its development will be presented.

Chapter 2 discusses the general theoretical framework of the study. It first deals with the concept of perspectivation in Cognitive Linguistics (2.1), focussing on the relationship between language and cognition in this approach (2.1.1), the central role of conceptualisation and construal (2.1.2) and its relation to the usage-based approach (2.3). Section 2.2 discusses the concept of perspectivation in language acquisition. Here, the relationship between word learning and perspectivation is elucidated (2.2.1), before the chapter discusses perspectivation and its relationship to the development of pragmatics (2.2.2) and child-directed speech (2.2.3). The last section of this chapter elaborates on perspectivation in cognitive development (2.3). Specifically, it discusses pointing as a form of perspectivation (2.3.1), describes different typologies of the development of perspective-taking (2.3.2), and discusses the role of interaction and cognitive artefacts for the development of perspectivation (2.3.3).

Chapter 3 deals with research on pretend play. In Section 3.1 and its subsections I give a brief overview of the development of pretend play, elucidate how pretend play relates to the concepts of perspective and perspectivation and review proposals on the developmental functions and cognitive abilities associated with pretend behaviour. I also discuss cross-cultural aspects of pretend play, such as its universality and specific cultural expressions. Section 3.2 discusses the relationship of pretend play and language. Specifically, I elaborate on the ways that pretend play and language are related in development. For example, pretend play can be seen as an important context for language acquisition, and both pretend play and language are related to children's developing ability for complex metacommunication. Moreover, pretend play and language both rely on children and caregivers being able to understand the contextual and pragmatic factors that influence interaction. Lastly, in this section I also mention some of the most important linguistic features of pretend play that have been found in the literature so far. In Section 3.3, I present an overview of previous research on the acquisition of the lexical item *pretend* from experimental studies, as well as from corpus, questionnaire, and diary data. This concludes the discussion of the theoretical foundations of the analysis.

Chapter 4 presents the methodological foundations of the analysis. Section 4.1 describes the corpora used for the investigation. It first presents a general overview of the CHILDES database (4.1) and then describes the two corpora that are being used in turn, first the Thomas corpus (4.1.1) and then the Manchester corpus (4.1.2). Section 4.2 then discusses the methodology of the corpus analysis. Section 4.2 deals with questions of representativeness as well as problems and limitations of the study. First, I will discuss the representativeness of the corpus chosen for analysis (4.2.1), and then to the representativeness of the results (4.2.2). Section 4.3

turns to the methodology of the analysis. 4.3.1 describes the research question and the way the data were coded, while 4.3.2 gives details on how development was measured. Finally, 4.3.3. discusses the statistical measures used to analyse the correlations and relationships in the data. With the theoretical and methodological groundwork being laid, the next three chapters present the empirical investigations of *pretend*.

Chapter 5 examines the distribution of the lexical item *pretend*. In Section 5.1, I first present the frequency and distribution of *pretend* in the corpus as a whole, as well as in the Thomas corpus and in the Manchester corpus. I also analyse the differences in *pretend* distribution for the mothers and children in the dataset. Section 5.2 investigates the distribution of different word forms of the lexical item *pretend* and offers an analysis of *pretend* morphological constructions such as the progressive *pretend* construction (*pretending*) and the adjectival *pretend* construction (*pretend [X]*, e.g., *pretend eggs*; Becky31b.cha). In Section 5.3, I look at the first occurrences of *pretend* in the corpus data for mothers and children. Lastly, Section 5.4 discusses which factors might influence the distribution of *pretend* found in the corpus data.

Chapter 6 analyses which target domains were evoked by, or formed the basis for, *pretend* utterances. I first give an overview of the pretend target domains chosen for the analysis, such as ACTION, ENTITY and STATE OF AFFAIRS, before analysing the distribution of pretend targets in the children's (6.1) and mothers' (6.2) datasets. I then compare the distributions of pretend targets in the different subcorpora and contrast different age spans for the data on mothers and children (6.3). In Section 6.4 I present a qualitative analysis of perspectivation and pretend targets for two pretend target domains, namely STATE OF AFFAIRS (6.4.1) and BEING ENTITY (6.4.2).

Chapter 7 focusses on pretend play and event schemas. Specifically, it uses the Cognitive Linguistic framework of event schemas (e.g., Dirven & Verspoor 2004; Radden & Dirven 2007) and analyses the event schemas implicated in *pretend* utterances. The chapter first discusses the types of event schemas and subschemas proposed by Radden and Dirven (2007) (7.1) and then presents their overall distribution in *pretend* utterances (7.2). After that, I turn to a more detailed analysis of the distribution of *pretend* utterances for event schemas in the material world (7.3), the psychological world (7.4), and the force-dynamic world (7.5).

Chapter 8 offers a conclusion and a short summary of the overall results and discusses some future goals for research. I also will briefly relate the current study to broader issues of the relation of the emergence of perspectivation and pretend play to language, cognition and interaction.

In conclusion, this study shows that the increasing complexity of children's *pretend* utterances as well as their conceptual complexity can be captured in an interdisciplinary, Cognitive-Linguistic framework using corpus data. Importantly, this Cognitive-Linguistic methodology also succeeds in analysing children's cognitive development by describing the concepts associated with children's pretend play.

Overall, then, this study also demonstrates the effectiveness of an interdisciplinary approach to perspectivation in child language which integrates research on cognitive development and corpus-linguistic methodology. It applies Cognitive-Linguistic concepts to the study of language acquisition and combines these concepts with supporting research from developmental psychology. More generally, it provides support for a Cognitive-Linguistic approach to language acquisition that focusses on children's and caregivers' conceptualisations in interaction and sees the trajectories of children's cognitive and linguistic development as tightly interwoven. This approach therefore goes beyond a purely language-internal analysis and provides additional validity to cognitive interpretations of perspectivation in language acquisition through interdisciplinary integration.

As such, it will not only contribute to these topics of inquiry, it will also demonstrate the fruitfulness of an interdisciplinary Cognitive-Linguistic approach to the study of the relationship between language, cognition, and interaction and their developmental interrelatedness in the framework of "Developmental Cognitive Linguistics" (Ibbotson 2020).

# 2. Theoretical Foundations: Perspectivation

As outlined in the introduction, this study investigates how children and caregivers express and negotiate perspectives in pretend play situations using the lexical item *pretend*. Specifically, the empirical part of the study offers a corpus-based analysis of utterances containing word forms of *pretend*. As I will argue below, such an analysis can contribute to the development of perspectivation in general. As such, the present study adds to a substantial body of research in linguistics and developmental psychology investigating the phenomena of perspectivation and perspective-taking.

There are three research areas dealing with the concept of perspective that are of particular importance for the analysis of perspectivation in pretend play. Firstly, for the current study, it is relevant to elucidate the concept of perspective in language and cognition. This topic has been central to the theoretical framework of Cognitive Linguistics. Secondly, it is also relevant for the current study how children acquire the capacity to express different perspectives using linguistic constructions. This topic has been investigated in the area of language acquisition research. Thirdly, the ability to express perspectives in language relies on children's ability to understand their own and others' perspectives in interaction. This topic is of central importance in research on cognitive development. In this chapter, I will therefore elucidate the role of the concept of perspective for these three disciplines in order to set the theoretical groundwork for this analysis.

I will start by discussing the concept of perspective and concepts related to it from a more general theoretical point of view. In the following sections, I will then turn to the topics of Cognitive Linguistics and perspective (2.1), language acquisition and perspective (2.2), and cognitive development and perspective (2.3.). The second concept central to this investigation, that of pretend play, will be discussed in Chapter 3, where I also deal with the relationship of pretend play and perspectivation (see Section 3.1.3).

First, however, let us turn to the role of perspective in language, cognition, and interaction more generally. Human perception and conceptualisation are always tied to a particular spatial and cognitive point of view or frame of reference. When perceiving or conceptualising an object, event, situation, or state of affairs, we do so from a particular vantage point so that only particular aspects are foregrounded cognitively. Conceptualisation, and meaning more generally, are therefore always perspectival in nature (e.g., Graumann 1993: 159; Graumann & Kallmeyer 2002: 1; Köller 2004: 9). When conceptualising or perceiving a car, for example, my perspective can differ according to whether I perceive, or conceive of, the car from a vantage point in front of the car or from the side. Moving beyond vision, it is vital that even from the same general visual vantage point, the same object can still be seen from different perspectives. Say I am sitting on my balcony, proofreading my PhD thesis, but I notice there is a little bit of wind going that might blow the pile of already corrected pages off the table. I might look around on the table to see if there is anything heavy enough I can put on the pile of papers to keep them from flying away. I will look at all the objects on my table (e.g., a Fritz Kola bottle, Langacker's *Cognitive Grammar: A Basic Introduction*, a glass, a coaster, some pens and markers, a lighter, my wallet, etc.). From the perspective of "things heavy enough to keep my pile of papers from being blown away" certain items will seem suitable for the task and others will not. However, let us say that instead, I notice that the table seems to be a little bit uneven and I want to put something under one of the table legs. From this perspective, the very same objects as before will appear quite differently. Whereas in the first scenario, Langacker's *Cognitive Grammar: A Basic Introduction* might make a good candidate to put on my pile of papers, the coaster likely would not. In the second scenario, on the other hand, Langacker's book, with its 562 pages, would not make a very good candidate for my task. The coaster, however, might.

This basic fact about conceptualisation and meaning is also highly relevant to interaction (cf. Linell 2002: 41-53). In interaction, we very often have different perspectives on the situation, and we express and negotiate perspectives as we talk. For instance, I might call a particular group of people 'terrorists,' whereas my interlocutor might call them 'freedom fighters' (cf. Niemeier 2017: 57). I might call *The Great British Bake Off* 'delightful,' whereas my interlocutor might describe it as 'boring.' Our social realities are therefore also always fundamentally perspectival in nature (cf. Schütz & Luckmann 2012: 44; Pleyer & Galuschek 2016: 165). What lies at the heart of this view is the concept of constructivism: Meaning and our perspective on the world are not simply given but are instead always constructed, and are in fact co-constructed in interaction (Schütz & Luckmann 2012; cf. Pleyer & Galuschek 2016). On this view, linguistic utterances are not simply decontextualised codes that transfer information which is then decoded, but meaning is actively constructed in context and involves processes of conceptualisation, construal, perspectivation, ostension and inference (cf. Sperber & Wilson 1995: 3-15; Geeraerts 2006: 25-28). Constructivism is central to approaches to language such as Cognitive Linguistics (Ziem & Fritsche 2018; see also Section 2.1), and those focussing on the centrality of pragmatics (e.g. Sperber & Wilson 1995), and discourse (e.g. Felder 2013) in the constitution and situation of meaning and knowledge.

When we try to see a given situation from a different point of view, this is called *perspective-taking*. Attempting to set, establish, or express a particular perspective in interaction has come to be called *perspectivation*. Negotiating shared perspectives – or making differences in perspective explicit – through linguistic strategies for perspectivation is one of the fundamental processes in interaction and the joint co-construction of meaning. What lies at the heart of view is the concept of constructivism: Meaning and our perspective on the world are not simply given but are instead always constructed, and are in fact co-constructed in interaction (Schütz & Luckmann 2012, cf. Pleyer & Galuschek 2016). On this view, linguistic utterances are not simply decontextualised codes that transfer information which is then decoded, but meaning is actively constructed in context and involves processes of conceptualisation, construal, perspectivation, ostension and inference (cf. Sperber & Wilson 1995: 3-15; Geeraerts 2006: 25-28). Constructivism is central to approaches to language such as Cognitive Linguistics (Ziem & Fritsche 2018; see also Section 2.1), and those focussing on the centrality of pragmatics (e.g. Sperber & Wilson 1995), and discourse (e.g. Felder 2013) in the constitution and situation of meaning and knowledge. On this view, linguistic interaction can be described as a form of joint action that is rooted in common ground between interlocutors (Clark 1996: 3-12). Interlocutors make “mutually manifest” which aspects of a perspective are relevant in their cognitive environment (Sperber & Wilson 1995: 41-46). These processes are the preconditions for the intersubjective establishment of shared perspectives using language (Graumann 2002; Verhagen 2007: 53-54).

In order to communicate successfully, we need to establish a shared background of what we know and think about a certain situation and what our stance toward the situation is. In short, one of the fundamental preconditions of interaction is the establishment of common ground through perspectivation (cf. Clark 1996; Köller 2004: 11-25). Put differently, interaction is the process of the interactive alignment and coordination of perspectives, representations and conceptualisations on a variety of levels (Pickering & Garrod 2004: 170; Barr & Keysar 2006: 903; Keysar & Barr 2013). In discourse, interlocutors establish their own perspective on a situation, elaborate on it, take their interlocutor's perspective, relate to it or incorporate it into their own perspective to a certain degree (cf. Graumann 1989; Clark 1996; Kallmeyer & Keim 1996: 286-287). As Callaghan and Corbit (2015: 286) put it: "sharing alternative perspectives is a fundamental goal of all forms of human communication."

The concept of perspective has been further elaborated in the theoretical framework of Cognitive Linguistics. Before we examine the concept of perspective in Cognitive Linguistics more closely, however, we will first turn to the general assumptions and commitments of the Cognitive-Linguistic framework.

## 2.1 Cognitive Linguistics and Perspectivation

The umbrella term of Cognitive Linguistics does not denote one particular approach per se, but instead refers to a general theoretical framework characterised by a number of core assumptions and linguistic practices shared by a variety of approaches under the general banner of Cognitive Linguistics (CL hereafter, e.g., Croft & Cruse 2004; Evans & Green 2006; Geeraerts 2006a,b; Ungerer & Schmid 2006; Geeraerts & Cuyckens 2007; Dąbrowska & Divjak 2015a; Dancygier 2017).[7]

[7] I follow Geeraerts (2006b: 3) and others in capitalising Cognitive Linguistics to distinguish it from uncapitalised cognitive linguistics, which is the cover term for all approaches that study natural language as a cognitive phenomenon. As Geeraerts (2006b: 3) points out, "Cognitive Linguistics is but one form of cognitive linguistics, to be distinguished from, for instance, generative grammar and many other forms of linguistic research within the field of cognitive science."

These core assumptions and foundational principles relate to the relationship between language, cognition, interaction and meaning construction. According to Dąbrowska and Divjak (2015b: 1), CL is characterised by the following three core assumptions:

1. Language is based on general cognitive abilities.
2. Meaning is conceptualisation.
3. Grammar is shaped by usage.

I will discuss each of these points in turn.

### 2.1.1 Language and Cognition

Regarding the first point, CL sees language as an integral part of cognition. Language is seen as an instantiation of general cognitive abilities and processes. What follows from this is often termed the "cognitive commitment" of CL (Lakoff 1990: 40; Evans & Green 2006: 40-41). The cognitive commitment refers to the fact that Cognitive Linguists aim to create cognitively informed theories of language (Casasanto 2017: 19). That is, in CL, theories and analyses of language need to take into account, and be compatible with, what is known about human cognition and conceptualisation from the other cognitive sciences (cf. Evans & Green 2006: 50). In addition, as observations from CL also feed back into a general theory of cognition, CL is also characterised by the complementary goal of building linguistically motivated theories of cognition (Casasanto 2017: 19).

There are two other concepts that relate to the application of the cognitive commitment to the study of language. One is the "generalisation commitment" (Lakoff 1990: 40; Evans & Green 2006: 28), which states that CL is interested in general cognitive principles responsible for aspects found in human language. For example, the cognitive process of categorisation, the prototype structure of concepts, the embodied nature of cognition, and the metaphorical foundation of language relate to all aspects of linguistic structure (Evans & Green 2006: 27-40).

The other is the "commitment to look for converging evidence" from other disciplines in cognitive science when studying language (cf. Evans & Green 2006: 17). This goes beyond the general cognitive commitment in that Cognitive Linguists are expected to actively search for what is known about their object of study by other disciplines in cognitive science and integrate it into their analysis. In terms of the theoretical situation of the field, this also means that CL understands itself as being part of the cognitive sciences (e.g., Geeraerts 2006b: 3; Sinha 2007), or cognitive science, understood as “the interdisciplinary study of mind and intelligence, embracing psychology, neuroscience, linguistics, philosophy, anthropology, and computer modelling (artificial intelligence)” (Thagard 2017: 188; cf. Butz & Kutter 2017: 9-10). However, it has to be noted that in many regards the field of CL as a whole has not yet cashed in on this theoretical positioning within cognitive science. This means that – even after more than 30 years – the integration of results and methodologies from other cognitive sciences and the creation of a fruitful dialogue with these other disciplines is still underdeveloped and presents a desideratum for CL (Stefanowitsch 2011: 296; Bergmann 2016: 38-56).

For a study of the development of perspectivation in language acquisition, the commitment to look for converging evidence relates to two questions in particular: First, what do we know about how children acquire perspectivation in language? Secondly, how does the ability for perspective-taking and -sharing develop in the course of cognitive development? This is why Sections 2.2 and 2.3 will discuss these topics in more detail. More specifically, what this means for the present study is that the analysis of the development of *pretend* utterances presented here should not only be compatible with, but be actively informed by what is known about the development of pretend play from developmental psychology and cognitive science. This is why we will discuss the cognitive development of pretend play in detail in Chapter 3.

We will now turn to the second point, the assumption that “meaning is conceptualisation.” In CL, conceptualisation is strongly tied to the concept of perspective, and especially to the Cognitive-Linguistic concept of construal. This will be discussed in the next section.

### 2.1.2 Conceptualisation and Construal

In CL, language is seen as an interactive endeavour in which we try to express, share, and co-create meanings. To be more precise, what we share and express are conceptualisations. Consequently, the main function of language can be seen as the collaborative, dynamic, and interactive co-construction of conceptualisations. Linguistic utterances express and evoke conceptualisations. They can therefore be said to serve as prompts, or instructions, for the dynamic construction of a conceptualisation in an interlocutor based on contextual factors, cognitive and cultural models and other cognitive resources (cf. Fauconnier 2004; Evans & Green 2006: 8; Schnotz 2006; Croft 2009). This has a number of important consequences for how we view meaning. From this perspective,

> [l]anguage does not hold or "convey" meaning per se, but simply provides *cues* for meaning construction in context. A conceptualization occurring in a specific instance of language use is evoked by the linguistic forms used, but is necessarily far richer than any information specifically associated with those forms; such information, as noted above, is merely an abstraction from experience or use of the forms (Kemmer & Barlow 2000: xxi).

Taken one step further, this means that "meaning is not in the correlate of a word; rather, it emerges as part of the dynamic between interlocutors in a specific situation" (Müller & Carpendale 2010: 233; cf. Callaghan & Corbit 2015: 256). This also shifts the topic of investigation for a Cognitive-Linguistic analysis of constructions. Instead of studying the 'meaning' of a linguistic structure per se, the object of study becomes how these structures are used in interaction in the dynamic process of meaning construction.

Instead of trying to find the 'meaning' of a linguistic structure, then, we are interested in its 'meaning potential' (Allwood 2003) and the specific processes of interactive conceptualisation the structure is involved in (e.g., Allwood 2003; Croft & Cruse 2004: 92-93; Du Bois & Giora 2014; Zima & Brône 2015). This point of view also informs the research question regarding the use and development of *pretend* in this study. That is, when analysing and categorising usages of *pretend* and their development, the starting point will be the "micro-level of local meaning constitution and co-ordination" (Szmercsanyi 2006: 22; cf. Brône & Zima 2014: 483).

What is also essential is that conceptualisations are always tied to a particular perspective. In the view of dynamic meaning construction outlined above, social understanding is achieved through an ongoing, dynamic process of intersubjective, participatory sense-making, embodied interaction and mutual incorporation and negotiation of perspectives (Fuchs & De Jaegher 2009; Fuchs 2013; cf. Pleyer & Hartmann 2014: 102). In CL, the perspectival nature of conceptualisations is reflected in the concept of construal, as "[l]inguistic meaning involves both conceptual content and the construal imposed on that content" (Langacker 2008: 44). For example, the same conceptual content, a half-filled glass of water, can be conceptualised in the following ways: "the glass of water" (focusing on the glass), "the water in the glass" (focussing on the water), "the half-empty glass" (focussing on the semantic domain of emptiness), and "the half-full glass" (focussing on the semantic domain of fullness) (Langacker 2008: 43).

In CL, this is captured by the term *construal*. It refers to "our ability to conceive and portray the same situation in alternate ways" (Langacker 2015: 120). When a situation or state of affairs is conceptualised, speakers structure the situation in a specific manner and from a certain perspective (Langacker 1987: 126; Kleinke 2010: 3347). That is, interlocutors construe the world in specific ways, and their linguistic utterances embody a particular perspective on it (Geeraerts 2006b: 6). More precisely, they select linguistic structures to assign salience to particular aspects of a conceptualisation, thereby organising conceptual content with respect to a specific perspective. In doing so, they direct attention to selected aspects of the conceptualised situation, highlighting some aspects while backgrounding others (Langacker 1987, 2008; Talmy 2007: 264-267; Verhagen 2007: 49). With respect to language, therefore, the concept of construal "refers to the different ways in which a given scene, guided by language, can be conceptualised" (Hart 2014: 167).

Language, on this view, can be seen as a symbolic inventory which allows the same situation to be linguistically encoded in multiple ways (Langacker 1987: 57; Radden & Driven 2007: 1; Evans 2012: 136). Much work in CL has focussed on elaborating on the kinds of construal operations and perspectival constructions used by language users for the construal and perspectivation of conceptual content (see, e.g., Langacker 1987, 2008; Talmy 2000; Croft & Cruse 2004; Verhagen 2007; Radden & Dirven 2007: 21-30; Hartmann 2016: 31-37).

It is important to note that in a Cognitive-Linguistic view, it is not only concrete lexical items that serve as mechanisms for perspectivation, but more abstract and schematic constructions as well. In fact, many, if not most, Cognitive Linguists also take a constructionist approach to language (cf. Bergmann 2016: 43-49). From the constructionist point of view, language consists of form-meaning pairings, or constructions, of varying degrees of abstractness and schematicity (e.g., Goldberg 2003; Ziem & Lasch 2013; Hilpert 2014; Diessel 2015). “Constructions form a network of interrelated knowledge within our hyper-dimensional conceptual space” (Goldberg 2019: 36) and they are all tied to particular construal functions. This means that we can analyse the construal function of different lexical items, or word constructions (Goldberg 2003: 220), or more abstract constructions such as the active vs. passive distinction.

The perspectival function of the passive relates to the phenomenon that in describing an event, different regions of it can be ‘profiled’ (Langacker 1987: 183-189; Langacker 2008: 67-69) or put into the focus of attention. For example, regarding the active vs. passive distinction, in the Thomas corpus (Lieven et al. 2009) we can find instances of Thomas profiling or foregrounding specific aspects of a scene against the background of the whole experiential scene. Thus at 2;11 he uses the transitive subject-verb-object-construction to describe a prototypical scene in which an AGENT (Mummy) emits force to a PATIENT (balloons):

(1) CHI: Mummy has broken these
(2-11-00.cha)

However, in the same transcript, we can also find Thomas taking a different perspective on the same situation by using a subject-copula-complement construction, which focusses attention on the resultant internal state of the PATIENT:

(2) CHI: these balloon is [*] broken
(2-11-00.cha)[8]

As a last example of alternative construals, in the Thomas corpus we also find instances where Thomas uses early passive constructions that structure a scene in a manner that focusses on what is happening to a PATIENT:

(3) CHI: the ceiling got cracked
(2-10-06.cha)

[8] In the CHAT transcription format used for transcripts in the CHILDES database, such as the TC, the [*]-asterisk marks an error in the child’s utterance (MacWhinney 2019a: 76).

Overall, from a Cognitive-Linguistic and constructionist point of view, language can be characterised as a structured inventory of constructions – form-meaning pairings that differ in their abstractness, schematicity and complexity – that enables language users to construe a situation from different perspectives (e.g., Croft 2012; Evans 2012). More generally, on this view, language is a communicative instrument for sharing and negotiating perspectives on a conceptualised situation in cooperative interaction.

As the examples from the Thomas corpus show, children possess some of these linguistic mechanisms for perspectival construal from relatively early on. From a developmental point of view, then, the question arises how children acquire the network of form-meaning pairings – i.e. the 'construct-i-con' (Hilpert 2014: 57; Goldberg 2019: 34-38) – of their language that is used to express different perspectives on the same referent (cf. Tomasello 2003: 146-161; Langacker 2009; Diessel 2013). Despite the importance of this question for a developmentally informed theory of meaning, there is very little research on the acquisition of perspectival constructions and construal patterns and their sociocognitive and interactional foundations. This is a point I will return to in Section 2.2, but before that, I will focus on the question of how, from a Cognitive-Linguistic point of view, constructions are acquired in general. Regarding this question, as mentioned above, Cognitive Linguists adopt the position "Grammar is shaped by usage." This is the so-called usage-based approach, which will be discussed in more detail in the next section.

### 2.1.3 The Usage-Based Approach

The term 'usage-based approach' refers to the fact that researchers adopting this approach hold that language and linguistic constructions are learned by abstractions from instances of actual language use (e.g., Langacker 1987; Barlow & Kemmer 2000; Bybee & Beckner 2010; Diessel 2015). In this approach, then, language users build up their communicative inventories by deriving schematic patterns via the cognitive entrenchment of recurrent patterns of language use in social interactive contexts (Langacker 1987: 59; Langacker 2008: 16-17; Divjak & Caldwell-Harris 2015: 60). The focus of usage-based approaches is how interpersonal cognitive and communicative processes shape and feed into the emergence of linguistic structure (Bybee 2010; Ellis 2013).

The cognitive capacity underlying this process is that of schema abstraction and analogy, whereby “people implicitly understand and structure everyday experiences, and form abstract schemas over similar experiences” (Gentner & Smith 2012: 136; cf. Tomasello 2003: 298). We can define a schema as “a cognitive representation comprising a generalization over perceived similarities among instances of usage” (Kemmer & Barlow 2000: xviii; cf. Oakley 2007: 247). For the present study, this means that one of the main research goals is to describe, firstly, how children, in interaction with their caregivers, abstract a *pretend* schema from instances of actual language use and, secondly, what cognitive categories and behaviours this *pretend* schema is associated with.

More generally, in a usage-based approach, language processing, learning and acquisition are hypothesised to be based on two types of capacities: sociocognitive capacities, on the one hand, and domain-general cognitive capacities, on the other (Tomasello 2003). Schema abstraction, analogy and cognitive entrenchment have already been mentioned as important domain-general cognitive capacities. Others include, for example: The ability to store exemplars in long-term memory so schematic abstractions can be generalised from them; categorisation; sequential and hierarchical processing capacities; processes of neuromotor automation, such as chunking; statistical pattern recognition; focussing and shifting attention; and perceptual perspective-taking (cf., e.g., Langacker 1987, 2008; Beckner et al. 2009; Bybee 2010; Ibbotson 2011; Pleyer 2017c: 317-323).

In the sociocognitive domain, cognitive capacities and motivations which are the foundation for language processing, learning, and acquisition include, for example, cultural learning, sharing and directing attention, imitation, having joint commitments, understanding social conventions and social perspective-taking. (e.g., Tomasello 2003, 2008; Pleyer & Lindner 2014). This point will be discussed in more detail in Sections 2.2 and 2.3.

All these capacities are interwoven and interact when people communicate with each other. This holds when people communicate in real time, but also over longer stretches of time, for example, in ontogeny or during cultural evolution and the historical change of languages. All these factors and timescales feed into and shape the 'complex adaptive system' of language. What researchers adopting a usage-based approach mean when they state that "language is a complex adaptive system" (Beckner et al. 2009) is that language is a phenomenon whose global emergent structure arises out of the dynamic local interactions of a multiplicity of factors on different levels of analysis and on different timescales (cf. Beckner et al. 2009; Frank & Gontier 2010; Steels 2011; Kirby 2012; Pleyer 2014b; Pleyer & Winters 2014; MacWhinney 2015a).

Both CL and usage-based approaches, on this view, belong to the general framework of emergentism, which treats language as a complex adaptive system and sees linguistic structure as emerging from patterns of usage in interaction across time (MacWhinney 2015a: 1). From a cognitive perspective, it is one of the goals of these approaches to elucidate the ways in which "language is shaped by the brain" and has come to be shaped by the brain over different timescales (Christiansen & Chater 2008; cf. Deacon 1997, 2012). On this view, language usage and language structure are "shaped around human learning and processing biases deriving from the structure of our thought processes, perceptuo-motor factors, cognitive limitations, and pragmatic constraints" (Christiansen & Chater 2008: 490) as well as around the general semiotic constraints of symbolic systems (Deacon 2012: 17-32). From an interactionist perspective, the goal of these approaches is to shed light on the dialogic, online, in-vivo, pragmatic, interactive processes that are at work when individuals as embodied agents communicate with each other and co-create meaning. And secondly, from this perspective, it is a crucial question how these processes lead to the emergence of structure at different levels and on different timescales (e.g., Croft 2009; Zima 2013; Du Bois & Giora 2014; Hopper 2015; Zima & Brône 2015).

Of course, both of these perspectives are relevant. Language is grounded both in cognition and social interaction (Langacker 2008: vii). This must also be reflected in the current study. Specifically, from a Cognitive-Linguistic perspective, we might be interested in how the *pretend* schema develops, that is, which conceptualisations and construals become cognitively entrenched and associated with *pretend* utterances. From an interactionist, social perspective, however, the focus would instead lie more on how pretend activities are co-created in interaction and how this dynamic, cooperative process changes over time. This includes a focus on the ways which *pretend* utterances are used as dynamic, in-the-moment, in vivo construals of meaning. As with both of these perspectives generally, both approaches are valid for the current study, and we have to acknowledge that in our analyses and theories, we might not actually be able to choose one over the other but instead see them as complementary, related perspectives. The question of how to integrate both perspectives, at present, is still problematic. As Dąbrowska and Divjak (2015b: 6) state, "fully integrating the cognitive and social perspective is probably the greatest challenge facing cognitive linguistics today."

The dual grounding of language in cognition and social interaction is also relevant for the next section, in which I discuss the role of perspectivation in language acquisition.

## 2.2 Language Acquisition and Perspectivation

As we have seen, a Cognitive-Linguistic, constructionist, usage-based and emergentist framework makes specific claims as to what it is children acquire in the course of language acquisition, and which cognitive abilities are involved in this process. As Diessel (2013: 357) summarises,

> [w]hat children eventually learn is a network of related constructions in which the same event is construed from different perspectives so that speakers can choose the construction that is most appropriate to realize their communicative intention in a particular situation.

This summary clearly reflects the critical role attributed to perspectivation and construal in a Cognitive-Linguistic framework. It also points to the importance of sociocognitive abilities such as perspective-taking in the acquisition of perspectival constructions, and language acquisition more generally. Researchers in language acquisition working within this framework are therefore interested in the question of how children learn about the ways that different perspectives are expressed in linguistic interaction. They are also interested in the question of how children acquire the ability to express different conceptual perspectives on the same referent (cf. Pleyer 2017b: 174; see also Tomasello 2003: 94-97). This acquisition process is multifaceted and quite complex. In fact, "full control over the use of grammatical devices for perspective shifting is not complete until about age 10 (Franks & Connell, 1996; Karmiloff-Smith, 1979)" (MacWhinney 2015b: 322).

There is substantial research in developmental psychology and language acquisition which shows that the development of language and linguistic perspectivation is tightly connected to and dependent on children's emerging sociocognitive abilities in the domain of understanding perspectives (e.g., Clark 1997; Moll & Tomasello 2007a; Pleyer 2014b, 2017b). The relevance of the concept of perspective for language acquisition is already evident from very early on. For instance, it can be argued that even the earliest uses of words require some degree of rudimentary perspective-taking. As Tomasello (1999: 103-106; see also Tomasello 2003: 27) argues, word learning requires the capacity for role-reversal imitation, as the child must learn that a symbol can be used toward the adult in the same way the adult used it toward them. Indeed, "some people have pointed out that it is no coincidence that children's word learning starts to take off at about the same time as socio-cognitive skills such as intention-reading come online (between 9 and 12 months of age)" (Rowland 2014: 61-62). As word learning plays a significant role in this study, specifically the acquisition of word forms of *pretend*, we will discuss the sociocognitive processes underlying word learning and perspectivation in more detail in the next section. After that, we will turn to the acquisition of pragmatic skills and its relation to perspectivation.

### 2.2.1 Word Learning and Perspectivation

Word learning is an example of the acquisition of perspectivation *par excellence*, as words can be seen as invitations to form categories (Gelman & Roberts 2018: 742-743; Perszyk & Waxman 2018: 234-237). The same of course also holds for constructions in general, which "like words, invite learners to form categories" (Goldberg 2019: 29). Both words and constructions more generally are therefore also invitations to view something from a certain perspective: "Words embody perspectives on things" (Tomasello 2019: 66). Linguistic symbols such as words are fundamentally perspectival, and when children learn them "they understand that the same objects and events are construed variously in relation to different points of view" (Martin 2008: 103; cf. Sokol et al. 2015: 301).

However, beyond this, sociocognitive capacities and emerging abilities for perspective-taking also play a crucial role in word learning (see, e.g., Bloom 2000; Tomasello 2003: 43-94; Baldwin & Meyer 2007; Ambridge & Lieven 2011: 70-83 for reviews; for an alternative view see Hoff & Naigles 2002; Vihman 2018: 720-723). The phenomenon of role-reversal imitation (Tomasello 1999: 103-106) has already been mentioned above, but this is only the starting point for children's sociocognitive strategies in learning words. For example, by 18 months, children associate a word they hear not with the object they are perceiving at the moment. Instead, they check the adult's attention and associate the word with what the adult is looking at (Baldwin 1993; Baldwin & Moses 2001).

By 24 months of age, children's sensitivity to other people's perspectives has already become more complex, as indicated by a study by Akhtar et al. (1996). They had 24-month-old children, their mothers and an experimenter play together in a room with three objects that were novel to them. When the mother left the room, the experimenter and the child played with a fourth novel object that was taken out of a box. The mother then returned, looked in the direction of the four objects and excitedly exclaimed: "Oh look! A modi! A modi!" Children understood that their mothers would not find one of the objects that they had already played with to be this noteworthy, but instead that they were excited about the object they were seeing for the first time. Accordingly, children learned the new word for the object that was new from the adult's perspective, but not from their own perspective. In other words, at this age, children are aware of what is in the common ground of an interaction and what is not.

Sociocognitive and rudimentary perspective-taking abilities therefore clearly play an important role in word learning. But when do children learn that the same situation or entity can be referred to by different words expressing different perspectives? Clark's (2009: 138) diary data of the language development of her son Damon show different lexical items being applied to the same referent from age 1;07 onwards:

(4) D (1;07.01, looking at his bowl of cereal at breakfast): *Food*.
(A little later, still at the table, looking at his own and then his parents' bowls of cereal): *Cereal*.

(5) D (1;07.20, doing his animal puzzle; D named each animal type as he took it out [e.g., tiger, lion, zebra], then, on completion, with all of them back in, pointed and said): *Animal back*.

(6) (2;1,27, when his mother asked what D was usually called)
Mother: *Are you 'lovey'?*
D: *No, I 'Damon', I 'cookie', I 'sweetheart'! Herb 'lovey'.*

(7) D (2;5,4, putting the wastebasket, usually called basket when he throws anything into it, down over his head): *That's a hider. Hide me in there.*

In (4) and (5) Damon uses lexical items that construe entities at different taxonomic levels of granularity. In (6) and (7) he shows an understanding that the same entity can be referred to using different words (cf. Pleyer 2014b: 249).

The precondition for these types of perspectivation is that children build up semantic domains. In the beginning, semantic domains in children's language are "loosely structured sets of nouns and verbs for talking about a particular activity, such as eating and drinking" (Clark 2018: 21) or for talking about a particular situation or entity. As children accumulate more and more words in acquisition, they build up increasingly complex semantic domains and increasing relationship links between items within a domain (Clark 2018: 21).

As they start to set up inventories of constructions that describe the same entity from different perspectives, children also begin to demonstrate the capacity to describe the same entity in terms of different domains. Clark and Svaib (1997) demonstrated this ability in an experimental setting. They found that from early on, children show some ability to take and express alternate perspectives, shift between perspectives on the same entity, and assign different identities to the same individual. In their experiments, children aged 2;02 to 4;08 were shown pictures with animals (cats, dogs, pigs, rabbits) that had different 'occupations' (such as painter, cowboy, nurse, firefighter) or were engaged in different activities. All the children accepted and produced multiple terms as applying to the same referent. So they understood that a 'dog' was also a specific type of 'animal' and that a 'cat' could also be a 'cowboy,' and vice versa.

### 2.2.2 The Development of Pragmatics and Perspectivation

Another important aspect of the acquisition of perspectivation is that in order to express their own perspective, children need to be able to use language in pragmatically and contextually appropriate ways. That means they need to be aware of which meaning potentials of a word are instantiated in interaction. According to Halliday (1973: 24), L1 acquisition is not only simply a matter of learning a language, but means "learning the uses of language, and the meanings, or rather the meaning potential, associated with them. The structures, the words and the sounds are the realization of this meaning potential. Language learning is learning how to mean." Learning how to mean requires sensitivity to context and one's own and others' perspectives. What follows from this is that the acquisition of perspectivation is closely tied to children's acquisition of pragmatics and communicative competence (Hymes 1971), that is, learning the contextually appropriate use of language in social settings (see Ninio & Snow 1999; Matthews 2014; Rollins 2017 for reviews). This includes sensitivity to the conversation's social context such as social roles and cultural conventions, including factors such as register, status, age, formality and politeness. Just as learning how to mean more generally, contextually appropriate linguistic communication depends on children taking into account other people's differing perspectives on situations.

But what types of cognitive capacities and knowledge does the development of pragmatic skills rely on? O'Neill (2012) proposes that pragmatic skills draw on three types of knowledge that represent different types of perspective-taking: social-cognitive knowledge, cognitive knowledge, and social knowledge. In acquiring pragmatic skills, then, children need to learn how to draw from and dynamically apply these types of knowledge in interaction. Stating that children need to develop the ability to draw from social-cognitive knowledge in interaction is to state that they need to develop "an understanding of differing conceptual mental perspectives and expectations as they apply at a more individual or personal level with respect to interactants in a dialogue or conversation" (O'Neill 2012: 265-266). For the pragmatic application of cognitive knowledge, children need to learn to take "into account cognitive stances that apply more generally across situations and across different interactants (e.g., inferences regarding what is conventional or relevant)"

(O’Neill 2012: 270-271). That is, children need to come to understand that “for certain meanings, speakers assume that there is a conventional form that should be used in the language community” (Clark 2009: 143; cf. O’Neill 2012: 271). Finally, in order to successfully apply social knowledge in an interaction, children need to develop “an appreciation of knowledge having to do with people and groups that a speaker must take into account to better align with the perspective of the person or group” (O’Neill 2012: 274).

O’Neill’s (2012) taxonomy gives a first entry point to the cognitive foundations of the acquisition of pragmatics, but many researchers have so far been more specific and fine-grained when investigating the types of cognitive abilities that underlie the development of pragmatics. For example, in their review of over 50 studies on the development of pragmatics and their underlying cognitive and social skills, Matthews et al. (2018: 189) divide measures of pragmatic skills into four sub-skills: conversational skills, referential communication, narrative, and irony. These four skills are supported to different degrees by children’s emerging cognitive capacities in the domains of formal language proficiency, mentalising abilities such as cognitive perspective-taking, and executive functions, including working memory and inhibition (Matthews et al. 2018: 187). Rollins (2017: 301) argues that during pragmatic development, children move from sharing emotions to sharing perceptions and pursuing goals, and then to sharing attention and intentions. Like Matthews et al. (2018), Rollins (2017: 305-307) mentions conversational skills and narrative as important domains of pragmatic development. On her view, pragmatic skills require capacities to understand and coordinate joint engagement, to understand intentional actions, to understand and initiate joint attention, and to anticipate and internalise social routines and roles (Rollins 2017: 301-305).

Pragmatics, and as a consequence, linguistic perspectivation, on this view, consist of quite a heterogeneous set of skills and different cognitive abilities that are differentially activated depending on the interactional context (cf. Ryskin et al. 2015: 910). However, to master all aspects of perspectivation, children need to develop the cognitive skills and types of knowledge mentioned above so they can adequately communicate their own perspectives and take others’ perspectives into account.

Of course, in most situations, these capacities and types of knowledge interact. In both domains of conversational skills and referential communication, the pragmatic skills involved depend crucially on two factors: knowledge of the structure and use of the linguistic constructions employed in social situations, on the one hand, and the internalisation of social knowledge about the different identities and roles of everyday life, on the other (Bryant 2009: 185). This also holds for the conventionalised ways of referring to entities that are inherent in a speech community or emerge in interaction as interlocutors align on specific referring expressions, and form so-called 'referential pacts' (e.g., agreeing whether a toy we play with should be called a 'tree' or a 'bush,' or whether to refer to somebody as a 'robber' or a 'thief' when talking about them, etc.). As these pacts are always tied to certain perspectives, they can be seen as an important aspect of the construction and negotiation of perspectives. Matthews and colleagues (2010) found that children show sensitivity to the normativity of referential pacts from as early as 3 years on. Nevertheless, neither in 3- nor 5-year-olds was it clear whether they understood that referential pacts can be seen as agreements "made between two people to take a given perspective on an object, where this agreement is believed by both interlocutors to be mutual, and its maintenance is understood to be cooperative" (Matthews et al. 2010: 749; see also Barr & Keysar 2006: 923-926). However, in cases of misunderstanding, children often actively try to establish what has gone wrong from their perspective. For example, they might protest and explicitly negotiate the term for a referent ("you called this a turtle, but it's really a tortoise;" Matthews et al: 2010: 757). It can be argued that by engaging in these kinds of experiences in natural discourse contexts children come to understand and internalise that depending on situation, common ground, and social roles, different speakers may use alternate terms for the same entity and that they express different perspectives on the referent (e.g., in a game situation, one person might call a red, roundish toy 'an apple,' but to another person the toy might rather look like 'a nose;' Matthews et al: 2010: 757).

Importantly, it is not only children but also caregivers who are sensitive to children's knowledge states in the co-construal of meaning in interaction. For instance, caregivers have been found to memorize not only which words a child already knows, but also which ones it is about to learn, and to adjust the length of their utterances accordingly (Roy, Frank, & Roy 2009). Thus, people can be shown to attend to knowledge about previous encounters with their communication partners and to reason about them (Fischer 2015: 582).

This brings us to another critical aspect of the acquisition of perspectivation, namely that of caregiver input. As perspective-taking abilities and abilities for linguistic perspectivation develop in interaction, it is of course also relevant to investigate the properties and interactive mechanisms employed in child-directed speech. This is the topic we will turn to next.

### 2.2.3 Child-Directed Speech

Child-directed speech (CDS), sometimes also called ‘parentese’[9] (Ramírez-Esparza et al. 2014), shows a number of special features that differentiate it from ‘standard speech.’ For the purposes of this study, we can describe it as “a special register of English” (Ninio 2011: 5). This definition circumvents the discussion whether all or at least some of the features found in this special register are universal or to which extent CDS as a special register is a culture-specific phenomenon (see, e.g., Lieven 1994; Narayan & McDermott 2016; Piazza et al. 2017; Sulpizio et al. 2018 for discussions of cultural differences and universality in CDS).

In terms of prosody, CDS has a higher pitch, as well as a wider range of pitches, and intonation is often exaggerated. There are also shorter phrases and longer pauses and speech, in general, is slower and vowels are articulated more clearly (Hoff 2014: 98-100; Saxton 2017: 88). These features are particularly pronounced in infant-directed speech; their exaggeration diminishes in child-directed speech (Liu et al. 2009; Hoff 2014: 100). Special communicative features of the CDS register include restrictions in the range of topics to the immediate context, a higher frequency of questions and a lower frequency of declarative utterances. In general, child-directed speech is also more repetitive. CDS is also very selective regarding the words and constructions it uses (Cameron-Faulkner et al. 2003: 846; Saxton 2017: 89-91). Another CDS feature is the higher likelihood of repeating a

[9] As these features were at first taken to be indicative of a specific maternal speech style Newport et al. (1977) originally named it “motherese,” but the terms “infant-directed speech and child-directed speech are currently more widely used” (Hoff 2014: 98). One of the reasons for this change is that features of child-directed speech are used by caregivers in general but also by other adults not related to the child (Hoff 2014: 98).

child's utterance back to them, often also expanding the utterance "or recasting it into a more sophisticated grammatical form (so, for example, the child's *Daddy car* might be repeated as yes, *that's Daddy's car, isn't it?*)" (Rowland 2014: 208; cf. Saxton 2017: 102). Adults also often explicitly instruct children and provide information about the meanings of words, offer new labels and correct them (Hoff 2014: 99).

A substantial amount of research has shown that CDS has a positive effect on children's language learning. For example, it has been shown to aid children in mastering turn-taking, word segmentation, learning word meanings, and learning and comprehending constructions and grammatical and syntactic structures (e.g., Cameron-Faulkner et al. 2003; Wagner & Hoff 2012: 191; Ramírez-Esparza et al. 2014; Rowland 2014: 208-210; Foursha-Stevenson et al. 2017). Overall, then, it can be stated that CDS "is structured in ways that facilitate language acquisition" (Hills 2013: 586; however, see Tomasello 2003: 108-112 for a more critical view).

The structure and complexity of caregiver speech have also been linked to both the structure and complexity of children's language, as well as to their vocabulary development (Hoff & Naigles 2002; Huttenlocher et al. 2002; Ninio 2011: 5; Wagner & Hoff 2012: 191). Both diversity and sophistication of caregivers' vocabulary and syntactic complexity are positively related to children's vocabulary size and later language learning (Hoff 2003; Rowe 2012; Ramírez-Esparza et al. 2014: 880).

However, it is not only the structure of CDS that influences children's language learning, it is also the quality and quantity of the input. Many studies (e.g., Hart & Risley 1995; Hoff 2003; Rowe 2012) demonstrate that "children who hear more speech develop language more quickly" (Rowland 2014: 209). Regarding the quality of the input, both Carpenter et al. (1998: 48) and Hart and Risley (1999) found that children learn language more successfully the more they are jointly engaged in activities with their caregivers (cf. Rowland 2014: 210; Ramírez-Esparza et al. 2014: 880). Similarly, Tamis-LeMonda et al. (2001) examined the contribution of maternal responsiveness, including measures such as descriptions, play and imitations, on children's language acquisition. They found that maternal responsiveness predicted the timing of children achieving language milestones such as "early expressive language: first imitations, first words, 50 words in expressive language, combinatorial speech, and the use of language to talk about the past" (Tamis-LeMonda et al. 2001: 748).

Moreover, in many respects, child language and caregiver language are structurally very similar. For example, Ninio (2011: 5) analysed global features of linguistic structures in parental and children's speech, namely the distribution of "the three core grammatical relations subject-verb, verb-object, and verb-indirect object." She found that "the child dialect is almost exactly identical to the parental register in the distribution of the three grammatical relations in the clausal core, despite children's much smaller verbal repertoire" (Ninio 2011: 5). Both CDS and children's language also display quite a high degree of schematicity. In their study of the 12 English-speaking children in the Manchester corpus, Cameron-Faulkner et al. (2003: 843) found that 51% of all utterances made by mothers started with one of 52 item-based phrases. Most of these consisted of phrases with two words or morphemes, with 45% of them beginning with one of just 17 words.[10] Interestingly, many of the same item-based phrases were also used by the children themselves, "in some cases at a rate that correlated highly with their own mother's frequency of use" (Cameron-Faulkner et al. 2003: 843). Similarly, in their study of children's early syntactic creativity, Lieven et al. (2003: 333) found that only 37% of multi-word utterances in an hour-long sample of a child aged 2;01.11 "were 'novel' in the sense that they had not been said in their entirety before." What is more, out of these 'novel' utterances, in 74% of cases only one operation was required to match their utterance with a previous one. The great majority of such utterances in fact consisted of the substitution of only a single word, "(usually a noun) into a previous utterance or schema" (Lieven et al. 2003: 333).[11]

What follows from these observations for the current study is that if we are interested in the acquisition and development of *pretend* utterances, we should also take CDS into account. On the one hand, mothers' use of *pretend* can be seen as both the input as well as the target of children's acquisition of *pretend* word forms

[10] These 17 words are: "What (8.6%), That (5.3%), It (4.2%), You (3.1%), Are/Aren't (3.0%), I (2.9%), Do/Does/Did/Don't (2.9%), Is (2.3%), Shall (2.1%), A (1.7%), Can/Can't (1.7%), Where (1.6%), There (1.5%), Who (1.4%), Come (1.0%), Look (1.0%), and Let's (1.0%)" (Cameron-Faulkner et al. 2003: 863).
[11] This holds not only for monolingual, but also for bilingual language acquisition (Quick et al. 2019)

and their uses. In addition, mothers' use of *pretend* also sheds light on pretend play activities and their semantic target domains. This is why in the current study, mothers' use and distribution of *pretend* in the corpus data will be analysed in equal detail. Mothers' use of *pretend* is also of intense interest as it allows us to investigate the structure of pretend play interactions. That is, it enables us to investigate the question of to what degree pretence behaviours are linguistically coordinated, negotiated and commented on by both mothers and children, respectively, and how these interactions might change.

This way of looking at the structure of and changes in how children and mothers coordinate pretend play is consistent with the 'linguistic tuning hypothesis' (Yurovsky et al. 2016: 2093). According to this hypothesis, caregivers not only fine-tune "the semantic and syntactic content of their utterances to match their children's level of understanding" (Tamis-LeMonda et al. 2001: 749), but also structure interactions in ways that facilitate children's learning how to use language. In a way, caregivers try to ensure that they and the child "share a way of looking at the world" (Snow 1986: 77-78; cf. Tamis-LeMonda et al. 2001: 749). Clark (2014: 105) summarises this process as follows:

> In talking with their children, adults display their uses of language in each context, and offer extensive feedback on form, meaning, and usage, within their conversational exchanges. These interactions depend critically on joint attention, physical co-presence, and conversational co-presence – essential factors that help children assign meanings, establish reference, and add to common ground.

In this way, adults provide children with feedback on what linguistic structures mean and how they can be used (Clark 2014: 105). It is one of the goals of the present corpus study to elucidate how caregivers do this in the context of pretend play.

At the beginning of children's pretence activities, we expect mothers to guide both the play process, but also to offer input for their children on how to talk about pretend play. However, as both children's sociocognitive as well as linguistic capacities increase, we expect children to become more active communicators and coordinators of pretence activities. This is consistent with research on the linguistic tuning hypothesis, which has found "a high degree of mostly parent-led coordination early in development that decreases as children become more proficient language learners and users" (Yurovsky et al. 2016: 2093).

Throughout this chapter, it has been made clear that it is children's socio-cognitive capacities that take centre stage when examining children's acquisition of linguistic perspectivation. In line with the cognitive commitment of CL, I will therefore review research on children's sociocognitive development and perspectivation in the next section.

### 2.3 Cognitive Development and Perspectivation

This section will review some of the most important aspects of children's development in the domain of social cognition. The term 'social cognition' refers not only to the cognitive capacities that underlie how we think about other people and their intentions, desires, knowledge and beliefs, but also to skills for participating in shared social activities and endeavours (Carpenter 2011: 106). Infants' and young children's sociocognitive capacities develop increasingly as they grow older, and their abilities for social understanding and social interaction become more and more sophisticated and complex (see, e.g., Carpenter 2011; Meltzoff 2011; Carpendale & Lewis 2015 for reviews). Many of these changes in children's sociocognitive skills and capacities are directly related to the notion of perspective and perspectivation. Children increasingly develop an understanding of how their own perspective might differ from that of other people in an interaction, as well as an understanding that other people have perspectives on the world that are different from the ones they have (Moll & Tomasello 2007a). This understanding is related to socio-cognitive developments in a number of domains, some of which I will elaborate on below.

One crucial first stepping stone for understanding others and their perspectives is understanding that others are in a way "like me" and also have similar perceptual experiences. Brooks and Meltzoff (2002) showed that 14-month-olds, but not 12-month-olds, understand that adults cannot see through an opaque barrier and do not follow the head movements of an adult who is wearing a blindfold. In a follow-up study, Meltzoff and Brooks (2008) provided 12-month-olds with self-experience wearing blindfolds. After a 7.5-minute training session they too did not follow an adult wearing a blindfold in a gaze-following study, as they were able to make inferences about the adult's perception based on their own experience. By 18 months of age, children can make even more complex inferences. When presented with self-experience with a trick blindfold that looks opaque from the outside but that they could actually see through, infants did follow adults' gaze when they saw them wearing a blindfold. These behaviours can be seen as primitive forms of perspective-taking (Meltzoff & Brooks 2008; cf. Meltzoff 2011: 62-66).

Infants also show sophisticated skills of inference in the domain of imitation. In a classic study, Gergely and his colleagues (2002) showed that 14-month-old human infants imitate rationally. Infants were presented with the following experimental setting: An adult was sitting in front of a table with a light-box on it. The light-box could only be switched on by touching its top. In one condition infants saw an adult who had a blanket wrapped around her but had her hands free. She then leaned down and touched the light-box with her head, thus switching it on. In another condition, the adult had her hands occupied, holding onto the blanket wrapped around her as if she was cold. She then demonstrated the same action. When infants were given the opportunity to switch on the light-box themselves, infants used their head to switch on the light-box only when they had witnessed the hands-free condition, but not when they had witnessed the hands-occupied condition. After being presented with the latter condition, they just pressed down on it with their hands. Presumably, they understood that in the hands-free condition, the specific way of switching on the light-box was used intentionally. That is, they understood that the adult could have used her hands to turn on the light-box, but did not do so, so they imitated this behaviour. In their imitative behaviour, infants and young children therefore display rudimentary abilities to take the other's perspective (Carpenter 2011: 108; for a review of children's imitative behaviour in these kinds of tasks, see Hoehl et al. 2019).

Interestingly, chimpanzees also show selective imitation in certain tasks, suggesting that humans share basic perspective-taking capacities with the other great apes in the domain of imitation (Whiten et al. 2009; cf. Call & Tomasello 2008). What is more, both enculturated chimpanzees (Buttelmann et al. 2007) and domestic dogs (Range et al. 2007; Huber et al. 2018) show evidence of rational or 'over-imitation,' which indicates an important role for socialisation and enculturation for these early forms of imitative perspective-taking (cf. Pleyer 2017b: 77-78).

Already at a young age, children also display unique skills and motivations for collaborating in joint activities with others, aligning with them, and sharing psychological states with them (Carpenter 2011: 122). In other words, from early on, children possess rudimentary skills and motivations to share perspectives and to make inferences based on an understanding of perspectives. This can be seen in the domain of pointing, which I will discuss in detail in the following section.

### 2.3.1 Pointing and Perspectivation

Directing and sharing attention via pointing is one of the most important behaviours emerging in infants' social lives. It emerges between 8 and 15 months of age (Carpenter et al. 1998; Liszkowski et al. 2012; Carpendale & Lewis 2015: 385). There is convincing evidence that infants at this age really derive their gratification from sharing their perspective with others, instead of pointing only to get the adult to pay attention to them: When 12-month-olds point to an interesting event, for instance, they are only satisfied if the adult engages in joint attention towards the event with them, but not if the adult looks only at them or only at the event (Liszkowski et al. 2004). When presented with an interesting experience, such as Grover from "Sesame Street" suddenly appearing in a hole in a large piece of cloth, infants point to Grover and are only satisfied when the adult engages in joint attention with them towards the situation, not if the adult simply looks at Grover. At 12 months of age, children therefore show clear abilities for joint attention. That is, they show the ability to attend to the same situation together with another person in triadic engagement that is directed at both the other and an event in the outside world (Eilan 2005).

Comprehension studies also show that around this age, infants are able to grasp the relevance of pointing gestures as a cooperative signal in a joint activity characterised by a joint attentional frame or *common ground* (Clark & Murphy 1982: 182; Moll & Tomasello 2007a: 122). The term *common ground* is used to refer to the sum of information that interlocutors assume they share (Clark 1996: 92-96). It is inferred on the basis of three factors: a) *physical or perceptual copresence*, e.g., a movie, person or scene both interlocutors have seen or are seeing at the moment;[12] b) *linguistic copresence* or the ‘discourse record’ of what has been said in the course of a conversation; and c) *community membership,* e.g., membership in the community of all Parisians, students, linguists, and so forth, which involves a body of knowledge that is assumed to be universal in that community (Clark & Murphy 1982: 189; Barr & Keysar 2006: 903).

Infants and young children are sensitive to common ground from early on. For example, in a series of studies, 14-month-olds gave an experimenter the toy that was unfamiliar and novel to the experimenter but not to the infants themselves when the adult ambiguously asked for ‘it’ (Tomasello & Haberl 2003; Moll & Tomasello 2007b). They made this choice based on which toy they had experienced together with the adult, and which toy they had instead experienced with another adult. That is, they took the adult’s perspective into account instead of behaving egocentrically.

These and other results thus run counter to Piaget’s (e.g., 1974: 139) famous claim that young children’s thinking is fundamentally egocentric. In fact, subsequent research has shown that the experimental tasks Piaget used to support his claim (e.g., Piaget & Inhelder 1956: 242) can be solved by children at a much earlier age when the tasks are more accessible, less complex, and involve fewer demands on cognitive performance (e.g., Masangkay et al. 1974; Light & Nix 1983; Gzesh & Surber 1985). Nevertheless, although there is much research supporting the position that quite young children in principle have a capacity for at least rudimentary perspective-taking, views on the degree of infants’ and young children’s egocentrism are still mixed. Some psychologists still see them as tending to be “profoundly egocentric” (Epley & Waytz 2009: 1228; see also Epley et al. 2004), whereas others judge their apparent egocentrism as an effect of high cognitive processing costs in unusual situations (cf. Bryant 2009: 357; see also Nadigy & Sedivy 2002).

[12] The following anecdote can serve to illustrate this: my friend and colleague Stefan Hartmann and I were once standing outside at a conference shortly after it had rained, when Ronald Langacker walked up to us and simply said “Rainbow.” This utterance was only interpretable to us because of our physical and perceptual copresence with Ronald Langacker, which prompted us to look up and see the rainbow in the distance. This example also shows that just as pointing, words and constructions are often used to direct attention to, or target things in the environment (Talmy 2017: 2).

Regardless of the question whether young children might show egocentric biases in some domains, Akhtar and colleagues (1996) showed that similar processes as the ones investigated by Tomasello and Haberl (2003) and Moll and Tomasello (2007b) are at work in word learning. This underscores the importance of an understanding of perspectives for language acquisition and the acquisition of perspectivation (see Section 2.2.1). In a similar experimental setting, infants even knew "which of these objects 'we' – and not just me or you alone – had experienced in a special way in the immediate past" (Moll et al. 2008: 89).

Other evidence for children's understanding of common ground comes from a study by Liebal and colleagues (2009), who engaged 14-month-old infants in a cleaning-up game with an adult. They found that infants only cleaned up the objects when the adult they were engaged in the game with pointed to them, but not when it was a different adult who had just come into the room. That is, they used the absence or presence of common ground to interpret the adults' communicative gesture. These data suggest that infants and young children develop a rich knowledge of sharing and taking perspectives.

By 18 months, children also understand complementary roles in social games and cooperative problem-solving tasks. For example, in a game setting where one person rolls a ball down a tube, and another one catches it with a can, children readily switch roles and also encourage and actively reengage the adult to take their role when the adult ceases to collaborate in the shared activity (Warneken et al. 2006). This ability is based on the emergence of an understanding of different roles in simple cooperative activities in joint attentional formats (Bruner 1983: 39-42), e.g., playing together, taking a bath, changing diapers, etc. (Moll & Meltzoff 2011b).

The cognitive skills and motivations underlying these behaviours are called shared intentionality. Shared intentionality denotes the motivation and ability to engage with others in co-operative, collaborative activities with joint goals, plans and intentions and to share attention, experiences and other psychological states with others (Tomasello et al. 2005; Tomasello 2008; Carpenter 2011). Children acquire conventionalised ways of how 'we' do things, and conventionalised ways of how 'we' see things: a shared 'we-perspective' (Tuomela 2007: 3). As we have seen, the shared intentionality infrastructure underlying these skills and motivations emerges most clearly at the beginning of infants' second year of life.

Pointing is of special interest for accounts of the development of perspectivation in that it can be argued that pointing gestures are already perspectival in a sense. Pointing gestures in themselves do not 'mean' anything, but instead, derive their meaning from shared context and common ground. For instance, when pointing at a log of wood, depending on context and the common ground we share, this pointing gesture can construe the log "as firewood, an obstacle that needs to be removed, a crutch if you just twisted your ankle, a suitable weapon for a pretend play swordfight, etc. (cf. Tomasello 2014: 57)" (Pleyer & Winters 2014: 26). What this indicates is that cooperative pointing "creates different conceptualizations or construals of things" (Tomasello 2014: 57; cf. Moll & Tomasello 2007a: 644).

Two important implications follow from this. First, this view of pointing is very similar to the notion of 'meaning potentials' and the importance of interactive meaning construction outlined in Section 2.1.2. This strengthens our assumption that linguistic perspectivation and its development are based on general sociocognitive and interactional mechanisms, which can be argued to develop on a continuum with non-linguistic, pre-verbal meaning construal (cf. Pleyer 2014b: 244). Secondly, as Tomasello (2014: 68) states,

> [c]ommunicators conceptualizing or perspectivizing things in different ways for different communicative partners (depending on judgements of common ground, relevance, and newness), and then recipients comprehending the intended perspectives through socially recursive inferences, is not the result of becoming a language user, but rather its prerequisite.

However, as will be outlined below, linguistic interaction affords and facilitates much more complex modes of perspectivation. The development of communication and the development of social cognition are evidently interwoven, and this creates a feedback loop between the two: "Early forms of social understanding overlap with and underlie communication and language, and language then allows for more complex forms of social understanding" (Carpendale & Lewis 2015: 382).

### 2.3.2 Types of Perspective-Taking in Cognitive Development

As we have seen in the previous two sections, children develop increasingly complex sociocognitive behaviours, indicating increasingly complex capacities for perspective-taking. This also implies that perspective-taking is not a holistic, unitary entity, which children either possess or not. Instead, it consists of different skills and abilities that emerge in different time frames. This is why in this section, I discuss conceptualisations of different types of perspective-taking that have been proposed in the literature.

Tomasello (2019: 64-68), for instance, distinguishes three types of coordination of perspectives relevant to children's interactions with others. These represent increasingly complex ways of engaging with other people's perspectives and also constitute a developmental progression of types of perspective-taking.

First, infants and young children attempt to *align perspectives* with others, which includes maintaining or re-establishing joint attention on a situation or activity. This they do, for example, by pointing, showing an object to an adult, or by simple utterances. Infants and young children are usually able to do this between 14 to 18 months of age. Tomasello (2019: 66) argues that this should not be seen as full-blown perspective-taking. Instead, the simple alignment of perspectives requires a basic understanding if a perceptual perspective is shared or not, but it does not represent an explicit comparison of perspectives on the child's part.

In a second step, children develop the ability to *exchange perspectives*. Exchanging perspectives differs from the simple alignment of perspectives in that it is done in conversations with brief back-and-forth turns. Interactants express different attitudes and perspectives towards a given situation, for example by using different words that embody different perspectives: "It's a worm" – "No, it's a stick." These kinds of perspective exchanges in conversation emerge around 2 and a half years of age. Cognitively, what exchanges like these entail is "a shared focus on a mental construal of something, about which we express different perspectives or attitudes" (Tomaselllo 2019: 67). This description also points to the key differences between aligning and exchanging perspectives. The obvious difference is that when perspectives are aligned, there is only one perspective, but when perspectives are exchanged, there are different perspectives. The second difference is that when exchanging perspectives, we move beyond the here and now, and not only communicate about the situation at hand, but about our perspectives and attitudes towards a situation. So instead of involving simple bouts of joint attention to a situation, perspective exchanges involve what O'Madagain and Tomasello (2019) call "joint attention to mental content" (cf. Tomasello 2019: 67).

The third and most complex way that children learn to deal with perspectives is by *coordinating conflicting perspectives*. Coordinating conflicting perspectives goes beyond exchanging perspectives in that children have to coordinate multiple perspectives that are simultaneously present and in conflict. One classic example of these types of situations are false-belief tasks (e.g., Wimmer & Perner 1983; Baron-Cohen et al. 1985; Perner et al. 1987; Gopnik & Astington 1988). For example, Perner et al. (1987) and Gopnik and Astington (1988) presented children with a "Smarties" box and asked them what was inside, to which children, of course, answered "candy." However, they then opened the box and found that it, in fact, contained pencils. Now they were asked what another person would say or expect the box contain. Only around their fourth birthday were children able to answer successfully that another person would expect the box to contain candy although, in fact, it contained pencils (cf. Wellman et al. 2001). This capacity to attribute complex mental states to others that can differ from reality and from their own perspective is often called *theory of mind* (Premack & Woodruff 1978; Wimmer & Perner 1983; Wellman 2011). The key problem children have with this task is that of coordinating conflicting perspectives. When the difference in perspective is less salient, and children or even infants just have to alternate between perspectives, or to simply reason or draw inferences about another person's behaviour (e.g., which of two boxes will somebody choose) they fare much better. In fact, more than "30 published studies using nontraditional false-belief tasks have now reported positive results with children between 6 months and 3 years of age (Scott & Baillargeon, 2017; Scott, Roby, & Smith, 2017)" (Roby & Scott 2018: 10).

This problem with the simultaneous coordination of conflicting perspectives is also evident in the so-called dual naming task. As we have seen in Section 2.2.1, children are able to adopt and express different perspectives on the same situation by applying different words to referents from age 2 onwards. However, children seem to struggle with declarative, metalinguistic perspectival tasks involved in identity assessment and construction ('knowing that') until the age of 4 (and in many other contexts well beyond that age). Perner and colleagues (Doherty & Perner 1998; Perner et al. 2002, 2003), for example, found that children below that age have trouble in cognitively demanding experimental settings in which they have to judge whether a doll the children interacted with had used correct synonyms for a referent (e.g., "lady" for "woman"). They also had problems with choosing the right superordinate category for a referent (e.g., "animal" for "cat") and with judging whether somebody else had used the right category. However, they seem to fare much better in naturalistic interactions that require performative, procedural linguistic abilities ('knowing how') for perspectivation, that is, in interactions characterised by shared intentionality within a joint attentional frame and a communicative intention and pragmatic motivation to take, set or share perspectives.

Moll and Meltzoff (2011b: 287) propose a slightly different, but largely concurrent model of the "series of social-cognitive steps taken by infants and young children on their way to a mature understanding of perspectives." Their model is inspired by and expands on the model of stages of perspective-taking by Flavell and colleagues (e.g., Flavell 1977, 1988, 1992 for reviews).

Moll and Meltzoff (2011b: 287) designate the capacities to engage in joint attention with others, which emerges around children's first birthday, as "level 0 perspective-taking." At this age, as we have seen, children can share rudimentary perspectives in joint engagement but seem not to have an awareness of perspective differences.

Children then progress to "level 1 perspective-taking" (cf. Flavell 1977: 46-48, 1988: 250). This type of perspective-taking is divided into two skills, which emerge at different times during children's development. First, children develop "level 1 experiential perspective-taking," which reflects children's ability to know what others are familiar with based on previous interactions and joint engagements with them (cf. the experiments by Tomasello & Haberl 2003; Moll & Tomasello 2007b; Moll et al. 2008 described in Section 2.3.1 above). As we have seen above, children reach level 1 experiential perspective-taking between 14 to 18 months.

Around 2 years of age, children then reach the stage of "level 1 visual perspective-taking." At this age, "they know *what*, e.g., which objects in a room, others can and cannot see from their current visuo-spatial viewpoint" (Moll & Meltzoff 2011b: 287; emphasis in the original).

An understanding not only of what others see from their perspective, but also how other people see things, emerges when children reach "level 2 perspective-taking" (cf. Flavell 1988: 250-251). As with level 1, Moll and Meltzoff (2011b) divide level 2 into two sublevels: 2A and 2B. At level 2A, children can take another person's perspective on a situation, even when it differs from their own. However, at this stage they can only do so if they are not explicitly required to contrast and coordinate their own perspective with that of an adult, or when they do not have to explicitly contrast appearance and reality ("She thinks it's a chocolate bar, but it's really a sponge;" Moll & Tomasello 2012; see also Tomasello 2019: 71-72). An experiment by Moll and Meltzoff (2011a) suggests that level 2A perspective-taking emerges around children's third birthday. In their experiment, children were asked for an object by an adult. However, adults saw the object through a tinted filter, which to them made the objects appear to be a different colour from the one the children perceived. Nevertheless, children at this age were able to hand adults the correct object, taking into account which colour the adult saw from their perspective. Moreover, when asked to make a blue object appear green for an adult, children correctly placed the object behind a yellow filter so the adult would see it as green, even though they themselves saw it as blue. However, in a follow-up study, Moll et al. (2013) demonstrated that 3-year-old children were not able to judge explicitly in what colour an adult saw a picture, and, in contrast, which colour they themselves saw it, neither when asked to reply verbally or when asked to point. That is, whereas at age 3 they are able to take others' perspectives, they are still not able to confront conflicting perspectives. This is what Moll and Meltzoff (2011b) refer to as "level 2B perspective-taking," and Tomasello (2019: 67) as "coordinating conflicting perspectives." This ability, as measured for example by the false-belief task, the dual-naming task, and the appearance-reality task, only seems to emerge between 4 and 5 years of age with the development of a full-blown theory of mind (Moll & Meltzoff 2011b: 299; cf. Wellman et al. 2001; Moll et al. 2013; Tomasello 2019: 67-76).

I have discussed two mostly concurrent accounts of the development of perspective-taking. Although Meltzoff and Moll (2011b) frame their account of the development of perspective-taking in terms of stages, both their and Tomasello's (2019) analyses show that perspective-taking consists of a quite complex set of sub-skills that develop along different trajectories and with different influences. This picture is consistent with the multicomponent view of perspective-taking already discussed in Section 2.2.2: Infants' and young children's capacity for perspective-taking and -setting consists of a complex network of different skills, with each skill developing differently in a complex web of developmental trajectories. This also means that there are different trajectories and performance levels for different sub-skills, tasks, persons, contexts, domains, and cultures (cf. Fentress 2005: 495; Mascolo & Fischer 2005, 2015; Ryskin et al. 2015: 910).

However, one key question that remains is how this development takes place and what factors drive and influence it. There is overwhelming evidence from the fields of comparative psychology and evolutionary anthropology that children's sociocognitive development is based on a uniquely human set of skills and motivations such as shared intentionality that build the foundation for perspective-taking and linguistic perspectivation (see, e.g., Tomasello et al. 2005; Call & Tomasello 2008; Hare 2011; Seyfarth & Cheney 2013; Scott-Phillips 2015; Tomasello 2019 for reviews). The sociocognitive and biological platform reviewed in this section is of crucial importance for the development of perspective-taking. However, it has to be kept in mind that this development is primarily driven by interaction and participation in shared practices using cultural and symbolic artefacts. This is in line with current views on cognitive development, which construe it "as a complex process that is grounded both in biological preparedness, and in the highly evolved cultural context that surrounds and nurtures the child from infancy and beyond" (Callaghan 2005: 204; cf. Bjorklund & Causey 2018: 9-11). In addition, children also actively contribute to the shaping of their sociocultural and interactive environments on the basis of their biological characteristics (Carpendale et al. 2018: 23). I will outline the cultural and interactive aspects of the development of perspectivation and perspective-taking in more detail in the next section.

### 2.3.3 Perspectivation, Interaction, and Cultural Artefacts

Summarizing the discussion so far, it can be stated that the development of perspective-taking and perspectivation has two main driving forces. One is interaction, and the other is children's experience with perspectival cultural artefacts such as linguistic constructions. I will discuss each one in turn.

As outlined above, differences in perspective and attempts at coordinating and sharing perspectives are a fundamental aspect of all human interactions (see Barr & Keysar 2006; Brown-Schmidt & Heller 2018 for reviews). For children, such situations frequently occur when they are jointly attending to a situation with an adult, but each interactant has different attitudes, desires, experiences, and perspectives relating to the situation. As Barresi and Moore (1996), Moll and Tomasello (2007a), and Carpendale and Lewis (2015) argue, these types of interaction may enable infants and young children to 'break into' the concept of perspective by realising that people can see the same situation but have different perspectives on it. In summary, then, it is through social activity, shared practices and interactions with caregivers that infants come to be aware of different perspectives, leading "gradually to the development of an ability to relate to others' perspectives on the world" (Carpendale & Lewis 2015: 389). The previous section has outlined some of the social factors and influences that are relevant to the development of perspective-taking. However, it is also important to note that "it takes two to tango; the child also contributes to the nature of the relationship. Children's own characteristics necessarily influence the extent and nature of their social experience within which they develop social understanding" (Carpendale & Lewis 2015: 402).

As we have seen, one of the biggest challenges for children is that of dealing with conflicting perspectives. Children become aware of conflicting perspectives when they encounter what Perner et al. (2003) call 'perspective problems.' These occur when two people are jointly attending to the same referent but not only have a different experiential or visual viewpoint, but also different attitudes and beliefs about the referent. It is through interactions like these that children develop an understanding of full-blown perspective-taking. To simultaneously keep conflicting perspectives in mind, children need to develop capacities for executive functions and inhibitory control (e.g., Diamond 2013; Devine & Hughes 2014; Hughes & Devine 2015: 586-589).

In addition, there is substantial research indicating that language plays a key role in the development of advanced perspective-taking, especially when it comes to the capacity for theory of mind (e.g., Astington & Baird 2005; Hughes & Devine 2015: 589-593). One contributing factor here is perspective-shifting discourse and 'perspective talk' (Farrant et al. 2012) that helps children develop an understanding of different perspectives (Lohmann & Tomasello 2003; Hale & Tager-Flusberg 2003; Perner & Roessler 2012; Tomasello 2019: 78).

Regarding specific linguistic structures involved in the development of perspective-taking, a number of studies have shown that children's experience with and mastery of complement clauses or 'propositional attitude constructions' (Tomasello & Rakoczy 2003; Tomasello 2019: 79), such as "she thinks that the toy is green," are positively correlated with theory of mind and the ability to coordinate conflicting perspectives (e.g., de Villiers & Pyers 2002; Lohmann & Tomasello 2003; Perner et al. 2005). On this view, such constructions encode perspective-shifting within a single utterance. The matrix clause "she thinks" encodes the perspective that the proposition talked about is, in fact, subjective, whereas the complement clause encodes the proposition that is held to be true by the conceptualiser (Tomasello 2019: 79). The amount of mental state talk and mental state verbs used in interactions with children has also been found to positively correlate with children's social understanding, their own mental state language and perspective-taking capacities (Ruffman et al. 2002; Taumoepeau & Ruffman 2008). The latter aspect is of course also highly relevant for our investigation of *pretend* utterances.

But even more fundamentally, it is language itself that facilitates children's understanding of perspectives. As outlined above, words and linguistic constructions embody perspectives on situations and in learning language, children build a complex network of constructions to express different perspectives. From a cultural perspective, what children learn are specific cultural and symbolic artefacts. As Tomasello (1999: 8-9) outlines,

> [l]inguistic symbols are especially important symbolic artifacts for developing children because they embody the ways that previous generations of human beings in a social group have found it useful to categorize and construe the world for purposes of interpersonal communication. […] As the child masters the linguistic symbols of her culture she thereby acquires the ability to adopt multiple perspectives simultaneously on one and the same perceptual situation.

This means that the shared symbolic storage of constructions of a culture has developed historically out of processes of cultural transmission and language change, and is the accumulated result of perspectivation attempts of previous generations (cf. Köller 2004: 390; Pleyer & Galuschek 2016: 180-182). These perspectivation attempts first become micro-entrenched in individual interactions. Based on this, they then become entrenched and conventionalised in a speech community (cf. Pleyer 2017a). They can therefore be seen "as solutions to recurrent tasks that individual speakers, or groups of speakers, create (cf. Dąbrowska, 2010)" (Fischer 2015: 581-2). Language users can employ the perspectivation potential a language has accumulated to share, express, and negotiate perspectives in interaction (cf. Köller 2004: 390-391; Pleyer 2017c: 326).

Cultural artefacts such as linguistic symbols serve as tools that support and extend children's thinking (Bjorklund & Causey 2018: 70-75). This means that acquiring and internalising these cultural artefacts transforms human cognition in fundamental ways and enables children to become adept at processes of perspectivation and perspective-taking (Moll & Tomasello 2007a; Tomasello 2014: 100-101).

Evidence for this also comes from comparative-psychological studies in cognitive science. For instance, chimpanzees' performance in the so-called 'reverse reward contingency paradigm' enables us to draw important conclusions regarding the influence of cultural artefacts on human cognition and behaviour (cf. Boysen et al. 1996; Call 2011). In this paradigm, a chimpanzee has to pick between two dishes that contain different quantities of fruit. What is special in this paradigm is that the chimpanzees always get the dish they have not picked. However, they are unable to learn this contingency and keep picking the one with more fruit. They are not able to inhibit their initial response and cannot focus their attention on the nature of the problem-solving task.

Interestingly, the results are different when symbol-trained chimpanzees are presented with a version of the task that differs in one crucial aspect: Instead of having to pick one of the two dishes directly, they are presented with Arabic numerals whose meaning they have previously been taught. In this setup, chimpanzees are able to learn that they have to pick the numeral representing the smaller amount of fruits in order to get the other dish.

The use of symbols thus seems to allow chimpanzees to distance themselves "from the gravitational pull of their ordinary perception-action routines" (Clark 2005: 240) and to adopt a relational perspective on the situation. Symbol use therefore enables humans and non-human apes to adopt a perspective that is 'decoupled' from an immediate reaction pattern and increases their 'response breadth' (Sterelny 2003: 29-30; cf. Pleyer 2012b: 6). This perspective is less influenced by the direct incentive and motivational features of the reward and enables them to think about the task in relational terms. On this interpretation, symbols allow apes to focus their attention on relational aspects of the situation (cf. Clark 2005; Call 2011). It has to be noted, though, that replacing the rewards by other stand-in objects such as stones or colored boxes concealing the dishes has the same enabling effect. There are also some chimpanzees who do learn to solve the task after being exposed to it in enough trials (cf. Call 2011: 10-11).

These results also allow us to draw inferences about the influence of the acquisition of linguistic symbolic constructions on children's cognition (cf. Clark 2005; see also Bruner 1983: 55). In Vygotsky's (1978: 99) words, the acquisition of symbols promotes children's "emancipation from situational constraints" (cf. Sokol et al. 2015: 301). Cultural artefacts such as linguistic symbols support extended forms of perspective-taking and facilitate the human ability to adopt a more schematic and relational viewpoint on a situation (cf. Gentner & Christie 2010: 262). In addition, they also enable children to adopt and express perspectives in increasingly sophisticated ways by offering "new ways of parsing a scene into salient, attendable components and events" (Clark 2005: 240; cf. Tomasello 2011: 244).

Becoming symbol users is also the key foundation for children's ability to become socialised into a community and acquire its norms, values, and roles (cf. Maccoby 2015: 3; Monika Pleyer 2019: 50). Acquiring cultural and symbolic artefacts then builds the foundation for children's further sociocognitive development. It also enables them to develop an understanding of institutional realities, moral values, and social norms such as an understanding of polite and impolite linguistic behaviour (cf. Monika Pleyer 2019; Tomasello 2019: 306).

**2.4 Summary**

In this section I have outlined some of the central concepts that play a role in children's and caregivers' everyday use of *pretend*. In pretend activities, interlocutors negotiate a perspective on a pretend play situation through instances of perspectivation and perspective-taking. *Pretend* utterances can be seen as instances of perspectivation, as they express a particular perspective on a situation. They also involve perspective-taking as interlocutors try to see the pretend situation from the point of view of their communicative partner. I then took a closer look at the theoretical foundations of perspectivations from the point of view of CL, language acquisition, and cognitive development. CL stresses the close interrelationship of language, cognition, conceptualisation and construal, with the latter two concepts also being tightly integrated with the notions of perspective and perspectivation. CL is also tied to usage-based, constructionist approaches, which highlight that perspectival linguistic constructions such as those found in pretend utterances should be seen in the context of actual language usage. I then reviewed some of the key tenets of work on the development of perspectivation in language acquisition research. Specifically, word learning was described as an essentially perspectival task as children have to learn that words embody specific perspectives and potential for construal, with the perspectival uses of *pretend* being an example of one such word. Word learning is also fundamentally pragmatic in nature, and the development of usages of *pretend* is therefore also a matter of children's overall process of learning how to use language in context. Lastly, child-directed speech serves as an important scaffold in children's language acquisition, and both conversational turns as well as the pretend scenarios under investigation are jointly constructed in interaction with caregivers. Regarding cognitive development and perspectivation, I reviewed some key aspects of the development of children's social cognition. Key cognitive abilities that underlie this development are an understanding that others are 'like me,' imitation, joint attention, pointing, an understanding of common ground and the shared intentionality infrastructure that enables children to collaborate with others and share perspectives with them. I then showed that perspective is not an all-or-nothing category. Instead, perspective-taking can be differentiated into different types of perspective-taking, and its subcomponents exhibit complex developmental pathways. Importantly, these pathways are driven by interaction and by children engaging with perspectival cultural artefacts such as linguistic constructions.

Perspective-taking and perspectivation in CL, language acquisition, and cognitive development represent one strand of the theoretical foundations of the current study on perspectivation and pretend play. The second theoretical foundation of this study relates to pretend play and how it develops in cognitive development and language acquisition. This will be the topic of the next chapter.

# 3. Theoretical Foundations: Pretend Play

In this chapter, I review research on pretend play and its relation to cognition, culture, interaction, and language. There is a vast literature on play and pretend play. As Fagen (2011: 89) states, "[a] comprehensive bibliography of human infant-adult play would exhaust the information storage capacity of most researchers, if not of their computers." However, despite this vast literature, there are still many open questions. For this reason, there are many who feel that play is still not very well understood. Fagen (2011: 83) goes so far as to say: "Play is still so totally mysterious and intractable that we may need a whole new (or almost new) story about the universe before we can even start to get it right."

Nevertheless, there is much research which is relevant to the investigation of pretend play and its relation to cognitive development and language development. This will be the focus of the following sections. Section 3.1 will focus on the interrelationship between pretend play, cognition, culture and interaction. Section 3.2 will outline research on the relationship between pretend play and language. Section 3.3 will present previous research and data on the acquisition of the lexical item *pretend*, which is the focus of much of the analysis in the empirical part of this study. As such, it lays the foundation for the corpus analysis in Chapters 5, 6, and 7.

## 3.1 Pretend Play, Cognition, Culture, and Interaction

This section will first discuss attempts to define pretence and pretend play. Although definitions are universally problematic, we will examine some features that are often seen as relevant in pretend play. As is commonly practised in Cognitive Linguistics, these attempts should be seen as elucidating a prototypically structured concept that can be seen as being organised in a radial network characterised by fuzzy boundaries and a family resemblance structure of overlapping similarities (Ungerer & Schmid 2006: 19-42; cf. Wittgenstein 1958: 66f.). The subsequent sections will then present a brief general outline of the development of pretend play as a cognitive capacity (3.1.2), describe its relation to the notion and development of perspective (3.1.3), and then review the functions of pretend play that have been proposed in the literature (3.1.4). It has to be noted that most of the evidence on pretend play comes from studies of children and caregivers in what Henrich et al. (2010) have dubbed WEIRD cultures, that is, Western, educated, industrialised, rich, and democratic cultures. This is why the next two sections will focus on pretend play as a cultural activity. Section 3.1.5 will describe the role that mothers in Western cultures play in the development of pretend play, whereas Section 3.1.6 will deal with cultural differences in pretend play. Finally, Section 3.1.7 addresses the cognitive abilities that are involved in pretend play.

### 3.1.1 Definition and Features of Pretend Play

By definition, pretend play is a form of play. However, the notion of *play* is notoriously difficult to define (Miller 2017: 330). One way of trying to define play is by spelling out its most important structural characteristics and in addition, to specify subtypes of play activity.

In his definition of play, Miller (2017: 332) lists the following fundamental structural properties:

(1) Unlike other behaviours, such as searching for food, there is no external reward to play. It is therefore internally motivated.

(2) Play is more likely to be found in younger individuals.

(3) Play is a voluntary activity. Individuals knowingly and intentionally choose to engage and participate in play behaviour.

(4) Its nature is repetitive.

(5) It occurs spontaneously.

(6) It occurs when individuals are in positive health.

(7) It represents incomplete or fragmented behavioural patterns. A pretend bite, for example, is a modified version of an actual bite.

(8) It is exaggerated in nature.

(9) It is accompanied by signals marking it as play that are species-specific.

(10) Individuals engaged in play take turns in different roles.

(11) Play is imaginative and therefore requires some kind of mental representation mapped onto reality.

(12) It is processual.

As further outlined in Section 3.1.7, play can be found in many different animal species, but it is especially pronounced in humans. Among human types of play, there is object play, physical activity play, like exercise play and rough-and-tumble play, as well as pretend play and sociodramatic play (Smith 2005: 361). The latter two are often subsumed to fall under the category of pretend play. Moreover, the subtype of pretend play is generally easier to grasp than play in general (Lillard 2011: 284). However, it still remains a somewhat 'fuzzy concept' (Lillard 2015: 426; Lakoff 1987).

Pretend play can be seen as the "signature form of childhood play" (Lillard 2015: 432). As a form of play, pretend play also displays the characteristics of play more generally discussed above. However, when trying to define pretend play, some aspects deserve special emphasis and other properties might be specific to pretend play in particular. Both Lillard (2011: 284-285) and Kavanaugh (2011) have offered criteria for a definition of pretend play, which form the basis for the definition adopted here. At its core, pretend play is a form of action that enacts imagination (cf. Mitchell 2007: 56). Imagination is "defined as the capacity to mentally transcend time, place and/or circumstance" (Taylor 2013: 3). A second important characteristic of pretend play is projection. In pretend play, pretenders intentionally project an alternative reality onto a target. This alternative reality might be similar to the reality interactants agree on in normal interactions, but in pretence it is treated and represented as a different reality. In this pretend reality, pretenders act 'as if' (Fein 1981; Leslie 1987). As Lillard (2011: 284-285; see also Lillard 2015: 436) puts it, pretend play "occurs when an alternative reality is superimposed on the present one, so one is living in an as 'as-if' world. Objects in the real world 'stand in for' or symbolize what is imagined." In a way, then, pretend play can also be described as 'symbolic play' as "one object or situation is made to stand in for another, in a spirit of fun and amusement" (Lillard 2015: 432), and, as noted in the introduction, these terms have been used interchangeably in the field (cf. Quinn & Kidd 2019: 34), and will continue to be used interchangeably here. Importantly, this 'as-if' and 'stand in for' relation is also mentally represented by pretenders, so that they can be said to possess a kind of 'double knowledge.' There is a debate to what extent children understand pretence as a mental or cognitive phenomenon (see

Friedman 2013), but it is clear that they do understand at some level that there is a superimposition of a different reality. That is, they know that a banana is still, in reality, a banana and that they cannot really call anyone with it.

In summary, the following four features, then, can be seen as defining pretend play:

(1) The enactment of imagination.

(2) The projection of an alternative reality onto a target reality.

(3) A symbolic 'as-if' and 'stand in for' relation.

(4) A mental representation or awareness of this pretend relation.

Having defined the most important features of pretend play, there is one further distinction to be made between two subtypes of pretence behaviour. As Sachet and Mottweiler (2013: 175) argue, researchers should keep the distinction between object-substitution on the one hand and role-play on the other when it comes to pretend play.

Object-play involves the representation of pretend content that is not social, whereas role play can be defined as pretend play that does involve the representation of social content. Whereas object substitution plays an important and almost exclusive role at the beginning of children's pretence activities, role play gains in importance especially as children grow older and start assigning emotions and mental states to entities (Sachet & Mottweiler 2013: 177).

It has to be stressed that role play itself is further subdivided into a number of subtypes. Harris (2000; see also Sachet & Mottweiler 2013: 177) distinguishes between three types of role play:

(1) The creation and projection of a role onto a toy or doll that serves as the vehicle of the pretend identity.

(2) Impersonating and enacting a role, with the self serving as the vehicle of the pretend identity.

(3) Projecting a role onto an imaginary character.

Role play occurs only at later stages of development, but will especially be of importance when we study the BEING ENTITY pretend categories in Section 6.4.2.

Having broadly defined pretend play, let us now turn to the question of how pretend play develops during childhood.

### 3.1.2 Cognitive Development and Pretend Play

The first pretend play acts start to emerge in children's behaviour around 14 months of age (Lillard 2015: 433; Pauen 2018: 327). Then, between 14 and 34 months of age, young children show a continuous increase in symbolic acts (Pauen 2018: 327). These at first are very basic object substitutions with single schemes. For example, children might pretend that they drink from an empty cup (Sachet & Mottweiler 2013: 176). These are followed by simple actions such as 'putting dolly to bed' and 'pretending to sleep,' which later develop into role play and longer narrative sequences (Smith 2005: 344). Object substitution increases dramatically between 15 to 18 months of age (Rubin et al. 1983; Nicolopoulou 2019: 184). Pretend play can then be said to properly start around 18 months (Weisberg 2015: 250). By this age, between 90 and 95 percent of normally developing children in WEIRD societies engage in pretend play (Michaelis et al. 2013). At this age, children also normally begin to combine pretend actions. For example, they might first pretend to stir a cup and then drink from it (Sachet & Mottweiler 2013: 176). Pretend play can be said to be in full swing by 24 months (Lillard et al. 2011: 287; Weisberg 2015; Nicolopoulou 2019: 184). Action combinations normally become more complex at age 2 and can have more than one slot or scheme. For example, children might perform pretend actions such as first stirring a pitcher, pouring from the pitcher into a cup and then drinking from that cup (Sachet & Mottweiler 2013: 176). As already mentioned in the introduction, 2-year-olds spend approximately 5-20% of their playtime engaged in pretend play, so it clearly plays an important role in children's everyday lives (Lillard et al. 2011: 287).

As mentioned above, the earliest form of pretending is object substitution. According to Sachet and Mottweiler (2013: 177),

> object substitution in pretend play shows a relatively short developmental progression that is similar for the majority of children and that is correlated with other cognitive behaviours that have a clear developmental trajectory, such as executive function and verbal ability.

Object substitutions have also been linked to developmental changes in the recognition of visual objects. Specifically, they have been linked to the ability to abstract from the structure of sparse models to recognise common objects, which occurs in children between 18 to 30 months. These changes, in turn, are also related to object name learning (Smith & Jones 2011).

Regarding the development of object substitution, Bugrimenko and Smirnova (1992) have proposed five stages in the development of symbolic pretend play, spanning the developmental time span of 18 to 30 months. At Stage 1, children are not interested in adults' object substitutions and only play with realistic toys. At Stage 2, children imitate object substitutions automatically if an adult initiates them. However, they do not seem to grasp the concept of object substitution. At Stage 3, children imitate object substitutions independently if an adult has previously performed them. When they reach Stage 4, children perform object substitutions of their own. However, they do not rename these objects and do not give them substitute names. Only at stage 5, which children usually reach around 30 months, do they originate their own object substitutions and rename objects in pretend play situations (cf. Smith 2005; Smolucha & Smolucha 1998: 45).

By 36 months of age, most children engage in extended bouts of pretend activity for durations of 10 minutes or more (Michaelis et al. 2013; Petermann et al. 2018). As Smith (2005: 362) notes, before this age much of children's early pretend play is still often very imitative. In Haight and Miller's (1993) study, for example, 75% of utterances of 12-month-old children were direct repetitions of their mothers' previous utterances. For 24-month-old children, however, this figure dropped to 30%. At this stage, it is still not clear whether children do have cognitive representations of pretend objects and activities or whether they are mostly imitating the acts of older children and adults. However, after this stage, direct repetitions hardly occur at all. Pretend play therefore becomes increasingly complex, with the child's own role in the initiation, coordination and negotiation of the pretend play situation becoming ever more active.

So although pretence emerges around 1 year of age, children's pretend play peaks around 4 years of age. In Haight and Miller's (1993) study, 4-year-olds engaged in pretend play for about 45 minutes in 3- to 4-hour periods of observation (Lillard 2015: 433). In these later years, children show much clearer indications that they understand the cognitive nature of pretence. For example, at 2;6 years, children still have problems with pretence situations in which they do not have an object that can serve as a 'stand-in' for a pretend object. When they are 4 years old, for example, when pretending to brush their teeth, they still use a body part to represent an invisible pretend tool. At age 5 children start using invisible tools, so, for example, they might pretend they have an invisible toothbrush (Sachet & Mottweiler 2013: 176).

Early pretend play is usually done with parents as well as with older siblings. In WEIRD cultures, parents often scaffold early pretend play. Between 3 and 4 years, pretend play also becomes a common activity with children of the same age (Lillard 2015: 433). Lillard (2015: 433) notes that in cultures in which parents do not encourage their children to pretend, pretend play appears slightly later. However, "in every culture in which it has been studied symbolic play emerges by the age of 3 and peaks a few years later (Power, 2000)" (Lillard 2015: 433). This is a point I will return to later in Section 3.1.6.

What is astounding about pretend play is that children start to engage in it at an age where they still often do not exhibit a clear understanding of reality and have trouble with hypothetical thinking (Lillard 2011: 285). It is interesting to note that there is some evidence that children start to enact pretence object substitutions before they seem to understand when others are pretending. Unlike in language, then, in pretend play, "pretence production with substitute objects appears to precede comprehension" (Lillard 2015: 442).

However, more recent research indicates that children actually "seem to understand pretending in others as soon as they begin to pretend themselves" (Ma & Lillard 2017: 441). There are indeed some studies that date the recognition of pretence to as early as 15 or 16 months (Bosco et al. 2006; Onishi et al. 2007). At 24 months of age, children seem to understand when someone is pretending based on behavioural cues (Ma & Lillard 2017). That is, they show a clear understanding of when an object is substituted and can understand the implications and follow along with pretend sequences, for example, when somebody is pretending to eat from a bowl (Sachet & Mottweiler 2013: 176). However, they still have problems understanding pretend if the pretence activity is not anchored to a material object that serves as a realistic representation (Lillard 2011: 285; Ma & Lillard 2017).

At age 3, children seem to be able to understand the boundary between pretence and reality (Carlson & White 2013: 164; cf. Golomb & Kuersten 1996). As they grow older, they start to recognise more and more sophisticated pretend play actions and situations (Walker-Andrews & Harris 1993; Harris et al. 1994; cf. Friedman 2013: 186). For example, they are increasingly able to understand pretend behaviours even if they are not supported by objects and increasingly take mental states and intentions into account when interpreting pretend play behaviours. However, children's understanding of pretence is constantly developing and can still be quite malleable in early childhood. For example, children still sometimes mistake pretended or imagined situations for real or claim that things that are real are pretend. For example, when seeing a video of a woman eating, they might claim that she is only pretending to eat (Lillard 2015: 444). In addition, "children sometimes mistakenly recall what was pretended, believing instead that it actually really happened. This indicates that source memory traces for pretending and imagining are weak at younger ages and strengthen with age" (Lillard 2015: 445).

Children's struggle with the cognitive complexity of pretend is illustrated, for instance, in Lillard's (1993) influential Moe the troll experiment. In this experiment, children were told that Moe the troll does not know what a kangaroo is but that he was jumping up and down like a kangaroo. Even at age 4 and 5, many children still claim that in this situation Moe is pretending to be a kangaroo, even though he does not know what a kangaroo is (cf. Friedman 2013: 188-189). It is therefore still a point of debate what representational abilities underlie children's production and comprehension of pretence and how they develop (Friedman 2013).

### 3.1.3 Pretend Play and Perspective

Many researchers have proposed that there is a close link between pretend play and perspective-taking. Flavell (1988: 141; cf. Dockett 1998: 108), for example, sees an understanding of perspectives as a requirement for the participation in shared pretend play. To engage in pretend play, children need to understand that people experience things differently and that they can have different perceptual and conceptual perspectives (Dockett 1998: 108). In pretend play, interactants need to recognise that there is a pretend perspective that differs from either their own or the other's perspective. They also need to coordinate, negotiate, and decide to engage with this pretend perspective. In this sense, pretend play is built on the capacity for perspective-sharing.

However, children also need to be able to understand that their own perspective is not necessarily the same as that of others, and they might have to modify their own representation and perspective of reality. That is, children have to be able to confront different perspectives (see Section 2.3.2). By doing so, shared pretend play also gives them the opportunity to express and develop a conception of intersubjectivity and a shared understanding among pretenders (Dockett 1998: 122; Göncü 1993). What makes shared pretence especially challenging but also interesting from the point of view of perspective-sharing is that children not only need to understand a pretend situation, they also need to be able to communicate their complex understanding with other interactants (Dockett 1998: 115).

One stage in which perspective-taking seems to be of particular importance is that of role-play. As Dockett (1998: 113), argues, role play requires that children communicate in a way that is consistent with the role they are portraying, a point we will explore more fully in Section 3.2. It therefore shows that children can adopt the perspective of others in role play. Social role-play is common by age 4 to 5 and can be argued to not only require but also help in thinking about the point of view of others. When children adopt a role and pretend to be someone else, they need to simulate the beliefs of others, their desires and also their emotional responses to a situation (Carlson & White 2013: 165). Goldstein and Bloom (2011) argue that both perspective-taking and pretend play require the development of an increasing ability of decontextualisation (see also Sachet & Mottweiler 2013: 176 and Section 2.3.3). As they grow older, children rely less on the external support of pretence and increasingly rely on their imagination. Increasingly, children use symbolic acts adopting an imagined role and perspective. This “facilitates the imaginative appreciation of other people’s perspectives, and then, with practice, the ability to adopt alternative perspectives becomes internalised – engaged in symbolically – resulting in cognitive flexibility” (Carlson & White 2013: 165). Using language also plays an important role here, as speaking ‘as if’ and using language in the way required by a role can be described as the process of children using symbols as a mechanism to distance themselves psychologically from the real situation and adopt a pretend perspective instead (Carlson & White 2013: 168; see also Mischel & Rodriguez 1993). Robson (2012: 96) puts it like this:

> In pretend play, children step in and out of a role, represent situations and transform objects, talk about mental states ('Okay, you be the mum, and you're really cross') and have to negotiate meanings and actions with others. They have to make the 'leap of imagination into someone else's head' (Baron-Cohen 2004: 26), which characterizes empathy with another person. This act of sharing an imaginative world with friends or siblings [...] involves recognition of their intentions, shared perspectives and co-ordination of communications about the play, often termed intersubjectivity. This creates the potential for internalization of these perspectives, a process which Vygotsky (1978) suggests supports higher levels of understanding and the potential for abstract thought.

As both Robson (2012) and Goldstein and Bloom (2011) argue, then, the internalisation of perspectives claimed by Vygotsky can be seen as one crucial connection between pretend play and perspective-taking. Vygotsky (1978: 92-104) attributed an important role in development to pretend and symbolic play, as it helped children with the task of psychological distancing, separating the referent from the object (Lillard 2015: 429).

In a Vygotskian perspective, pretend play can also be seen as a form of socially shared cognition and as a zone of proximal development (Dockett 1998: 113; cf. Vygotsky 1978: 102). The relationships mentioned above between perspective-taking, pretend play and cognitive flexibility is a case in point. Pretend play can be seen as helping to internalise differing perspectives and thus promote cognitive flexibility, "the ability to consider and selectively attend to more than one aspect of a situation or problem" (Carlson & White 2013: 164). This is also supported by the fact that, as discussed in Section 3.1.2, parents and older siblings scaffold pretend play early in development and children engage in pretend play with same-age peers only later in development. Pretend play facilitates children's learning about their social world by exploring how they would react to various situations. As such, these results clash with Piaget's (e.g., 1962) views that parents do not contribute to children's 'egocentric' development of pretend play (Lillard 2011: 285, see also Section 2.3.1).

### 3.1.4 Functions of Pretend Play

Looking at play generally, it can be said to have a number of functional characteristics (Miller 2017: 332):

(1) Play is rewarding for individuals engaged in it, leading to positive emotions.

(2) There are no immediate benefits obviously increasing the individual's likelihood of survival.

(3) It is context-bound.

(4) It is a facilitator for social interaction.

(5) It has evolutionary benefits.

Regarding humans, there has been a widespread debate about which function(s) pretend play may serve, as its developmental aetiology and architecture suggests that it is an evolved behaviour (Kavanaugh 2011; Lillard 2017). As we have seen, one of the possible functions of pretend play is the promotion of cognitive flexibility, increasing perspective-taking abilities and the internalisation of different perspectives sensu Vygotsky (1978: 52-57).

One type of pretend activity whose cognitive function is often highlighted as being of particular importance is that of role play. For example, pretend play offers practice with both perspective-taking and social roles. Such experiences might help children to develop an increasing awareness of their abilities for self-regulation. It might also help them develop an awareness of which behaviours are socially appropriate (Sachet & Mottweiler 2013: 180). Role play behaviour focusses on interpersonal interactions and social roles and therefore might help children develop more sophisticated skills in these areas (Sachet & Mottweiler 2013: 180).

Apart from perspective-taking and learning about roles, pretend play might also hone other skills that are important for children's cognitive development. These include, for example, planning, problem-solving, metacognition, and social as well as individual decision making (e.g., Bergen 2002; Whitebread & O'Sullivan 2012; Cabrera et al. 2017). In addition, children also learn about scripts and frames of many stereotypical situations (Gaskins 2013: 232). As Hughes and Devine (2015: 580) point out,

> shared enjoyment of pretend play is a powerful motivator for children to align their viewpoints in order to initiate or maintain joint pretend play. Although often glad to enter children's imaginary worlds, adults are also quick to tire when the same pretend scenario is enacted time after time, whereas children often relish opportunities for repeat performances. This opportunity to rehearse and practice pretend scenarios may well be an important arena for children's growing mentalizing skills.

So it might be that pretend play not only requires and helps develop perspective-taking skills but also more general and more sophisticated mental reasoning skills and theory of mind capacities.

However, this is where we have to turn to critiques of this position. For example, so far attempts to relate pretend play and theory of mind to each other have yielded disappointing results (Smith 2005: 362; Hughes & Devine 2015: 580). Pretend play is often seen as benefitting development (e.g., Ginsburg 2007; Hirsh-Pasek et al. 2009; Miller & Almon 2009), but in a review of over 150 studies, Lillard et al. (2013: 27) arrive at the following conclusion: "Despite over 40 years of research examining how pretend play might help development, there is little evidence that it has a crucial role" (see also Lillard 2015: 450-451). Lillard (2015: 450) reiterates this view in her review chapter in the *Handbook of Child Psychology and Developmental Science, Cognitive Processes:*

> The prior review by Rubin et al. (1983) devoted about 8 of its 69 pages to the correlates and outcomes of play, and concluded that although pretend play might provide opportunities to develop social and cognitive skills, there was no clear evidence of a direct benefit of play because of methodological problems. Thirty years and many studies later, the situation is unchanged.

On this view, the current state of research does not allow us to make strong claims about the uniquely important role of pretend play in development (Lillard et al. 2013; Lillard 2015). Moreover, what is questioned by Lillard and colleagues (2013) is whether pretend play has a causal role in children's development, not that pretend play is closely related to cognitive and linguistic development. In fact, Lillard and colleagues (2013) argue that pretend play and correlated developments in the cognitive and linguistic domain are expressions of other cognitive and interactional causal factors that underlie pretence. If we take perspective-taking as an example, this means that it is possible that pretend play directly aids the development of theory of mind, social cognition, and perspective-taking. However, it is also possible that children's advanced social pretend play is simply an epiphenomenal reflection of developments in these domains. This would mean that even though pretend play does not drive cognitive development, it still reflects it. So regardless of debates about its causal role in development, there is agreement that pretend play can serve as a window on the development of the social, interactional and cognitive factors that are implicated in it. Therefore, pretend play can still very much function as a window on children's cognitive and linguistic development and their abilities for perspectivation. So even from a sceptical, critical perspective, taking the use of perspectivation in pretend play as reflecting and revealing children's developing ability for perspective-taking and -sharing, as well as their overall cognitive development is well-supported by the available evidence in developmental psychology. It is also very much consistent with the developmental cognitive linguistic approach of this research project.

Here, however, it is also important to note the following: The claim that there is no convincing evidence for the importance of pretend play in development is not universally accepted (see, e.g. Nicolopoulou & Ilgaz 2013 and Harris & Jalloul 2013 for opposing views). This means that with the available evidence, we can still draw tentative conclusions, address general tendencies and use them to support arguments about pretence. Moreover, as I will discuss further in section 3.2.1, language development and pretend play are closely related, which means that taking a closer look at this relationship can still tell us much about children's cognitive and linguistic development regardless of the question whether pretend play has a causal or correlational relationship with linguistic and cognitive development. In addition, Lillard (2017; Ma & Lillard 2017) herself has proposed a hypothesis on the evolutionary and ontogenetic function of pretend play, a point we will come back to in Section 3.1.7. Regardless, we should generally be aware that there are critical voices as well and keep in mind that there are many points of debate and open questions in the research on pretend play and that much of the evidence and suggestions for the functions of pretend play are highly contested. However, it is also important to remember what is not contested, namely that pretend play can serve as a window on the cognitive, social and interactional development of children, regardless of whether it only reflects these developments or is also causally involved in contributing to these developments.

### 3.1.5 Pretend Play and the Role of Mothers in Western Culture

The development of pretend play also depends on cultural rearing practices and on cultural models of interacting with children in general. In this section, I focus on the role of mothers in Western cultures. This dimension is relevant for the current study as all 13 children in the corpus data were cared for primarily by their mothers. In general, some of these results may likely apply to fathers and other caregivers.

However, we have to keep in mind that to date, most research has explored heterosexual two-parent families. In comparison, "data on adult-child play in diverse family constellations (e.g., lesbian and gay families; extended family systems)" is mostly lacking (Roopnarine et al. 2019: 142). In terms of the generalisability of these results, it has to be noted, though, that there are also differences in the way fathers and mothers typically play with their children (cf. Lillard 2015: 431), a point I will discuss in more detail at the end of this section.

For Western mothers, it can be stated that they display specific behaviours that support pretend play and also facilitate children's imitation of pretend play activities (Lillard 2011; Markova & Legerstee 2015). In the terms of Vygotsky (1978: 84-91), parental involvement in pretend play is crucial for creating a zone of proximal development that scaffolds children's use of pretend language, imaginary objects, and cultural tools (Marjanovič-Umek et al. 2014: 855). Until their children are about 3 years of age, mothers tend to be the primary play partners of children. As Lillard (2015: 446) notes, "American mothers pretend in front of their children as early as it has been examined – 7 months (Kavanaugh et al., 1983). Haight and Miller (1993) found every mother (of the nine they observed) pretended with her 12-month-old child."

Parents can be said to usher in the development of pretend play as they start pretending before children do it themselves. Pretend play therefore emerges socially and is very much supported by maternal engagement in at least some cultures (Lillard 2015: 447). At the beginning of children's pretend interactions virtually all pretend behaviour is initiated by the mother (Haight & Miller 1993: 42; Lillard 2015: 439). This changes around 24 months, when about half of the pretend play initiations come from mothers and half come from their children (Haight & Miller 1993: 57). So although pretend play starts to emerge around their first birthday, only in the course of their third year of life does the inclusion of pretend acts become consolidated into children's play repertoire (Nielsen & Dissanayake 2000: 609-610). Before that, caregiver scaffolding and parental guidance are necessary features for the emergence of pretend play scenarios (Lillard 2007a). Between 12 to 15 months, children also do not respond very often in a way that is geared towards the pretend play to develop and continue. By 18 months, however, children "were virtually certain to find some way to continue their mothers' fantasy initiatives" (Kavanaugh et al. 1983: 52).

However, especially at the beginning, maternal initiation and scaffolding are extremely important. Mothers actively suggest and demonstrate behaviours for the child to fulfil a pretend role (Dunn et al. 1977). In both Eastern as well as in Western cultures, mothers show different behavioural cues and act differently when they are pretending compared to when they actually perform an action. They therefore behaviourally signal that they are pretending to their children (Lillard 2015; Nakamichi 2015; Hoicka & Butcher 2016; Ma & Lillard 2017). Overall, mothers show a breadth of pretend-specific behaviour. They use more words in pretend than in non-pretend situations; they use more expressions referring to pretend objects and behaviours; they use more sound effects, smile more and their smiles last longer; their smiles also more often are associated with their (pretend) actions; they look at their child more often and predominantly look at their child during pretend play; they engage in more behaviour related to a pretend-scenario and also perform some of these behaviours faster than they would usually do. They also engage in "a 'social referencing sequence', in which they locked eyes with their child, engaged in the pretend behaviour, and then smiled (as if to comment, 'Take this as silly')" (Ma & Lillard 2017: 442). The more mothers show these behaviours, the higher the strength of engagement children show in pretend situations (Lillard et al. 2007: 27). Indeed, these behaviours seem to have a positive effect on children's understanding of pretence and children receiving these signals are more likely to engage in pretend play with their mothers (Nishida & Lillard 2007).

With the help of these kinds of scaffolding, as children grow older, the degree of mutual responsiveness grows. Children start to engage in the active negotiation of a shared pretend frame. Their mothers demonstrate elaborative and contingent responses to the pretend acts of their children (Haight & Miller 1993: 57-58). Maternal participation becomes less and less important, and by 48 months, children's pretence is 50/50 between their mothers on the one hand and solitary, sibling and peer play on the other (Haight & Miller 1993: 42; Lillard 2015: 439;

Lillard 2011: 286). The length of pretence activities also changes. By age 4, "pretend play bouts with peers were twice as long as pretend play bouts with mothers" (Lillard 2011: 286).

Overall, there are at least four differences between early mother-child play on the one hand, and pretend play alone, with siblings, or with peers on the other: (1) mother-child play is more advanced and complex than when children play on their own; (2) mothers are more often spectators than actors. They also move quickly into the role of spectator. Peers, on the other hand, remain equally engaged. Around 1 year of age, mothers initiate pretend play situations from a within-frame position. But by 2 years of age, they often take an off-stage role, where they make suggestions and comment on children's pretend behaviour. However, they often do not participate themselves. (3) Mothers tend to use more replica toys and (4) when mothers pretend with their children, they more often re-enact actual cultural scripts and real events.

With their peers, in contrast, children often make up imaginary situations and objects and create pretend situations that have never happened (Lillard 2011: 286; Lillard 2015: 456). In Bretherton's (e.g., 1984) terminology, mothers tend to use more *as-if behaviour* based on everyday activities, and with peers, children tend to use more *what-if* behaviour that transforms reality. Mothers' pretend play with their children also differs from that of sibling play in that sibling play is not as complex and not as attuned to the other. Most middle-class parents are well-attuned to their children and scaffold their children's pretence to increasingly high levels. In sibling play, on the other hand, the older siblings often explicitly assign pretend roles to their younger siblings and often even tell them what they should say in a pretence script (Dunn & Dale 1984; Lillard 2015: 456).

If we regard the differences between mother and child pretend play on the one hand, and their play with others on the other, one question is why these differences exist. As outlined above, one suggestion is that the underlying goals of pretend play differ in these situations. Pretending can be seen as an opportunity and mechanism to learn culture and cultural scripts. Indeed, even cultural acts like eating can involve very different components in different cultures. So if these kinds of cultural routines and everyday activities occur more often with mothers than with others, this “supports the view that pretending with more knowledgeable others is a setting for the transmission of culture” (Lillard 2011: 290; cf. Tomasello 1999).

In terms of caregiver engagement in pretend play, as mentioned above, mothers and fathers in Western cultures display different attitudes towards pretend play and they also differ in their pretend play (Haight & Miller 1993: 138). Generally, in terms of relative frequency, Western mothers seem to engage in more pretend play with their children than do Western fathers, they show more commitment and deliberation in engaging in pretend play, and also have a more positive attitude toward pretence activities with their children than do fathers (Haight & Miller 1993; Haight et al. 1999: 138; Gleason 2005). Mothers also engage in more pretend play with their daughters than fathers do with their sons. Fathers, in contrast, more often engage in physical play, and do so more often with their sons than with their daughters (Lindsey & Mize 2001; Gleason 2005; Roopnarine 2011: 25; Amodia-Bidakowska et al. 2020).

Interestingly, this also means that fathers’ and mothers’ pretend play with their children might each have different effects on cognitive development. For example, Cabrera et al. (2017) found that low-income fathers’ playfulness with their 24-month-old toddlers was related to children’s vocabulary skills, whereas low-income mothers’ playfulness with their children was related to children’s emotion regulation.

However, just as with the lack of data on diverse family constellations, there are only few studies which have assessed the attitudes and beliefs about play held by fathers, siblings, and so-called allomothers and alloparents, that is, adult caregivers who are not the child’s parents. There are also very few studies on and how their beliefs translate into pretend play interactions with children. This is an important caveat, as in many cultural communities, all these kinds of caregivers “are quite involved in the care and education of young children” (Roopnarine 2011: 24). The contributions of people other than mothers therefore still remain understudied, which means that we have to be cautious about the conclusions we can draw from the limited set of studies there are on this topic.

### 3.1.6 Cultural Differences in Pretend Play

Regarding cultural differences in pretend play, it can first be stated that pretend play itself seems to be universal: All children seem to play, and all children also seem to engage in pretend play that involves behaviours such as objects substitutions and enacting scripts and roles (Gaskins 2013: 224). In addition, most researchers agree that both in its appearance and timing pretend play seems to be universal as well (e.g., Fein 1981; Haight et al. 1999; Lillard 2015: 454). However, it is equally important to note that "pretend play *does not look the same in all cultures* (nor for that matter, in all subcultures of Euroamerican societies) *nor does it serve the same purpose in children's everyday lives or in their growing up*" (Gaskins 2013: 226, emphasis in the original; see also Roopnarine et al. 2019: 152-153).

This especially regards two points: the types of play partners and the content of pretence. The first point surrounds the involvement of parents. In many cultures, parents do not engage in pretend play with their children, as they are not seen as suitable play partners for young children. In some cultures, they even actively discourage play (Lancy 2007; Roopnarine 2011; Gaskins 2013; Lillard 2015: 456; Roopnarine et al. 2019: 143-145). These attitudes are linked to cultural differences in folk beliefs about the contribution of play to children's cognitive development. Whereas in WEIRD cultures play is generally thought to have a positive effect on children's development, in other cultures adults see it as frivolous and of little value. However, even in WEIRD cultures, "differences exist in beliefs about play between ethnic groups within countries" (Roopnarine et al. 2019: 145).

In addition, in many cultures, mothers are not the primary caregivers of children. For example, in the 186 cultures they studied, Weisner and Gallimore (1977) found that 40% of infants and 80% of toddlers were not cared for by their mother but by someone else (cf. Lillard 2015: 456). In cultures where mothers are not the primary caregivers of children, they will of course engage in pretend play with their children significantly less often than in WEIRD cultures.

Not only are there cultures in which parent-children play is virtually absent, such as the Yucatec Maya (cf. Gaskins 2013: 234-239) or the Kpelle of Liberia (Lancy 2007), in many other cultures, parents and children also engage in much less play in general as well as pretend play together (Lillard 2015: 456; cf. Singer et al.

2009). Generally, there seems to be considerable variation in the amount of play time adults spend with their children. For example, "Bornstein and Putnick (2012) found that among 127,000 families across 28 developing countries, 60% of mothers reported playing with their young children (under 5 years of age)" in the last three days (Roopnarine et al. 2019: 146). These estimates are below those reported for WEIRD cultures. In addition, in a large-scale analysis of data for 12 linguistically and ethnically diverse Carribbean and Latin American countries, the reported levels of play ranged from 85% of mothers who played with their children in the last few days in Uruguay to 47% in Suriname (Roopnarine et al. 2019: 146-148; cf. Roopnarine & Yildirim 2018: 68). However, the average for these countries, 68.4%, still showed that the majority of mothers engaged in regular play activities with their children. In contrast, in an analysis of 18 equally diverse African countries, on average, less than 40% of mothers reported playing with their children, with rates of play ranging from 71% in Tunisia to 4% in Kenya and even only 1% in Guinea-Bissau (Roopnarine et al. 2019: 147-148).

This differs quite sharply not only from most Carribbean and Latin American cultures, but also from Euro-American culture – as well as Japan (Bornstein 2007: 116-117) and some Chinese cultures (Haight et al. 1999). In these cultures, it is quite frequent that parents are play partners until the age of 3 to 4, which, as has been mentioned, is the age when children start to engage in more pretend play with their peers and siblings (Lillard 2015: 456).

As such, Western children grow up in a much more child-centred social world that is mediated and structured by adults and contains social interactions with both caregivers and peers (Gaskins 2013: 237). As Callaghan and Corbit (2015: 269) put it, parent-child pretend play might be present in a number of cultures, "[h]owever, nowhere in the world do parents manage and orchestrate objects as props for play or environments as backdrops, or devote so much of their own time, as they do in technologically advanced affluent cultures."

The second key cultural difference surrounds the content of pretence. According to Gaskins (2013: 230, emphasis in the original),

> [p]retending as *interpretation of the children's real world* is found everywhere anthropologists have looked carefully at their play. Pretending as *invention of things beyond the children's real world* (or beyond reports they have received of other real places) is remarkably rare, if in fact it exists at all.

Revisiting Bretherton's (1984) terminology, as-if behaviour that is interpretive seems to be present in all cultures, whereas what-if behaviour that is imaginative and inventive seems to be exceptionally rare. From this perspective, in many cultures pretend play seems to primarily serve as the rehearsal of many different roles, communication practices and activities, especially those which are valuable economically, have been observed by children and which they might perform themselves later on (Gaskins 2013: 227-228). Fortes (1976: 475, quoted in Gaskins 2013: 227), for example, reports on children's play of the Tallensi people of northern Ghana:

> In his [sic!] play the child rehearses his interests, skills, and obligations, and makes experiments in social living without having to pay the penalties for mistakes. Hence there is always a phase of play in the evolution of any schema preceeding its full emergence into practical life.

In many cultures, children pretend to engage in everyday scenes centred around domestic rituals, economic activities, and family life (Fortes 1976: 479). These scenes include, for example, "child care," "house," "school," "store," "herding," "house building," "weaving," and "hunting" (Schwartzman 1979; Gaskins 2013: 227). In their time allocation study in a Botswana community, Bock and Johnson (2004) have found additional support for the argument that pretence serves the practice and rehearsal of cultural scripts. They found that children spend more time engaging in pretending a certain activity if they are likely to perform this activity as adults. They also found that children engaged in pretend play for longer periods of time if the activity was acquired later in life and seemed to require more skills (e.g., using bow and arrow). Conversely, they spend shorter periods of time engaged in pretend play of activities that children acquire when they are younger (e.g., preparing grains) (Gaskins 2013: 231). Similarly, Boyette (2016) found that among the Aka, who live a hunter-gatherer way of life in the Congo Basin, "about a third of all the play he observed was pretend play, in which children typically acted out activities they observed regularly among adults" (Gray 2019: 92).

However, children often do not exclusively pretend to perform activities that they have to perform later on, they also pretend to engage in activities that play a central role in their community of practice in general. Therefore, it can be argued that in these cultures, children engage in interpretive pretend play to explore "the full range of cultural knowledge that will constitute their adult worldview" (Gaskins

2013: 229). So in addition to helping children learn the knowledge, skills, and values of their communities (cf. Gray 2019: 90-92), pretend play also seems to be a fundamentally social phenomenon in these cultures, as it serves as “a communal way for children to make sense of the world they share today and the world they will come to participate in together tomorrow” (Gaskins 2013: 242).

Gaskins (2013: 243) sums up her argument about the cultural differences in pretend play as follows:

> (1) social partners and environments provide different opportunities and limits to how pretend play is conducted; (2) the isolation of children from adult daily activities puts on play much more of the burden of keeping children occupied and of providing experiences that support their development; (3) cultural differences in how much agency children have in their everyday lives and in how bruised they are by everyday and extraordinary events leads them to have different affective templates to bring to play (and their social worlds provide different opportunities to express them); and (4) an emphasis on “subjunctive” or “fictional” stances is valued more in some cultures than others.

What these cultural differences tell us about pretend play is that while inventive pretend play may be seen as the norm from a Western perspective, most children around the world do in fact not engage in it. Inventive pretend play should therefore not be seen as an innate feature of pretence but instead as a primarily Western cultural amplification. What is more, the age at which pretend play starts and is at its peak, the pretend scenes children engage in, and the amount of time that children spend engaged in pretend play are also subject to cultural variation (Gaskins 2013: 242). In other cultures, pretend play might generally not play an equally important role for children’s development and their daily lives as it does in WEIRD cultures. In WEIRD cultures, the development of social skills might indeed be correlated with and scaffolded by pretend play (though see Section 3.1.4 above), as it plays a central role in children’s lives. In other cultures, however, the development of social skills will very likely be supported just as well by engaging in other social experiences such as working collaboratively from an early age on (Gaskins 2013: 244).

### 3.1.7 Cognitive Abilities Involved in Pretend Play

As we have seen, pretend play might be a phenomenon that is especially prominent in WEIRD cultures, so that the claims made about pretend play might not be applicable to other cultures in the same way. However, it is still a very interesting question which cognitive capacities underlie the phenotype of pretend play observed in

WEIRD cultures, with the caveat that it is at present not clear to what extent these capacities and requirements extend beyond the cultures we are investigating.

As pointed out in Section 3.1.2, and as illustrated by the Moe the troll experiment (Lillard 1993), it is still a matter of debate to what degree and in what way children represent pretence cognitively, especially at a young age (Friedman 2013). On a critical view, it can be argued that children see pretending first as an action, something we do, instead of as a mental phenomenon (Flavell 1988; Perner 1991: 51-63; Lillard 2015: 434). This view is also supported by the lack of a strong correlation between pretend play and theory of mind discussed in Section 3.1.4. In addition, "children do not infer the mental states involved in pretence until age three or four years the earliest (Hickling, Wellman & Gottfried 1997; Lillard 1993; Rosen, Schwebel & Singer 1997)" (Kavanaugh 2011: 297). However, on a more cognitive reading, pretence can be argued to require a number of different cognitive capacities. The degree to which children understand their own cognitive processes and the mental representations involved in pretend play is a related, but different question. Bergen (2002), for example, claims that

> [p]retend play requires the ability to transform objects and actions symbolically; it is furthered by interactive social dialogue and negotiation; and it involves role taking, script knowledge, and improvisation. Many cognitive strategies are exhibited during pretense, such as joint planning, negotiation, problem solving, and goal seeking.

In addition, as already outlined in Section 3.1.3, pretend play both serves as an amplification of and requires psychological distancing (Carlson & White 2013: 169). It was already noted in Section 3.1.2 that at the age that they engage in pretend play, children struggle with hypothetical thinking (cf. Lillard 2011: 285). However, when they are as young as 2 years of age, they fare much better with problems that require deductive reasoning when they are presented in a pretence frame (Carlson & White 2013: 169). Interestingly, if it is presented in a pretence frame, children also fare much better in the reverse contingency paradigm, a task which, as we have seen in Section 2.3.3, chimpanzees have significant problems with. Generally, then, pretence seems to be positively related with top-down executive functions such as inhibitory control, self-control, -monitoring and -regulation, selective attention, working memory, and cognitive flexibility, as well as the higher-level executive functions of reasoning, problem-solving and planning (Carlson & White 2013: 169; cf. Diamond 2013; see also Section 3.1.4).

Other cognitive abilities required for pretend play are the ability to step out of the play frame to negotiate the different perspectives of interactants and the simultaneous representation of an object or situation from a real and a pretend perspective. Children therefore need the capacity to understand and engage in metacommunication and metaplay, "the process of suspending actual role playing to think or communicate about pretend" (Trawick-Smith 1998: 433; see also Section 3.2.3). Pretend role play also requires the ability to act out and portray the actions and thoughts of others, as well as the expression of emotions that are appropriate for the given situation and given role (Lillard 2015: 430). This suggests that in order to pretend, children need to possess at least some capacities for cognitive representation (Bergen 2002). And indeed, although there seems to be no direct relationship between pretend play and theory of mind, there is an association between the frequency of role play and social play on the one hand and theory of mind development on the other (Astington & Jenkins 1995; Youngblade & Dunn 1995; however, see Lillard 2015: 437-438 for a critical view).

The growing complexity of pretend themes, something we will have a closer look at in our analyses in Chapter 6, has also been argued to be a result of "children's increasing ability to imaginatively manipulate various event scripts in a broad representational format" (Carlson & White 2013: 166).

The most essential cognitive implication of pretend play probably results from its intrinsically social and cooperative nature, as has already been noted in Section 3.1.3. Rakoczy (2006) has argued that early pretend play is the first genuine form of shared intentionality as it is an intrinsically joint and shared cooperative activity based on a 'we-perspective' (cf. Section 2.3.1). Pretend play can be seen as a co-constructed activity in which individual agendas are negotiated. It is therefore fundamentally intersubjective (Göncü 1993; Gaskins 2013: 237).

From an evolutionary standpoint, it is also an important question what the evolutionary foundations of pretend play are and which cognitive capacities children engaging in pretend play share with other animals. First of all, play can be found in all primates. Pellegrini et al. (2007: 272) state that for primates, play can be seen as a prolonged phase of free exploration, providing "a low cost way to develop alternate responses to new and challenging environments" (cf. Kavanaugh

2011: 296). Regarding object play, it seems that human children and wild young chimpanzees engage in it to a similar degree (15% for human children vs. 10% for young chimpanzees; Ramsay & McGrew 2005; Callaghan & Corbit 2015: 271).

Social play also occurs in non-primate species (Palagi 2011: 71). Pellis and Pellis (2011), for example, argue that in rats, early social play has important positive effects on the development of the coordination of social interactions and emotional regulation. They hypothesise that social play in young human children might serve a similar function (Callaghan & Corbit 2015: 271).

Lillard (2015: 442-443) also posits that there might be an evolutionary connection between pretence and the play fighting observed across many animal species. She argues that both behaviours create a frame in which actions possess meanings not identical with their meanings and consequences in the real world. Therefore, some kind of boundary that separates reality and pretence must be maintained by animals when they engage in play fighting. There might therefore be some evolutionary foundations connecting human and non-human play and pretend play in humans.

However, the evolutionary functions of pretend play are less clear. Lillard (2015: 459) holds that we still do not know why children engage in pretend play or why they engage in different forms of play at all. However, as mentioned before, pretend play possesses features that indicate that it is an evolved behaviour. Namely, there is a predictable developmental sequence to it, and it appears universally in all cultures, albeit in different expressions and with different frequencies (Lillard 2017: 826). Lillard (2017) hypothesises that pretend play might have been an exapted by-product of animal play fighting. Play fighting probably evolved in animals as it represented a way to practice and rehearse fighting skills. “Play fighting involves signaling that one is only playing, and these signals and the accompanying play acts share the structure of other symbolic acts” (Lillard 2015: 459). Pretend play in human children and play fighting in animals can be seen as analogous as they share a number of isomorphic properties: “both involve an as-if world, reading signals that indicate this as-if status, and understanding that behaviors and objects in the as-if world stand for or are symbolic of behaviors and objects in the real world” (Lillard 2017: 832). Both play fighting and pretend play therefore involve metacommunication and symbolic relationships. One evolutionary function of pretend play might therefore be that it raises children's sensitivity to social signals and the symbolic interpretation of social behaviour. This, in turn, would aid language acquisition and also the development of social understanding and theory of mind.

We have already seen that parents use specific cues to signal pretence, both behaviourally and later linguistically. Many other animals, especially other mammals, also have ritualised ways to signal to conspecifics that their behaviour is pretend – i.e. that it is different from real fighting. For example, rats use ultrasonic, high-pitched vocalisations that signal that they are play fighting and also nuzzle a different area of their conspecific than if they would really bite them (Pellis & Pellis 2011, 2017). Dogs use 'play bows' as a signal that they are play fighting (Bekoff 1995), and primates such as chimpanzees, gorillas, baboons, and macaques use a so-called 'play face' (Liebal et al. 2014: 137-138) to indicate that they are not engaged in actual aggression (cf. Lillard 2017: 828). However, the claim that the structure of these acts can be seen as symbolic is controversial, as is the claim that non-human animals perform symbolic play at all (Callaghan & Corbit 2015: 270; see Mitchell 2002 for discussion).

Play fighting is also positively related to the development of executive functions in a range of animals, especially self-regulation (Pellis & Pellis 2017). It is also positively related to the development of social skills (Gray 2019: 96-98; Yanagi & Berman 2019: 75). As mentioned above, there is evidence that the development of these capacities is also supported by pretend play (Lillard 2017; Pellis & Pellis 2017). However, at the moment the evidence on proposed evolutionary benefits and functions of play is still far from conclusive (see Sharpe 2019 for discussion).

One other possible function for pretend play might be that it helps children "to exercise the imagination which could help with other activities like problem solving" (Lillard 2015: 459; see also Gray 2019: 94-96; cf. Suddendorf & Corballis 2007). A number of researchers have also highlighted the role of pretend play in the evolution of language (e.g., Donald 1991; Knight 1998; Edwardes 2010: 17-18; Ginsburg & Jablonka 2014; Pleyer & Hartmann 2017). In accordance with Piaget (e.g., 1962: 1-2), who argued for a common origin of language and symbolic play, these researchers posit that both language and pretend play require similar representational and sociocognitive capacities. Therefore, pretend play might have played an important co-evolutionary role in the evolution of language. As Parker (2002: xv) puts it, "[g]iven the developmental and evolutionary proximity between pretense and early language, perhaps it is inevitable that interest in the developmental and evolutionary emergence of language lurks behind much of the work on pretense." We will have a closer look at the relationship between language and pretence in the next section.

## 3.2 Pretend Play and Language

It seems obvious that pretend play and language are closely related. After all, both children's emerging ability to talk and their emerging interest in ever-more complex ways of playing are highly salient for both parents and researchers alike. This 'evidently manifest' relationship is vividly expressed, for example, on the cover of the fifth edition of Erika Hoff's textbook *Language Development* (Hoff 2014), which depicts a toddler sitting at a table and holding a banana to their ear as if talking into a telephone. It is therefore not surprising that, as Lillard (2007a: 136) notes, "[l]inguistic cues to pretending are the most researched topic in the area of how pretend differs from real." This section will outline some of the most important aspects of the relationship between pretend play and the language enabling and creating it. Section 3.2.1 discusses research on the relationship between pretend play and language. The subsequent sections will then elaborate on specific links between pretend play and language. Section 3.2.2 debates to what degree pretend play can be seen as a special context for language acquisition. Section 3.2.3 spells out the relationship between metacommunication and pretend play, which was already briefly mentioned in Section 3.1.4, in more detail. Section 3.2.4 addresses the question of how pretend play and language rely on contextual factors. The last section, 3.2.5, then deals with research on linguistic features of pretend play.

### 3.2.1 The Relationship of Pretend Play and Language

Many studies have found strong relationships between pretend play and language (Tamis-LeMonda & Bornstein 1994; Laakso et al. 1999). For example, Fein (1981) found that high language comprehension at 18 and 24 months was positively correlated with the frequency of pretence. In Rosenblatt's (1977) study of 12- to 24-month-old children, children who were more advanced linguistically for their age also engaged in more pretend play. Finally, in Bates et al. (1979), the use of gesture and language was best predicted by the amount of pretend play children were engaged in (cf. McCune-Nicolich 1981: 793). In their review of pretend play research, Lillard et al. (2013: 18) find that indeed, most studies show "that children who are more advanced in their play around 1 year of age are more advanced in one or more aspects of their language around 2." Correlations have also been found for children under the age of 4. As Lillard et al. (2013: 18) summarise, researchers have found such correlations for many different aspects of language. They

> have looked at different aspects of language (vocabulary size in comprehension and/or production, syntax) measured in different ways (checklist, free speech, elicited speech), and different aspects of pretend play (object substitutions, doll-directed acts, length of play sequences) measured in both free and elicited play situations. The evidence that pretend play and language are related early in development is compelling.

Quinn et al. (2018) came to a similar conclusion in their recent quantitative meta-analytic review of 35 studies published between 1978 and 2016 that investigated the relationship between pretend play and language acquisition (n = 6,848).[13] They observed "a significant small-to-medium association between the two domains (r=.35)" (Quinn et al. 2018: 121).[14]

However, the question of how exactly language and pretence are related has not been answered. In their review, Lillard et al. (2013: 1) conclude that the correlation between pretend play and language can be due to a number of factors. It is possible that (1) pretend play is a crucial driving force in language development, or that (2) it affords opportunities for children to acquire and develop certain linguistic skills, but represents only one route and context for the development of these skills, something which Lillard et al. (2013: 1) term equifinality, or (3) both language and pretend play are epiphenomena that are both supported by the development of an

[13] The study with the highest sample size in their review was McEwen et al. (2007), which comprised data on 5,070 2-year-old children (cf. Quinn et al. 2018: 127).
[14] For an explanation of the correlation coefficient r, see Section 4.3.3.

underlying, shared factor, and this is the reason why they are related. According to Lillard et al. (2013), the research conducted to date is consistent with all three positions but insufficient to draw conclusions. The same holds for the relationship between pretend play with narrative development, and emotion regulation, respectively.

Many researchers investigating the relationship between language and pretend play tend to favour an epiphenomenal explanation that sees both domains as linked to an underlying symbolic function whose development undergirds their parallel development (McCune 1995; Lillard et al. 2013; Lillard & Kavanaugh 2014; Lillard 2017). Pretend play requires symbolic thinking due to the 'stand-for' relationships often found in pretend scenarios. This, in turn, might foster children's symbolic and linguistic skills.

In terms of developmental sequences, both McCune (1995) and Ogura (1991) found that new complexity in pretend play emerged before analogous or comparable levels in linguistic skills, with new pretend play levels preceding new linguistic levels by roughly two months (cf. Lillard et al. 2013: 18). This is especially true for object substitutions (e.g., pretending a banana is a telephone), which has been strongly linked to language acquisition (McCune 1995, 2010). For example, Casby and Della Corte (1987) show that the ability to use substitute objects in symbolic play is correlated with the mean length of utterance in 19- to 32-month-old children (cf. Sachet & Mottweiler 2013: 178). Generally, object substitution also seems to be related to both receptive and expressive language skills in preschoolers (Sachet & Mottweiler 2013: 178). Sachet and Mottweiler (2013: 179) explain this relationship in terms of the development of psychological distancing, as both object substitution and language skills invoke "the representation of items that are not immediately present" (see also Section 2.3.3). Language and pretend play can therefore be said to exhibit a developmental architecture that is quite similar. In both areas, children start out with the most basic forms and progress to forms that are more advanced. For both pretend play and language, we can speak of an increase in the hierarchical combinatoriality and number of slots that can be combined in order to create a meaningful, coherent symbolic unit (Orr & Geva 2015: 148; McCune 2010; Zittoun 2010).

McCune (1995: 198) proposes "a theoretical sequence of cognitive developments […] influencing representational play and language in the second year of life." According to McCune's (1995) data, pretend play develops sequentially, starting with presymbolic play schemes, such as pretending to drink, with the child simply putting an empty cup to their lips. It then moves on to self-pretend, where children also imitate sound effects and exaggerate gestures, for example, those made when drinking. The next sequence in McCune's (1995) analysis is other pretend, such as a child feeding a doll, which is different from when the child would feed herself. The next, higher sequential step is that of combinatorial pretend, where pretend actions are combined, e.g., the child might first drink from a cup and then pour some pretend liquid into the cup or offer the cup to the doll or their mother. The final stage in McCune's (1995) proposed sequence is hierarchical pretend, which requires a structured mental representation of the pretend act and is less coupled to perceptual aspects of an object. For example, a child picking up a doll, searching for a bottle, and then pretending to feed the doll requires a mental representation of the hierarchical organisation of this pretend scenario (McCune 1995: 199).

McCune (1995) argues that these developmental stages are closely related to comparable stages in language acquisition, with coupled capacities emerging in similar timeframes. In her analysis of these capacities, the onset of symbolic pretend behaviour was related to the development of word use, both of which required symbolic understanding. The emergence of combinatorial pretend behaviours coincided with the use of linear early word combinations such as "allgone cookie," which still rely on context for their interpretation (McCune 1995: 199). Finally, the beginning of hierarchical pretend acts was associated with the onset of hierarchical combinations in language. As McCune (1995: 204) summarises,

> [a]nalyses of language and play performance supported the McCune hypotheses that children who made specific representational transitions as indicated by their performance in play were more likely to evidence language milestones that were hypothesized as requiring the same underlying representational skill than children who had not demonstrated the play transition.

On McCune's (1995: 204) view, both symbolic play and language are functions of the underlying mental capacity for symbolic representation, indicating that early language acquisition is integrated with other cognitive capacities, a view that is highly compatible with the Cognitive-Linguistic, emergentist, and usage-based view of language acquisition espoused here (see Section 2.1), and which can also be found in the works of Piaget (e.g. 1974).

More recently, Lillard and Kavanaugh (2014) also found a relationship of symbolic understanding with pretend play, language and theory of mind, suggesting that the development of symbolic understanding is the foundation for all these domains. However, language, pretence, and executive function are also related to each other, and executive functions in turn also are related to theory of mind, suggesting that the complete picture of the cognitive and developmental interrelations of these abilities is a very complex one (Carlson & White 2013: 171).

Even though the complete picture might be quite complex, a number of researchers have strongly argued for pretend play being an important context for language acquisition, and we will turn to this research next.

### 3.2.2 Pretend Play as a Context for Language Acquisition

Weisberg et al. (2013) argue that symbolic play, and also play in general, is an essential context for the development of language and enhancing linguistic skills. For example, pretend play has been shown to positively contribute to vocabulary acquisition in pre-schoolers (Weisberg et al. 2013; Toub et al. 2018). An even stronger position is adopted by Miller and Almon (2009: 63), who claim that pretend play "contributes greatly to language development" (cf. Lillard 2015: 449). This is the case because the complexity of play and its cognitive and interactive elements foster the development of strategies negotiating complex pretend play scenarios, including the coordination of pretend actions and the assignment of pretend roles.

This complexity is evident from very early on. Quinn and Kidd (2019), for example, studied the pretend play interactions of 18-month-old infants with their primary caregivers. They found that at this age, pretend play was characterised by a greater frequency of joint attention and a more frequent use of representational gestures than in non-pretend play contexts. Their "results suggest that symbolic play provides a rich context for the exchange and negotiation of meaning, and thus may contribute to the development of important skills underlying communicative development" (Quinn & Kidd 2019: 33).

As they become more competent language users, children also show more active involvement in negotiations of perspectives in pretence contexts than in non-pretence ones (de Lorimier et al. 1995). This point has also been made by Garvey and Kramer (1989). They argue that pretend play requires the explicit assignment of pretend roles to different pretend play interactants, the linguistic skills in negotiating and performing pretend activities and the ability to inform interactants of what is happening in a pretend situation. These affordances of pretend play contexts "might be expected to encourage the use of linguistic devices specialised, to some extent, to that type of activity" (Garvey & Kramer 1989: 365). Garvey and Kramer (1989) found that older children's pretend play features more diversity in terms of relationships and roles, as well as more variation in activity types. They also found that children showed not only very similar developmental trajectories regarding what kind of pretend situations they communicated about, "but also remarkable similarity of communicative techniques in comparable age groups" (Garvey & Kramer 1989: 365). Howes and Matheson (1992: 962) argue that in pretend play, children need to be able to coordinate and assign pretend play roles with their play partners and that they also need to be sufficiently verbally fluent, coherent and articulate to coordinate the planning and maintenance of play (cf. Dockett 1998: 113). Similarly, Trawick-Smith (1998: 433) notes that many researchers see pretend play as an important context for children to acquire linguistic competence and social skills because it requires them to "regularly negotiate shared symbolic meanings and coordinate ideas and intentions within make believe." This echoes Bruner (1983: 65), who argued that "the most complicated grammatical and pragmatic forms of language appear first in play activity." There is indeed evidence that children's use of language is more complex in play than in non-play contexts (Weisberg et al. 2013: 43; cf. Singer 1998). Internal state language, such as "This is a bad dog, you know" (Howe et al. 2005), as well as the linguistic co-construction of shared meanings have been shown to be positively related with pretend play (Howe et al. 1998, 2002, 2005).

Studying preschool children ranging from 3;3 to 4;7 years of age, Hughes and Dunn (1997) found a relationship between mental state talk and pretend play. First, children with higher rates of pretend play also used more mental state terms more generally. In addition, children also used more mental state talk in pretend play situations than outside of them. Nielsen and Dissanayake (2000) found that there was a relationship between children's increasing use of mental state terms and the increasing complexity of their pretend play with their parents. Melzer and Palermo (2016) also found that a more frequent use of mental state terms correlated with the complexity of pretend play situations children were engaged in. As they note, "parent-child interactions and the language used during pretend play are two important factors related to the complexity of play exhibited by children" (Melzer & Palermo 2016). However, it is important to acknowledge that play is very likely not the only context with these features. Complex negotiations of different perspectives and the coordination of interaction using complex language can of course also occur in other situations, for example in joint activities that require complex coordination and in conflict scenarios (e.g. Kyratzis 2009). Other discourse settings in which especially complex language can often be found are activities that are geared towards supporting children's language development either at home, or in preschool and school classroom settings (Dwyer & Harbaugh 2020). These include shared bookreading (Yont et al. 2003; Cameron-Faulkner & Noble 2013) and the use of monologic, expository discourse specifically designed to convey information, as opposed to simple conversational discourse (Nippold et al. 2005). Overall, certain situational contexts might favour the more frequent occurrence of certain linguistic features, with pretend play being one context favouring a higher frequency of a cluster of specific linguistic structures.

### 3.2.3 Pretend Play and Metacommunication

Dockett (1998: 113) distinguishes between pretend communication on the one hand and metacommunication on the other, which is thought to emerge around 3 years of age (Vriens-van Hoogdalem et al. 2016). In the context of pretence, metacommunications can be defined as "verbal statements or actions that explain how messages about pretend play should be interpreted" (Farver 1992: 502). Metacommunications signal that activities are play and thereby assist in the creation of shared pretence meanings and perspectives (Dockett 1998: 113). This view goes back to Bateson (1956), who argued that play functions as a frame that is based on metacommunication making clear its play-status. Pretend communication is 'within-frame' communication, whereas metacommunication represents stepping out of the frame and expressing a meta-perspective on it to ensure shared understanding. According to Whitebread and O'Sullivan (2012: 203), children use metacommunication in pretend play "to establish the play frame, to provide ongoing messages as to how behaviour should be interpreted, and to manage any alterations to this frame" (see also Vriens-van Hoogdalem et al. 2016).

As already discussed in Section 3.1.3, when they use pretend communication, children demonstrate "their ability to take on another's perspective, and to think about how that person might act, and what they might say" (Robson 2012: 145). The same holds for metacommunication as well, which is also tied to children's emerging understanding of perspectives in interaction (Vriens-van Hoogdalem et al. 2016). Eva Hoff (2013: 408) uses a theatre stage metaphor to illustrate the capacities involved in pretend communication and metacommunication. As she writes, children

> need to be able to direct their play through stage management techniques as well as act out their own roles. Therefore, children need to be both directors (and also narrators) and actors at the same time. They negotiate the content of play by stepping out of the actual role-playing for a while, for example, by the use of storytelling as a stage management technique (now the dragon attacked me and you had to help me and bring me my sword (see Bretherton & Beeghly 1989)).

Gaskins (2013: 241-242) points out that when talking about metacommunication, we should be careful to distinguish inventive and interpretative play (see Section 3.1.6). In interpretative play, play partners can often rely on shared knowledge of frames and routines if they are frequently repeated. This is a typical pattern of much play: "In such situations, although frames are still introduced, negotiated, and repaired, the whole process is much more efficient, and therefore metacommunication is a less dominant aspect of the play event" (Gaskins 2013: 243).

Explicit pretend communication strategies probably also are less important in interactions with caregivers, who, as described in Section 3.1.5., are much more attuned to their children's perspective and use many implicit strategies that highlight the pretend nature of situations. Implicit strategies to initiate pretend play therefore seem to be just as successful in this age range so that explicit strategies are not needed. In Harris and Kavanaugh's (1993) and Reissland's (1998) studies, mothers often just verbally requested actions relying on an implicit referent that was not explicitly marked as pretend. Kavanaugh and Harris (1991) found that in their interactions with 18- to 24 month-old children, mothers most often did not feel compelled to step outside of the pretend play framework (Reissland 1998: 366). For example, they might ask a child if they wanted to eat a hot dog, without explicitly asking them to pretend that the brick they were playing with is a hot dog. This also holds for younger children. As Reissland (1998: 371) has shown, when mothers engage in pretend play with their 11- to 15-month-old-children, they mostly do not step outside of the pretend play framework either. Instead, in her study, they only use indirect means to persuade their children to play-feed a doll and do not use metacommunicative strategies (Reissland 1998: 371).

These arguments also tie in with mothers' strategies when interacting with their children more generally. Caregivers often construct discourse frames that help their children to acquire language (Snow et al. 1987; see also Section 2.2.3). They do so by repeatedly creating predictable context-dependent frames. With time and through this repetition, children learn to recognise different contextual frames. For pretend play, caregivers/parents create and construct frames that make it clear to children when a situation is pretend without explicit metacommunication (Reissland 1998: 372). However, as we will see in our analysis of explicit uses of *pretend* in Chapters 5, 6, and 7, naturalistic situations often exhibit a higher degree of complexity and a lower degree of clarity than experimental settings, so that explicit metacommunication about pretend entities and behaviours plays a larger role in these contexts. In addition, the frequency of metacommunication and degree of explicitness also rises with age, as pretend play becomes more complex, as we will see both in the corpus analysis and also in Section 3.3. This will also be the topic of the next section.

### 3.2.4 Pretend Play, Language, and Context

Karniol (2016: 17) notes another reason why the frequency of explicit pretend utterances rises with age: ambiguity. Often it is not entirely clear what children are pretending from the onset (Veneziano 2002: 60). As Veneziano (2002: 60) puts it, "given the subjective nature of pretend, the intended meanings of the child's play are not necessarily evident for a third party and sometimes only their verbalization may provide clarifying or even essential information to understand the child's pretend." Often, therefore, interactants rely on "verbally encoded indications of what roles, objects, settings, and actions are 'on the stage' at any point during a pretend engagement" (Garvey & Kramer 1989: 264).

Children first observe the reduction of ambiguity in their mothers' utterances, who use language to ensure shared understanding with their children: "mothers repeatedly emphasize 'I'm pouring' and 'we're eating a good snack now!' offering an interpretation of acts that could be ambiguous given the lack of real content" (Lillard 2011: 293). Later in their development, children show the same behaviour. For example, Karniol (2016: 17) cites a case of a 30-month-old child who is being told that there is no water in her cup, to which she replies "You can just pretend there's water in here." In cases like this, children can indicate the transition to a pretend situation with the explicit use of a pretend term.

Pretend play requires children to negotiate their own symbolic meanings with those of their play partners. Trawick-Smith (1998: 343) also points towards the ambiguous nature of pretend play contexts, which fosters complex linguistic interactions. Not only do pretend play, and especially sociodramatic play, provide children with the opportunities to use complex language, they also support the development of pretend communication and metacommunication (Dockett 1998; Robson 2012: 145-152). Support for this view also comes from studies by Creaghe and colleagues (2020), who found that both caregivers and children between 18 to 24 months use communicative and linguistic behaviours that help the fluid negotiation and assignment of meanings in pretend play contexts, thereby reducing the inherently ambiguous nature of pretend play. Moreover, they also found that linguistic features found in pretend play, but not in play situations that did not involve pretence – namely more frequent turn-taking, and a higher degree of questions and onomatopoeia – at 18 months in fact positively predicted language development at 24 months.

Veneziano (2002: 63-64) distinguishes between four different functions that pretend utterances can have:

(1) They can be duplicates of previous pretend utterances of other interactants.

(2) They can enrich a pretend play scenario.

(3) They can specify a pretend situation more precisely, or

(4) they can create a pretend situation.

Based on her analyses of French-speaking children, Veneziano (2002) distinguishes two periods in the development of children's pretend language: A low-informative period, and a high-informative period. When children start talking about pretend behaviours, they start out with a low-informative period, which lasts around 2 to 6 months. In this period children exclusively make pretend utterances belonging to categories 1 and 2. Veneziano (2002: 65) describes this period as a phase in "which more than 50% of the children's verbalisations refer either to nonpretence aspects or to pretend meanings that have a clear counterpart in the actions and/or objects acted upon." Between 18 and 23 months, children enter a high-informative period, "during which more than 50% of the children's verbalizations are used to specify, enrich, create or announce pretend meanings, contributing decisively to make them understood" (Veneziano 2002: 65).

As in other studies, Veneziano's (2002; see also 2009) results show that children start using language in pretend situations quite early. Language is therefore a significant part of pretence from early on. What Veneziano also shows is that the aspects that children perspectivise and construe in pretend play change in development. She sees these changes as "a specifically pragmatic acquisition, independent of children's advances in lexical or morphosyntactic language knowledge" (Veneziano 2002: 66). Veneziano (2002, 2009) sees this development as a more general cognitive-pragmatic development in which children realise that perspectives on situations need to be explicitly shared and negotiated. Children therefore learn to use language to express different perspectives on a situation, marking it as pretend or real (Hall et al. 1995; Garvey & Kramer 1989).

Evidence for this view comes from the fact that explicit talk about the symbolic, pretence dimension of pretend play emerges around the same time in children as references to past events and as linguistically providing justifications for their own actions (Veneziano 2009: 30). Such justifications can also often be found in children's language in pretence scenarios. For example, in the Thomas corpus (Lieven et al. 2009), *pretend* frequently occurs in constructions such as *just pretending; just pretending it's/that's X* (e.g., *<just pretending> [<]0that [*] this is coffee*; 3-07-03.cha)[15] that serve to justify or explain the child's actions. Another construction that is quite frequent is *just pretend PRONOUN COPULA X* (e.g., *just (pre)tend it's very high, Mum*, 3-06-03.cha),[16] which serve as imperatives or directives for participating in a pretend play situation (see also Pleyer & Lindner 2014: 249).

### 3.2.5 Linguistic Features of Pretend Play

Many studies have looked at the strategies used by children to establish shared pretence scenarios (e.g., Giffin 1984; McCune-Nicolich 1981; Garvey & Kramer 1989; Lloyd & Goodwin 1995; McCune 1995; Melzer & Palermo 2016). For example, studies have investigated specific linguistic features that occur in pretend play. Linguistic features that appear more often in pretend scenarios than in non-pretend scenarios are sentence complexity, past-tense verbs, future auxiliary verbs, modal verbs (such as modal uses of *will* and *gonna*), quasimodals (Giffin 1984; Gee & Savasir 1985), temporal expressions, tags, subjunctive tense and formal proposals to pretend (Garvey & Kramer 1989; Lillard 2007a: 136).

Other constituents of pretend play utterances that develop with age are the use of metacommunication, explicit linguistic transformations of objects and situations into pretend objects and situations, the complexity of action plans in pretence, and the diversity of the types of roles that are part of pretend play situations (Garvey & Kramer 1989: 264). Symbolic transformations of these kinds require interactants

[15] The symbol [<] "indicates that the text enclosed in angle brackets is being said at the same time as the preceding speaker's bracketed speech" (MacWhinney 2019a: 74).

[16] The brackets in *(pre)tend* indicate that the word *pretend* was not completely pronounced. The part in brackets was left out, so that the utterance was actually *just tend it's very high, Mum* (MacWhinney 2019b: 47).

to “define those transformations verbally to each other in order to establish a shared frame of meaning” (Robson 2012: 123).

All these features of course also occur in other contexts. For example, temporal expressions are also frequently found in mealtime family conversations, especially in those of Western middle-class families who often talk about their day and past and non-present situations and events during mealtime (Snow & Beals 2006). They are also found more frequently during more decontextualized discourse strategies such narrative storytelling, which is removed from the here and now (Nelson 1989; Demir et al. 2015). Here it is particularly important that from a usage-based perspective, the use and acquisition of linguistic structures is always tied to the particular contexts in which they are instantiated (see Section 2.1.3). This means that certain structures can be tied to different contexts in which they occur especially frequently (see also Section 4.2.1.2). Given this theoretical background, we can state that, for example, “modals, as children express them, are associated with the pretend function” (Hall et al. 1995: 232). This means that modal verbs have a number of associated functions in child language, with one function being their use in pretend play contexts.

As Hoyte et al. (2015: 19) stress, in the context of pretend play modality is a particularly interesting linguistic feature because when “speakers use modality they foreground not only the fact that their utterance is based on their own perspective but also that they realise different perspectives are possible.” They are therefore a vital linguistic tool to create and extend cohesive perspectives on pretend play situations.

In general, it seems that children have a pretend lexicon of words they are more likely to use in pretend situations. That is, there is a network of words that constitute children’s entrenched strategies to initiate, respond to, negotiate and create pretend play (Hall et al. 1995). This is also consistent with a usage-based approach to language and language acquisition (e.g., Tomasello 2003; Diessel 2013; see also Section 2.1.3).

Lillard (2007a: 136), however, cautions that many of the more complex linguistic features of indicating and negotiating pretend might be present in pre-school children, but might be unlikely to help children just learning language, that is, at the time when pretend is just starting to develop as well. This is consistent with Hall et al.'s (1995) observation that when children talked about pretend play and pretend transformations, they expressed pretend play situations in ways that were relatively non-reflective and unsophisticated. Hall et al. (1995) found that children encode pretend actions mostly through the verb *to be* and aspectual constructions like *I'm building, I'm putting dolly to bed*. Importantly, these could not be understood as pretend without context. Children focussed on the creation of pretend play situations rather than on commenting on them,

> and the identity and action words that predominantly expressed that creation can only be accurately interpreted as referencing a pretend world by an examination of the conversational context in which they were embedded. Words, or more generally, communicative levels that would allow for reflectivity or for decontextualized awareness of the representation of pretence were rarely used (Hall et al. 1995: 243).

Most sophisticated uses of pretend language by children were found to mirror the usage patterns of their mothers. Children only used such complex linguistic strategies when "relatively more sophisticated words of pretense and more sophisticated levels of pretense were needed in everyday discourse" (Hall et al. 1995: 246).

Mothers themselves were also found not to use sophisticated pretend discourse more frequently than their children but instead used it at a similar level. Here, mothers seemed to interactively align with their child in the frequency and form of pretend utterances, thereby establishing linguistic routines during dialogue that children could use as model utterances (cf. Pickering & Garrod 2005). Children therefore mostly mirrored the pretend language they were exposed to. This suggests that they were learning the language of internal cognitive states through exposure to an adult model. This again makes sense from a usage-based perspective. In Taylor's (2012) words, we can say that children are keeping track of pretend utterances they encounter, as well as their contexts, and store them in their 'mental corpus.' This then enables them to generalise over instances of pretend utterances and contexts in a bottom-up-, data- and frequency-driven manner and to build up a network of pretend constructions. However, as we have seen, given the context dependency of most pretend constructions, this makes them very hard to find in an automated fashion in large corpora. In addition, explicit references to pretence activities are cognitively extremely interesting as they tell us that children understand the situation as an instance of pretence, something we cannot infer from more implicit references to pretence. What is also important to remember here is that most constructions that children acquire are polysemous and polyfunctional, occurring in multiple contexts where they often serve different but related functions (Floyd & Goldberg 2020). Explicit references to pretence are therefore of special interest in studying children's specialised pretend vocabulary, as they have the closest and most unambiguous connection to pretend situations and also shed light on children's and caregivers' explicit ways of establishing and negotiating pretend play situations.

Children's language use does indeed become more explicit as they grow older. Between the ages of 3 to 5, social pretend play becomes more and more explicit in terms of children's negotiations of complex perspectives on pretend scenarios:

> As children initiate, organize, and conduct social pretending, they use a differentiated variety of language to communicate not only differences in interpersonal orientation but also subtle differences in stances toward their pretend and nonpretend worlds (Garvey & Kramer 1989: 379).

Analysing pretend play situations using the Linguistic Word Count Programme (LIWC; Pennebaker et al. 2001), Lillard (2011) showed that mothers were more likely to repeat the same words when engaged in pretence. They also used more forms like *we* and *us* in pretend situations than in non-pretend situations. Both these tendencies can be seen as ways to achieve joint attention and confirm joint understanding. These strategies ensure that both mother and child share the same pretend world and participate in the same act of shared meaning-making and sharing a perspective (Lillard 2011: 291).

One example case is the progressive. Not only do children themselves use progressive constructions in their pretend play, but it can also be argued that child-directed speech in pretend play also fosters the acquisition of progressive constructions. Progressive constructions are used in situations in which an event that is described is just unfolding, and is temporally limited, something which is generally the case in pretence. This view is also supported by the fact that, as observed by Lillard et al. (2007), mothers talk more during pretence situations and use more repetitive language. This might increase the salience and comprehensibility of progressive forms for children, in this case the fact that one aspect of progressive constructions is to refer to non-permanent, temporally limited, unfolding actions, events, and situations.

From a Cognitive-Linguistic and constructionist perspective, Cook-Gumpertz and Kyratzis' (2001) study is of particular interest in this context. In their study, they investigate the development of aspect within pretend play situations. Grammatical aspect provides a powerful means to conceptualise the unfolding of events in different ways (cf. Croft 2012: 4). According to Comrie (1976: 3), "aspects are different ways of viewing the internal temporal constituency of a situation." Differences between perfective and imperfective aspectual framing in English (e.g., *She worked* vs. *She was working*) have been discussed extensively in Cognitive Linguistics. In Cognitive Grammar, aspectual framing is characterised in terms of viewpoint. For example, in the English progressive, "the position from which the situation is viewed is contained in the ongoing process itself (so that any boundaries are not 'in view')" (Verhagen 2007: 153). This 'involved viewpoint' plays a pivotal role in acquiring progressive aspect. In child-directed speech, progressively framed utterances tend to be used to denote events that are still unfolding (Ibbotson et al. 2014; see also Pleyer & Hartmann 2014).

Cook-Gumperz and Kyratzis' (2001) study provides evidence that pretend play situations serve as scaffolding and training ground for the acquisition of present simple and present progressive constructions. They investigated the utterances of 3- and 4-year-olds engaged in pretend play. As their analysis shows, the simple present and progressive constructions used by children are contextually tied to particular types of pretend play as well as particular perspectives and viewing arrangements (cf. Langacker 2008: 73). Progressive constructions such as *I'm making soup* or *pretend I'm making food,* for instance, are tied to the child taking an involved viewpoint on the pretend action that they themselves are part of. On the other hand, the simple present is tied to pretend play that is collaborative or manipulative. Simple present constructions are used when the child wants somebody else to do something (e.g., *somebody's on the ice-skate rink*, *and you say, 'Sarah have you got* *pins'*), or when the child establishes a habitual role in pretend play (e.g., *I'm a Chinese sister, and I look pretty*; *I come from Korea*) (Cook-Gumperz & Kyratzis 2001: 56-57).

The language of pretence is thus a specialised use of language as it differs from language use in other contexts. This means that specific linguistic features occur more frequently in pretend contexts than in other contexts, and as such have a strong statistical associative link with pretend scenarios. As noted above, this is consistent with a usage-based view of language acquisition, in which constructions are stored together with associations of memories of their usage contexts. They therefore also have the potential of aiding children in the acquisition of these constructions.

Generally, observations like these are consistent with the view that the meaning of these constructions is intricately linked to certain discourse-pragmatic and perspectival functions. From a constructionist point of view, then, they are to be seen as part of the constructional meaning of simple present and present progressive constructions in cooperative, collaborative pretend play situations.

### 3.3 The Acquisition of the Lexical Item *Pretend*

Words like *pretend* are central to experimental investigations of children's understanding of pretence, imagination, fantasy, and reality. Therefore, how children acquire *pretend* is an important issue for research in cognitive development (Lillard & Witherington 2004). Hall et al. (1995: 233) even go so far as to claim that

> [k]nowing what words children include in their pretend lexicons may help provide the key that unlocks the door to understanding the relationship between the internal representation of pretence, the cognitive internal state lexicon, and the development of theory of mind.

However, little is actually known about how children use these words in their everyday life (Bunce & Harris 2008: 446). *Pretend* occupies a special part of this pretend lexicon in a bigger network and will be the focus of the corpus analysis. Elucidating patterns of the use of *pretend* using the CHILDES database is one of the main goals of the corpus studies in Chapters 5 to 7, but before we look at these data in the empirical part of this study, let us take stock of some of the results of previous studies regarding the use of the lexical item *pretend*. One caveat that we have to keep in mind, however, is the fact that children's first use of particular words and constructions might only reflect a partial understanding of their meaning that differs from adult usage. This is especially the case in the domain of mentalistic verbs (Carpendale & Lewis 2015: 403; cf. Shatz et al. 1983; Budwig 2002). So, as mentioned in Section 3.1.7, children's early use of the word *pretend* might not reflect a mentalistic understanding of a perspective on a play situation yet, but might instead be focussed on the action of pretending (see also Section 7.2.1).

Nevertheless, previous studies indicate that the expression *pretend* is found significantly more often in older than in younger children (Garvey & Kramer 1989; Hall et al. 1995). Previous studies have found that pre-school children do use the word *pretend* to indicate something as pretence, but that they do not regularly do so until they have reached age 5 (Lillard 2007a: 136). Some previous studies of pretend play in children seem to have been too focussed on the decontextualised use of this particular item as a window into children's pretend play, prompting Lillard (2002: 111) to remark that

> [o]ne might question whether children's problem in some experiments is only with the word "pretend" (Woolley, [1995]; P. Mitchell, 1996). Perhaps children simply mismapped the word pretend to the characteristic component of the activity, while neglecting the defining one (Lillard, 1993), but they are well aware, when watching people pretend, that minds and even mental representations are involved.

What this indicates is that it is of crucial importance to not only look at occurences of *pretend* in isolation, but at the contexts and pretend play activities in which they occur and the way that children use this lexical item to coordinate and negotiate perspectives on pretend play, which is one of the key goals of the current project.
In the following sections we will first discuss experimental data on the acquisition and use of *pretend* (3.3.1), and then review existing corpus, questionnaire and diary studies on the acquisition of this lexical item (3.3.2). In the last section of this chapter, I summarise what is known about the function of the lexical item *pretend* in acquisition and interaction.

### 3.3.1 Experimental Data on the Acquisition and Use of *Pretend*

On the comprehension side, according to Fein (1981: 1101), 4-year-old children understand the word *pretend* and its implications, and they can also describe their own activities using the verb *pretend*. On the production side, as Garvey and Berndt (1977) found in their study, 3- to 5-year-olds are more likely to communicate their own activities and intentions (e.g., *I gotta drive to the shopping centre*) than they are to communicate shared plans they have with interactants. As Garvey and Kramer (1989) note, pretend statements increase dramatically during the age span of 2;10 to 5;7 years of age. These include transitions that instruct others to pretend (*you pretend…*), that aim to draw others into shared pretend (*Now we hafta pretend the tea-party*; Gerhardt 1991: 545), or to locate a space where the pretend activity is going to take place (*let's play in the doll corner*; Paley 1984: 66) (cf. Karniol 2016: 17). In their study, formal proposals using the verb *pretend* did not occur very often in children between 2;10 to 4;4 years of age, but were used quite frequently by children between 4;8 to 5;7 (Garvey & Kramer 1989: 375).

Similar results were obtained by Lloyd and Goodwin (1995). They compared how young children starting school played together in pretend scenarios at two stages in development: at the beginning of school and six months later. They separated their analysis into two groups: The first recordings were done with children aged 4;2-4;6 in the autumn term, and the second recordings followed when the children were between 4;8-5;0 in the summer term. Lloyd and Goodwin (1995) distinguished four different activities young children employed in setting up and organising pretend play situations:

(1) assigning roles to themselves;
(2) assigning roles to others;
(3) designating objects as pretend objects that stood for something other than they were;
(4) establishing a unified theme for a pretend play scenario.

In the autumn term recordings, only one instance of *pretend* was found. In the summer term recordings, on the other hand, they found 54 overt uses of *pretend*, which made up for 20.5% of all utterances organising pretend scenarios. Out of the overt uses of *pretend*, 81% were used for scene setting and establishing a shared theme for a pretend scenario. Claiming a role for themselves, assigning a role, or assigning pretend status to an object, on the other hand, only accounted for less than 8% in each case. Overall, in Lloyd and Goodwin's (1995) study, *pretend* could be said to be common among children in the age span from 4;7-5;7, but not before. Interestingly, the functions employed by children to organise pretend did not change in frequency. It was just their linguistic realisation that differed. For example, scene setting occurred at a similar frequency in the autumn recordings and the summer recordings, with the difference being that scene setting in the autumn recordings was not done with overt uses of the verb *pretend*. Non-overt strategies of establishing pretend play therefore seemed just as efficient in establishing shared pretence scenarios as an overt strategy. However, as the data in Chapter 5 show, the same might not hold true for situations where it is less clear whether children are pretending and what they are pretending.

Garvey and Kramer (1989) also found instances of *pretend* in their data. It was often used as a metacommunicative device in sociodramatic play with the function of stepping outside of a pretend situation and adopting a pretend stance by explicitly stating *Let's pretend*. As with Lloyd and Goodwin (1995), Garvey and Kramer (1989) found this explicit use most frequently in older, school-aged children.

However, children's abilities to engage in and negotiate shared pretence are already highly complex and developed when they start school (Furth & Kane 1992; Lloyd & Goodwin 1995). This led Lloyd and Goodwin (1995) to the conclusion that children's frequent use of *pretend* at age 4;7-5;7 reflected not a cognitive development, but a linguistic one. They speculate that teachers repeatedly use explicit scene setting strategies during group activities, and that this makes children aware that explicit verbs like *pretend* can serve the function of publicly announcing and thereby initiating imaginary scenarios. The rise in the frequency of *pretend* could therefore also reflect children's growing awareness of the verb as a metacommunicative scene setter, or, as Karniol (2016) calls it, an epistemic operator.

Looking at even younger children, Harris and Kavanaugh (1993) showed that 2-year-olds already possess the ability to use nonliteral language and have linguistic ways of talking about pretence or initiating pretend situations. However, as with the studies by Lloyd and Goodwin (1995) and Garvey and Kramer (1989), younger children used the lexical item *pretend* significantly less often. Dale and Fenson (1996), based on the MacArthur Communicative Development Inventory (see Section 3.3.2), even reported that among 2-year-old children, only about 7% used it in everyday speech (cf. Bunce & Harris 2008: 446). Bunce and Harris (2008:

452), however, used different methods with higher ecological validity and came to different conclusions. Studies with higher ecological validity try to ensure that the "methods, materials and setting of the research study closely approximate the real-life situation that is under investigation" (Rowe 2012: 206). In this case, Bunce and Harris (2008) not only asked parents if they remembered their children using the lexical item *pretend*, as was done by Dale and Fenson (1996), but also asked them to record uses of the target word *pretend* when it was produced by the child. Using these methods, they found that all 80 of the 2- to 3-year-old children in their study used the lexical item *pretend*.

This is also a caveat for much data found in the CHILDES database. Often, data were collected during toy play, which means that in such situations a pretend or play context might already be established. This might therefore reduce the need for children to explicitly announce or negotiate that they are pretending (cf. Bunce & Harris 2008: 453; see the discussion in Section 4.3). Nevertheless, as the data in Chapter 5 show, corpus evidence supports the observation by Bunce and Harris (2008) that in naturalistic settings, children use the lexical item *pretend* more frequently and earlier than experimental and observational research that looks at smaller datasets suggests.

As in the Lloyd and Goodwin (1995) and Garvey and Kramer (1989) studies, Bunce and Harris (2008) also found that *pretend* is used more often by older children aged 4 to 7 years. In contrast to Lloyd and Goodwin (1995), they do not see this as a purely linguistic development. Instead, they interpret these results in light of Piaget's (1962) argument that as children grow older, their pretence acquires a more orderly fashion. Their more frequent use of *pretend* later in development can then in part be explained due to the need of interactants to negotiate with their play partner to establish a shared perspective on the pretend play situation (Bunce & Harris 2008: 452).

Regarding the development of internal cognitive state language, including *pretend*, Hall et al. (1995: 249) found that "[c]hild and adult production of the cognitive internal state word lexicon was tightly woven together." As mentioned above, and consistent with a usage-based approach to language acquisition, children mostly mirrored the language they were exposed to. This also means that at this age, the use of *pretend* and other internal state language is not driven by children's cognitive development but by the way and frequency these words are used by adult models in different contexts. As also indicated above, explicit expressions such as *play* or *make believe* are not very frequent in children's utterances. In addition, "[w]hen the word *pretend* was used, it rarely signaled evaluation or metacognition. Instead, it was used to simply further the action" (Hall et al. 1995: 251).

This contrasted with Hall and colleagues' initial speculation that "the word *pretend* should lead development of cognitive internal state words and that in this domain also child and adult usages should be minimally connected" (Hall et al. 1995: 251). This, however, was not supported by their data. They also found that mothers did not use *pretend* as a marker of cognitive state very often either (Hall et al. 1995: 252). Lillard and Witherington (2004: 289) also found very few instances of the verb *pretend* in their study of the interactions of 18-month-olds with their mothers: "On average, the explicit labelling of the event type was used once in every pretend session, but many mothers did not use the word at all." In fact, it was only used by about half of the 29 mothers in their study. Instead, mothers more often used different strategies. In Lillard and Witherington's (2004) study, for instance, mothers talked more and in more detail about the activities they were engaged in in pretend play situations than in non-pretence situations. They also found that children's understanding of a pretend situation did not improve or deteriorate regardless of whether the word *pretend* was used. As Rakoczy et al. (2006: 371) summarise, "in talking about pretend play, explicit 'pretend that' and 'pretend to' constructions are not used very often, as there are other more implicit ways of marking discourse as being about pretence events" (cf. Garvey & Kramer 1989; Lloyd & Goodwin 1995). However, as we will see, uses of *pretend* in other types of constructions that are less complex do occur significantly more often.

Hall et al. (1995: 248-248) did find that *pretend* was used more often by children in free-play situations. However, they generally did not use more internal cognitive state words in pretend play situations than in other situations. As Sobel and Lillard (2001) have shown, 4-year-olds still do not explicitly connect the word *pretend* with mental states. Lillard (2011: 111) speculates that children first need to become aware that pretending involves cognitive activity before they extend the meaning of *pretend* to include this (see Section 3.1.7).

In summary, experimental studies indicate that children display quite complex abilities to set up and organise pretend play from quite early on. Only as they grow older do they start using more overt, explicit and linguistically more complex ways of organising pretend play, for example, through the use of the lexical item *pretend*. However, even though the usage of *pretend* is less frequent in younger children and increases with age, it still has an important place in children's everyday lives and their interactions with caregivers. This is especially the case because the lexical item *pretend* is instrumental in explicitly marking activities as pretend, something that is particularly important when it is not clear that pretend activity is taking place. For these reasons, focussing on the usage of *pretend* in this study can still yield important insights into how the lexical item is used to negotiate perspectives on pretend play situations. The fact that *pretend* does indeed occupy a special place in children's everyday lives is also supported by corpus, questionnaire and diary studies, to which I will turn next.

### 3.3.2 Corpus, Questionnaire and Diary Studies of *Pretend*

Probably the most reliable source for the development of the lexical item *pretend* is the data from the MacArthur-Bates Communicative Development Inventories (MBCDIs or CDIs; Fenson et al. 1994, 2007). The CDIs are "standardized, parent-completed report forms designed to assess language and communication skills in young children aged 8 months to 37 months" (Fenson & Dale 2014: 365). As Fenson & Dale (2014: 366) point out,

> [t]he reliability and validity of the CDIs for the assessment of key language milestones is well documented in the literature and generally comparable to, if not better than, existing structured tests and measures based on transcription and analysis of language samples.

CDIs by now exist in several languages. For the present research question, however, the CDI that is most relevant is the one that features *pretend* in its questionnaire assessment test. This is the CDI: Words and sentences (W&S; Dale & Fenson 1996). W&S is a 680-item expressive vocabulary checklist assessing aspects of children's grammar (79 items), sentence complexity (37 items) and their production of semantic lexical items (564 items). The lexical item list is divided into 22 semantic categories. One such category is a list of 102 “Action words;” *pretend* is one of them (Fenson et al. 2007). *Pretend* is also on the 200-word Level II Short Form Vocabulary Checklist of the CDI for young children aged 16-30 months (Fenson et al. 2000: 108-109). The fact that *pretend* can be found in these lists can already be seen as a testament to the relative importance of pretend play in language acquisition.

Information on the acquisition of the semantic lexical item *pretend*, based on the norming dataset of the MacArthur-Bates Communicative Development Inventory for American English (Fenson et al. 2007; Fernald et al. 2013; Thal et al. 2013), can be freely accessed through the Crosslinguistic Lexical Norms Database CLEX[17] (Jørgensen et al. 2010). Data on the lexical item *pretend* can also be found in the Wordbank database (Frank et al. 2017), “an open database of children’s vocabulary growth, featuring data from contributors around the world.”[18] Wordbank is an archive of data from the MacArthur-Bates Communicative Development Inventory and at the time of writing contained “data from 75,144 children across 29 languages.”[19]

Table 3.1 maps the linguistic development of the lexical item *pretend* based on data from a number of different CDIs. Specifically, the table contains information on what percentage of the children who were assessed using the CDIs produced the lexical item *pretend* in a certain age group. The table collects data from the American cross-sectional CDI studies: W&S (Dale & Fenson 1996) as found on the CLEX website. This dataset covers the age of 16-30 months and includes 1,461 children. For the other datasets, item-level responses were extracted from all available forms in English from Wordbank (Frank et al. 2017).[20] These were the Wordbank data for the developmental trajectory of *pretend* in the Wordbank data for American English[21] (Fenson et al. 2007), which consists of data for 5,846 children (age range: 16-30 months), the Wordbank data for British English (Dale et al. 2003), which consist of data for 11,150 children (age range: 20-35 months), and the

[17] http://www.cdi-clex.org/ (last accessed 18/05/2018).
[18] http://wordbank.stanford.edu (last accessed 18/05/2018).
[19] http://wordbank.stanford.edu (last accessed 18/05/2018).
[20] Downloaded 15/03/2018.
[21] These data include the American CDI: W&S data.

Wordbank data for Australian English (Kalashnikova et al. 2016), which consist of data for 1,520 children (age range: 14-30 months). In total, then, Table 3.1 below contains data on the developmental trajectory of the lexical item *pretend* for three English varieties and 18,516 children.

| Months | American CDI: W&S | American Wordbank | British Wordbank | Australian Wordbank | Average |
|---|---|---|---|---|---|
| 14 | | | | 0.90% | |
| 15 | | | | 2.90% | |
| 16 | 0% | 0.10% | | 1.67% | 0.59% |
| 17 | 1.20% | 0.37% | | 0.96% | 0.84% |
| 18 | 1.90% | 0.68% | | 0.92% | 1.17% |
| 19 | 3.10% | 2.13% | | 1.61% | 2.28% |
| 20 | 0.90% | 2.92% | 0.00% | 3.85% | 1.91% |
| 21 | 0% | 2.46% | 14.29% | 2.94% | 4.92% |
| 22 | 7.80% | 6.00% | 12.31% | 9.59% | 8.97% |
| 23 | 8.70% | 11.83% | 10.70% | 7.04% | 9.57% |
| 24 | 6.70% | 14.07% | 13.41% | 9.21% | 10.85% |
| 25 | 14% | 16.82% | 14.37% | 10.59% | 13.95% |
| 26 | 22% | 25.41% | 15.96% | 16.88% | 20.06% |
| 27 | 17.70% | 23.59% | 24.16% | 29.17% | 23.65% |
| 28 | 25% | 32.41% | 23.66% | 25.37% | 26.61% |
| 29 | 36.30% | 39.59% | 41.11% | 38.46% | 38.87% |
| 30 | 43.80% | 49.83% | 53.06% | 43.40% | 47.52% |
| 31 | | | 45.83% | | |
| 32 | | | 51.85% | | |
| 33 | | | 53.33% | | |
| 34 | | | 20.00% | | |
| 35 | | | 40.00% | | |

Table 3.1: Wordbank and MBCDI data for the development of the lexical item *pretend* from 14 to 30 months. Percentage gives the percentage of children producing the word *pretend* at a given month as judged by parent questionnaire reports

As we can see, in every age group apart from the American CDI: W&S at 16 months and 21 months, there are at least some children who produce *pretend*. However, on average, the number of children using *pretend* does not approach 10% before 24 months of age. This number goes up to 20% by 26 months of age, but only by about 30 months do around half of all children produce the word. What we can also observe is that once the number of children reaches around 10%, the percentage rises quite quickly, with twice the number of children using *pretend* two months later, and almost twice the amount of children using it another three months later. However, even with the British Wordbank data, which has the longest age range with 35 months, still only half of all children use the word, and the highest frequency is 53.33%.

*Pretend* therefore is not a universal lexical item for English-speaking children, although the behaviour itself is, as shown in the discussion above. As we will see in the corpus analysis of the Manchester corpus in Chapter 5, this result also holds for the corpus used in this analysis, as only 9 out of 12 children in the Manchester corpus data use this lexical item. In addition, in the Thomas corpus, there are no instances of *pretend* before age 3.

Fig. 3.1 illustrates even more clearly that in all CDI item datasets, there is a clear rise in the percentage of how many children use the term *pretend* as they grow older.

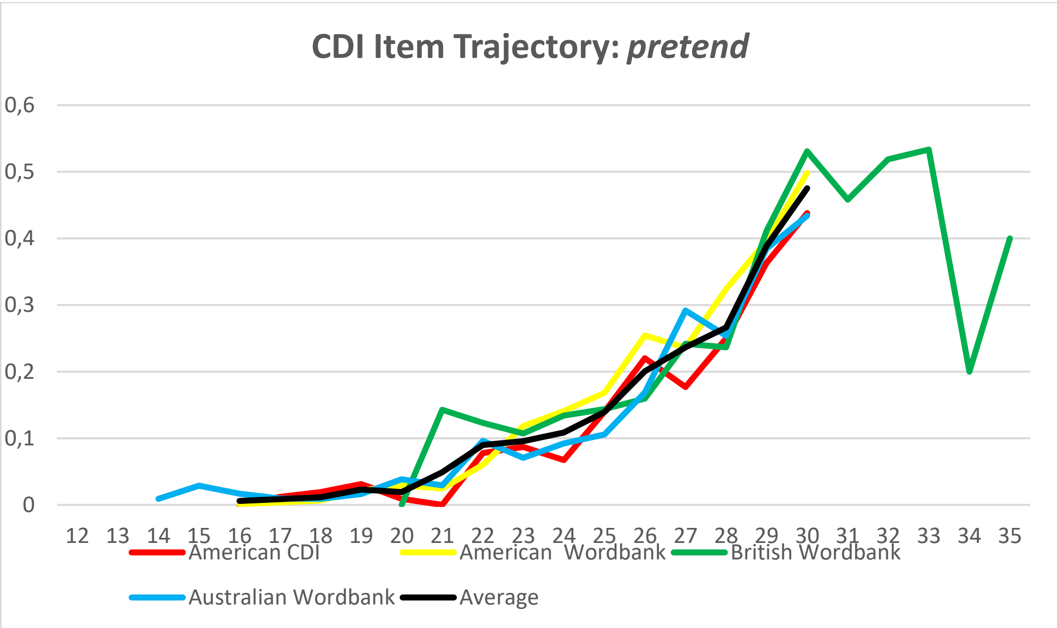


Figure 3.1: Wordbank and MBCDI data for the development of the lexical item *pretend* from 14 to 35 months. Percentage gives the percentage of children producing the word *pretend* at a given month as judged by parent questionnaire reports

This rise in relative frequency is also borne out statistically. If we take the average of all percentages for ages where we have more than one dataset (16-30 months), there is a very strong positive correlation between age and percentage of usage that is statistically highly significant (r = 0.93; p = 0.00000077).[22] The same holds if we measure the correlations in the American CDI: Words & Sentences (16-30 months; r = 0.9; p = 0.0000038) and the American Wordbank (16-30 months; r = 0.94; p = 0.00000018). For the Australian Wordbank (14-30 months; r = 0.88; p = 0.0000035) and the British Wordbank[23] (20-30 months; r = 0.88; p = 0.00037) we have a strong positive relationship that is also statistically highly significant.

Although the percentage of *pretend* clearly rises in the CDI data, it is not clear if and to what extent the usage of *pretend* continues to increase after 30 months. For the British Wordbank, where we also have data for 31-35 months, the frequency of *pretend* does in fact plateau at 30 months and does not rise in the months after. For the 13 children investigated in this study, we will come back to the question of how and if *pretend* frequency increases as they get older in Chapter 5. However, it is interesting to note here that, as discussed above, in the TC, Thomas does not start using the lexical item pretend before 3;0 or 36 months of age.

Other diary and corpus studies support this general picture, but also shed light on developments in somewhat older children. In a study by Bretherton and Beeghly (1982: 914), 30% of mothers reported that by 28 months of age, their children used the word *pretend*, as in *Those monsters are just pretend, right?* The cognition word with the highest number of children who had acquired it by 28 months was *know* (66%), with *remember*, *forget*, *think*, *maybe* and *dream* being the second most frequent group, all with approximately 30% (Bretherton & Beeghly 1982: 915). Karniol (2016: 17) notes that in her diary study of her own two children, who grew up bilingually with English and Hebrew, *pretend* also emerged at 28 months. This is also the age that, according to a corpus study by Shatz, Wellman and Silber (1983; see also Bartsch & Wellman 1995), children use mental state terms to set up contrasts with reality (cf. Karniol 2016: 9). This is also noted in Bretherton and Beeghly's (1982: 915) survey, where they found that children "who used *real* and *pretend* were concerned with distinctions of make-believe and reality (especially with regard to monsters)." As Shatz et al. (1983: 309) explain, "[c]ontrastives are

[22] Regarding the use of statistical measures to investigate correlation, see Section 4.3.3.
[23] The British Wordbank data actually cover a time span of 20-35 months, but for the comparability of results the time span of 31-35 months is omitted here.

those sentences which mark an understanding of a difference or discrepancy between some mental state and present or observable reality." For example, "'I'm just pretending' in response to the question 'Are they really dead?' is an explicit reference to reality or lack of it" (Shatz et al. 1983: 309).

In an unpublished study reported in Lillard (2007a: 136) and Lillard (2007b: 155), Pinkham and Lillard (2007) analysed children's use of the word *pretend* in the CHILDES database (MacWhinney 2000). They investigated the use of *pretend* in ten children, three girls and seven boys. In total, Pinkham and Lillard (2007) found 227 spontaneous uses of the word. Their main findings were that the word first appears shortly before age 3, but that it is used predominantly to direct action or to mark contrasts between pretend and real. In addition, "the proportion of 'pretend' uses directing the interaction remained relatively constant across ages 2-3, but declined significantly by ages 4-5" (Lillard 2007b: 154).

In contrast, *pretend* being used to distinguish pretend from reality increased from age 2 to 5. By ages 4-5 *pretend* was used more frequently to direct a pretend interaction instead. This is consistent with the view that young children start out with an understanding of the word *pretend* based on behaviour, and only later, around age 4, acquire a mentalistic understanding of the word *pretend* (Pinkham & Lillard 2007; Lillard 2007a,b; see Section 3.1.7). In Shatz et al.'s (1983) corpus study of one child, Abe, the first occurrence of *pretend* was at 2;10. This age was also the first time it was used as a mental state function. Its third occurrence was at age 3;1. In total, there were 32 occurrences in the corpus. Out of their list of 18 mental words in total, it was the seventh most frequent. The results for 24 other children they studied in less detail were similar.

Bunce and Harris (2008: 451) asked mothers to keep diaries and also interviewed them about their children's use of *real*, *really*, and *pretend*. Next to the interview questions, parents were also asked that they record utterances of the target words. As they note, "[t]his method has high ecological validity and is particularly useful for data on a form that is newly emerging in the child's lexicon and is likely to occur infrequently" (Bunce & Harris 2008: 451). Bunce and Harris (2008) found that children's *pretend* utterances could be sorted into the following categories: utterances referring to the authenticity of entities and objects, utterances referring to their reality and ontological status, and commands. In children aged 2-3 years, 81% of utterances focussed on authenticity, whereas only 16% focussed on ontological status. This pattern was different for children aged 4-7 years, where 63% of utterances using *pretend, real* or *really* focussed on authenticity and 29% focussed on reality. However, although we see an increase in focussing on reality, utterances dealing with authenticity are still more frequent.

The following examples illustrate the use of *pretend* utterances focussing on the distinction between reality and pretence. In a follow-up study, Bunce and Harris 2013: 1495) discuss the example of one child who watched actors who were dressing up and marched like soldiers and commented: *They're not really soldiers, they're just pretending*. Another example they mention is a child pretending to be a fireman who was asked to put out an imaginary fire, to which he replies: *I'm only pretending. I'm not a real fireman!* (Bunce & Harris 2013: 1495). What these examples have in common is that in "both these examples, the child was knowingly comparing real soldiers or firemen with people just dressing-up and pretending to be them" (Bunce & Harris 2013: 1495). Regarding commands, 4-7-year-old children were found to use more commands (29%) compared to children aged 2-3 (16%). These results are in accordance with the overall developmental trajectory that as they grow older, children become more active in negotiating and directing pretend play scenarios, using *pretend* as a device for scene setting and instructing play. We will deal with the functions of *pretend* in more detail in the following section.

### 3.3.3 The Function of *Pretend* in Acquisition and Interaction

Which functions does the word *pretend* serve? As Lillard and Witherington (2004: 96) point out, "[t]he word *pretend* (as in 'Pretend you hated baby fish.') is perhaps the most direct way to specify pretence, and even preschoolers use it, but not regularly until about 5 years of age." This is because direct statements that do not use the word *pretend* and other strategies can also initiate a pretend mode and specify the nature of pretend entities. One example found in Matthews (1977: 215; cited in Lillard & Witherington 2004: 96-97), is a 4-year-old child first asking *Where is the oven?* and then heading to a cupboard and saying *This is the oven*. This perspective-establishing way of labelling is also a successful way to introduce and transform pretend entities. Indeed, this 'in-frame' labelling strategy can also be found frequently when mothers pretend with their children (Kavanaugh et al. 1983; Lillard & Witherington 2004: 97) for children aged 18-24 months and also for children aged 11-15 months (Reissland 1998: 371).

Through the use of 'in-frame' labelling strategies children come to realise that once a pretend scenario is set up and interactants have established that the activities they engage in are pretence, they do not need to explicitly mark them with the lexical item *pretend*. As Giffin (1984: 89) notes, in these contexts, young children "rely on an implicit pretend rule that guides all players to interpret statements during make-believe play as if they were prefaced with the words 'pretend that.'" This enables children to organise pretend play using non-overt language; that is, without using the verb *pretend* (Giffin 1984: 89). Duveen and Lloyd (1988) also found that children aged 3 to 4 constructed pretend episodes by a variety of strategies which did not include the use of the verb *pretend* but which enabled them to share representations of socially organised events as mutual topics of attention and communication.

Overall, children use the word *pretend* for many different purposes, as several studies have shown. This includes describing their own engagement in pretend activities, and marking both substitute and imaginary objects as pretend (Shatz et al. 1983; Bunce & Harris 2008). Hall and Nagy (1986) distinguish between pragmatic and semantic uses of internal state language. Semantic uses of a mental state item have the purpose of communicating a mental state. Pragmatic uses of a mental state item, on the other hand, are used when it has some other function in the activity (cf. Hall et al. 1995: 251).

Lloyd and Goodwin (1995) argue that there must be at least some uses of *pretend* that most 4-year-old children are familiar with. They cite a study by Furrow et al. (1992: 624) in which it was found that *pretend* was used by more than half of the mothers in their samples. *Pretend* was also used by more than half of the 3-year-old children in the study. As Lloyd and Goodwin (1995) note, however, Furrow et al. (1992) did not investigate the pragmatic function of the uses of *pretend* found in mothers and children. *Pretend* therefore could first have the function of coordinating and commenting on an action before it is seen as a mental-cognitive word. In their review of previous studies, Lloyd and Goodwin (1995: 262) note that in basically all uses of *pretend* cited in the literature its function is to contrast, disclaim or explain children's previous actions with reference to their pretend intention. They found only one exception, an overt use of *pretend* by a 3-year-old-child, whose goal it was to direct their interlocutor's behaviour. Some cases in the more recent literature, however, can also be interpreted to have this meaning, as do many of the examples in the corpus analysis presented in Chapter 5.

As discussed above, regarding the use of *pretend*, Bunce and Harris (2008) have found that younger children were more interested in the status of a pretend entity in terms of its authenticity than its reality. Bunce and Harris (2013: 10), investigating the relationship between *pretend* and reference to mental states, found that children more often used *pretend* to refer to external appearances and actions, and less to their mental state of pretending. This is consistent with the general observation that children start pretending at a much earlier age, following their first birthday, but that "they do not begin to talk about the mental realm until they are almost 3 years old (Shatz et al. 1983; Bartsch & Wellman, 1995)" (Woolley 2002: 127-128).

Lloyd and Goodwin (1995) argue that the verb *pretend* only plays a secondary role in children's acquisition of the capacity to co-construe social pretence scenarios with others. Based on the fact that *pretend* only appeared six months into children's school experience but not before, they propose that children acquire the verb *pretend* due to being exposed to it by teachers. Teachers have an educational agenda that emphasises metacommunication and contrasting real and pretend situations. This might lead children to use the word more frequently in their own pretend play encounters.

One key difference between other studies and that of Lloyd and Goodwin's (1995) is that the latter study investigated both peer play and also explicit play scenarios. Children's linguistic strategies differ depending on their communicative partners and the situation they are engaged in (see, e.g., Roberts 2013). In addition, in pretend play contexts, their use of sophisticated pretend and mental state language mirrors that of their mothers (e.g., Osório et al. 2012: 724). This means that some of the differences in the frequency of *pretend* in different contexts are due to their caregivers' use of the word.

This contrasts with the view of Karniol (2016) on the function of *pretend*. Based on the data indicating that the use of *pretend* emerges around the same time as other contrastive mental state verbs in general, that is, around 28 months of age, Karniol (2016: 9) hypothesised that beginning around this age, children understand *pretend* as an epistemic operator: "Children's understanding of pretend as an epistemic operator is evident when a child explains, 'If we just tell them and don't say 'pretend', they'll think it's real life' (Curran, 1999)."

In summary, then, the available data suggests that both children and mothers first prefer to talk about pretend activities in an implicit manner. As children grow older, however, children and mothers make more frequent use of mental verbs and metacommunication, as their negotiations of pretend situations become more complex. In the course of this development, the frequency of the lexical item *pretend* as a way to contrast pretence and reality and to express a pretend intention also increases.

**3.4 Summary**

This chapter summarised research on pretend play. I first described attempts to describe the features of pretend play, noting that it is a complex category that defies easy definition. However, among other important features, one of the central features of pretend play is that in pretence, a situation, action, object, or event stands in for something else in an "as-if" relationship; this guides pretence interactions. I then went on to describe the cognitive development of pretend play, noting that it occupies a significant portion of children's time and that children's understanding of the cognitive dimension of pretence becomes increasingly complex as they grow older. I then outlined that pretend play is closely linked to children's abilities of perspective-taking and -sharing. Next, I critically discussed proposals on possible functions of pretend play. While there are a number of proposals on the function of pretend play, there is no universal agreement on what pretend play is 'for' and whether it has a causal role in development. However, there is evidence that it represents one important way that children can learn about the world. Moreover, pretend play is clearly related to a number of important cognitive functions, such as social cognition and language, and can reflect and reveal children's development in a number of areas, thus serving as a window on development. I also reviewed the role mothers play in Western culture in scaffolding and supporting pretence activities. Focussing on mothers' role in Western culture helps to contextualise research on pretend play, as it is important to be aware that while pretend play may be universal, there are still important cultural differences in its expression and frequency. Lastly, I summarised some of the key cognitive abilities involved in pretend play, including symbolic understanding, psychological distancing, hypothetical thinking, perspective-taking, and executive functions.

The section on pretend play and language first demonstrated that there is an intimate link between language development and the development of pretend play, with both resting on a number of the same cognitive mechanisms and showing parallel developments. I then looked at pretend play as a context for language acquisition. Pretend play serves as an ideal context in which children can practice negotiating perspectives and using complex language to coordinate complex pretend interactions. Pretend play is also related to metacommunication when activities are explicitly marked as pretend. However, such metacommunication occurs much more frequently as children grow older and their pretence becomes more complex. In addition, it is also used to clarify situations where it is not clear if and what a child is pretending, which in fact can happen quite frequently in natural interactions. Explicit verbalisations of pretend activities are therefore generally of high importance to contextualise and negotiate pretend play.

I then turned to linguistic features of pretend play, with the explicit lexical item *pretend* being the most significant and clearest indicator of pretence activity. As an overview of previous research shows, there are a number of other features that are likely to occur much more frequently in pretend play than in other contexts. These also seem to be explicitly associated with a pretend frame as one of their main instantiations and might also be learned especially in the context of pretend play. However, *pretend* still seems to be the only linguistic feature to be so explicitly and exclusively tied to pretend activity. It therefore occupies a very special role in the network of constructions that are associated with pretend activities as being the one with the strongest association and the strongest pretence-specific conceptualisation and perspectivation function, which is one of the key reasons its everyday use is at the centre of the current study.

Finally, I reviewed previous research on the acquisition of the lexical item *pretend*. Overall, we still do not know much about children's everyday use of this lexical item. One of the key insights, however, is that it is more frequently used by older children than younger children. One thing that we need to take into account here, though, is that there have been no extensive corpus studies to verify these findings, meaning that this observation rests mostly on experimental, questionnaire, and diary studies, many of which were limited in scope. The experimental evidence, however, shows that *pretend* represents one of the most instrumental linguistic methods to mark activities as pretend. In fact, CDI data shows that by 30 months, about half of all children already produce the word in their daily lives. Previous studies also found that children increasingly use *pretend* with a cognitive meaning which invokes a pretence-reality distinction as they grow older. Lastly, I discussed the function that *pretend* has in interaction, where it is at first mostly used to further the action and is then increasingly used to negotiate and establish complex pretend situations.

The discussions of perspectivation in Chapter 3 and that of pretend play in this chapter have set the theoretical foundations for the corpus analysis of perspectivation in pretend play. In the next chapter, I will turn to the methodological foundations of the study.

# 4. Corpus Description and Methodology

The current study is interested in the way pretend play and perspectivation relate to each other in language acquisition. In order to investigate this research question, it is of crucial importance to consider the language use of children and adults interacting in naturalistic settings (cf. Corrigan 2012: 282). "Language acquisition research thrives on data collected from spontaneous interactions in naturally occurring situations" (MacWhinney 2000: 7). The CHILDES database offers access to this kind of data. It enables researchers to investigate a wide array of research questions using a freely available, large database, something which "has made child language acquisition a very democratic field" (Behrens 2008: xix). The benefit of CHILDES here is that for the investigation of pretend play in language acquisition, existing data can be used to answer this research question without the necessity to collect new data (Corrigan 2012: 273), an enterprise that would go beyond the scope of the current project.

In this chapter, I describe the corpus used in the investigation. I first introduce the CHILDES database (4.1) before describing both the Thomas corpus (4.1.1) and the Manchester corpus (4.1.2) in detail. Following this, I turn to methodological issues regarding the corpus analysis (4.2), namely to questions of the representativeness of the corpus data chosen for analysis (4.2.1), and the representativeness of the results obtained from it (4.2.2). In Section 4.3, I turn to the methodology underlying the corpus analysis. I specify the research question and elaborate on how the data were coded for analysis (4.3.1), before turning to the question of how the development of *pretend* in the corpus data was analysed (4.3.2). Section 4.3.3 discusses the statistical methods used for this analysis.

## 4.1 Corpus Description: The CHILDES Database

Two different corpora were used in the analysis of pretend play situations in language acquisition: The Thomas corpus[24] (TC; Lieven et al. 2009) and the Manchester corpus[25] (MC; Theakston et al. 2001), which are both part of the CHILDES

[24] https://childes.talkbank.org/access/Eng-UK/Thomas.html (last accessed 12/05/2019).
[25] https://childes.talkbank.org/access/Eng-UK/Manchester.html (last accessed 12/05/2019).

database (MacWhinney 2000).[26] After a short description of the CHILDES database, both corpora will be described in turn.

CHILDES[27] is an acronym of Child Language Data Exchange System and presents the biggest archive of child language corpora freely available on the web. It is the child language component of the TalkBank platform, which is “a system for sharing and studying conversational interactions” (MacWhinney 2000: 12) and the world’s largest open access database of spoken language data. The CHILDES project was first conceived in 1981, and began in earnest in 1984. Since then, the number of available corpora has vastly expanded, and new corpora are being added continuously, as the platform gives researchers the opportunity to freely share and archive the corpora they have created. As stated, CHILDES is integrated with the TalkBank system, a project that began in 2001 (MacWhinney 2000: 12). As of March 2019, there are 15 different databases on the TalkBank platform, including Conversation Banks (such as the conversation analysis CABank), Child Language Banks (such as CHILDES), Multilingualism Banks (such as the second language acquisition SLABank), and Clinical Banks (such as DementiaBank or AphasiaBank).

Among the TalkBank databases, CHILDES is the oldest one, and also the one that is most widely recognised. It has been used in more than 7,000 published articles, 5,000 of which have been published in the last 15 years (MacWhinney 2008: 166; MacWhinney 2019a: 6). It has almost 3,000 users and has received 4.3 million web hits, 2.5 million of which have been from 2015-2017 (MacWhinney 2017b: 81-82). This shows that CHILDES has become integral to “the basic research methodology and publication history of the field” of language acquisition (MacWhinney 2019a: 6).

The database comprises a large set of transcriptions of interactions – usually between adults and children – that have either been recorded in naturalistic settings or have been elicited and have then been transcribed in a standardised format, the CHAT format (Codes for the Human Analysis of Transcripts; see MacWhinney

[26] https://childes.talkbank.org/ (last accessed 12/05/2019).
[27] According to MacWhinney (2000: 10), “the name uses a one-syllable pronunciation.”

2000; Diessel 2009: 1200-1205; Corrigan 2012: 271-272). Some of the files available are also linked to audio and video recordings. The data were originally collected by researchers for their own projects and have later been added to the database. CHILDES also provides researchers with a set of computer programmes for the analysis of transcripts: CLAN (Computerized Language ANalysis; cf. Corrigan 2012: 272; see also Diessel 2009: 1200-1205).[28]

At the time of writing, the CHILDES database contains 360+ corpora in 42 languages from a wide range of different language groups. English is by far the most prominent language in the database, with at least half of the available data being English data (Xiao 2008: 427). However, the number of languages included in the database is growing steadily. Apart from monolingual language acquisition transcripts, there are also specialised corpora that collect data for children growing up with two or more languages, collections of elicited narratives, collections of children with language disorders, and cross-linguistic studies. In all, CHILDES collects data from more than 12,000 children. More precisely, CHILDES contains 81 corpora of a single child, 126 corpora with 2-10 children, 37 corpora with 11-20 children, most of which are more detailed and more longitudinal studies, 90 corpora with 20-100 children, 20 corpora with 100-202 children, and 6 corpora with 258-1,000 children, most of which offer less detailed and less longitudinal data. This community data sharing model has led to a database of more than 60 million words[29] – "with 2 terabytes of media and additional 90 million words of annotation" (MacWhinney 2017a: 255) – making it the largest existing corpus of spoken language after the Corpus of Contemporary American English (COCA)[30] and the BYU TV and Movie Corpora[31] (MacWhinney 2008; MacWhinney 2017a,b; cf. Corrigan 2012: 273).

Let us look at the size of the English-language CHILDES database (Eng-UK and Eng-NA = ECD). The ECD is a collection of 61 corpora, encompassing

[28] See also https://talkbank.org/manuals/CHAT.pdf (last accessed 22/02/2019).
[29] In comparison, in 2008 the CHILDES database contained around 44 million words (MacWhinney 2008).
[30] https://corpus.byu.edu/coca/ (last accessed 22/02/2019).
[31] https://corpus.byu.edu/files/tv_movie_corpora.pdf (last accessed 22/02/2019). One important distinction here is that the BYU TC and Movie Corpora do contain spoken language, but unlike the CHILDES database, these corpora do not feature spontaneous, naturally occurring language.

data from 611 children. The Eng-NA data consist of data for 457 children in 49 corpora, whereas the Eng-UK data consist of data for 154 children in 13 corpora. In total, the ECD consist of 17,440,578 tokens. If we look at the Eng-NA database on its own, we have a corpus collection of 6,996,835 tokens uttered by mothers (= MOT) and children (= CHI) (MOT: 4,014,195; CHI: 2,982,640). In the Eng-UK database, there are 7,129,524 tokens uttered by MOT and CHI (MOT: 4,872,436; CHI: 2,257,088). This means that out of the 17,440,578 tokens in the ECD, 14,126,359 tokens are uttered by MOT and CHI (MOT: 8,886,631; CHI: 5,239,728).[32]

Before I describe the two corpora used for the current study, I briefly want to outline some of the selection criteria for these corpora. First, both the TC and the MC are longitudinal corpora. This means that they are "[d]ata samples that track the development of individuals or groups over time" (Lieven & Behrens 2012: 237). In addition, they also represent naturalistic corpora. This means that they can be said to represent naturalistic interactions, which "are meant to capture language that a child uses in an everyday situation, such as during dinner or while playing with his/her own toys" (Rowe 2012: 206). These data can therefore also be said to have high ecological validity.

One additional selection criterion was that the Thomas corpus represents a so-called dense database (Lieven & Behrens 2012), meaning it has a much denser sampling rate than most other corpora. This also means that it represents a better approximation of children's language experience and production and is especially well-suited to capture less frequent phenomena such as the usage of *pretend* (see the discussion in Section 4.2.1.1).

Overall, as will be discussed further in Chapter 5, both corpora also have a relatively high frequency of *pretend* utterances, which makes them ideal candidates to study the acquisition and everyday use of this lexical item. Specifically, with 1,392 instances of *pretend* word forms, the TC and MC make up for 33.8% of *pretend* utterances in the ECD. TC and MC data capture an especially high percentage

[32] The remaining 3,314,219 tokens were uttered by speakers other than MOT and CHI, most often other caregivers such as fathers or investigators who were present during the recording.

of mothers' *pretend* utterances, namely 41.8%. For children, the TC and MC data still represent 23.2% of all *pretend* utterances made by children in the ECD.

In the next two sections, I describe the two corpora used for the present study in more detail.

### 4.1.1 The Manchester Corpus

The MC is a longitudinal study of 12 English-speaking children (6 w: Anne, Becky, Gail, Nicole, Ruth, Liz; 6 m: Aran, Carl, Dominic, Joel, John, Warren) between approximately 2 and 3 years of age. Half of the children were from Nottingham and half of them were from Manchester, predominantly from middle-class families. Recruitment of children took place through local nurseries as well as advertisements in newspapers. All children were firstborns and were growing up with English as their only language. Their primary caregivers were their mothers. Children were recorded

> in their homes for an hour on two separate occasions in every 3-week period for one year. They engaged in normal play activities with their mothers. For the first 30 minutes of each hour they played with their own toys whilst for the second 30 minutes, toys provided by the experimenter were available to the child. For the duration of the recordings, the experimenter attempted as far as possible to remain in the background to allow contextual notes to be taken (Lieven et al. n.d.).

| **Child** | **Transcripts** | **Age (FR)** | **Age (LR)** | **Tokens (CHI)** | **Tokens (MOT)** |
|---|---|---|---|---|---|
| Anne | 68 | 1;10.07 | 2;09.10 | 45,989 | 137,912 |
| Aran | 66 | 1;11.12 | 2;10.28 | 44,907 | 184,852 |
| Becky | 68 | 2;00.07 | 2;11.15 | 54,589 | 96,476 |
| Carl | 65 | 1;08.22 | 2;08.15 | 64,283 | 84,619 |
| Dominic | 68 | 1;10.25 | 2;10.16 | 45,159 | 126,509 |
| Gail | 68 | 1;11.27 | 2;11.12 | 40,159 | 102,147 |
| Joel | 68 | 1;11.01 | 2;10.11 | 41,534 | 106,062 |
| John | 64 | 1;11.15 | 2;10.24 | 28,655 | 78,169 |
| Liz | 68 | 1;11.09 | 2;10.18 | 39,555 | 76,303 |
| Nicole | 68 | 2;00.25 | 3;00.10 | 32,071 | 118,054 |
| Ruth | 66 | 1;11.15 | 2;11.21 | 40,479 | 135,642 |
| Warren | 67 | 1;10.06 | 2;09.20 | 47,137 | 116,969 |
| Total | 804 | | | 524,517 | 1,363,714 |

Table 4.1: Overview of children in the MC with names, number of transcripts, age at first recording (FR), age at last recording (LR), and token frequency for CHI and MOT

All one-hour recordings are split into two half-hour transcripts. With some exceptions, for each child, there are about 34 recordings split into about 68 transcripts.[33] In total, there are 804 transcripts, representing 402 individual recordings of the 12 children.

The Manchester corpus contains a total of 1,956,716 tokens. 1,888,231 words were uttered by MOT and CHI, with 524,517 words uttered by the 12 children (MC CHI) and 1,363,714 words uttered by the mothers (MC MOT). Table 4.1 above gives an overview of the children, number of recordings, ages at the beginning and end of recording, as well as token sizes.

### 4.1.2 The Thomas Corpus

The TC is a naturalistic study of one English child, Thomas, over a three-year period, starting at age 2 and ending shortly before his fifth birthday. Thomas was born in 1997 and grew up in a middle-class family, with his mother being his primary caregiver.[34]

Although Thomas was recorded over a period of three years, the corpus displays significant variation in its internal composition in terms of the frequency of recordings. The researchers responsible for the TC therefore divide the corpus into three sections. In the first period of recording (Section A, age 2;00.12 to 3;02.12), Thomas was recorded "for one hour, five times a week, every week for the entire period" (Goh n.d.). With 279 transcripts, this is the most intensive period of sampling. In the second period of recording (Section B, age 3;03.02 to 3;11.06), Thomas was recorded "for one hour, one week in every month" (Goh n.d.). This resulted in a total of 43 transcripts for this time period. In the final period of recording (Section C, age 4;00.02 to 4;11.02), Thomas was also recorded "for one hour, one week in every month" (Goh n.d), resulting in 57 transcripts. Overall, then, the TC consists of 379 transcripts, which cover a period of three years. In total, the TC contains 2,468,931 tokens. The total number of tokens uttered by MOT and CHI in the TC

[33] There are some exceptions so that for some children there are only 64, 65, 66, or 67 transcripts.
[34] The corpus description this section is based on can be found here: https://childes.talkbank.org/access/Eng-UK/Thomas.html (last accessed 18/02/2019). In some of the earlier literature on Thomas he is still referred to by his pseudonym "Brian." However, "just before the corpus was deposited with CHILDES, the family gave permission for the use of the child's real name" (Lieven & Behrens 2012: 233).

is 2,308,033, with 1,800,266 tokens uttered by Thomas' mother (TC MOT) in the timeframe from 2;00 to 4;11 and 507,767 words uttered by Thomas (TC CHI) during that period.[35]

As mentioned above, the TC can be described as a naturalistic corpus with high ecological validity, as the entirety of audio recordings took place in Thomas' home, where he was engaged in everyday play activities with his mother (Goh n.d.).

Out of the 379 interactions that were transcribed, 73 were recorded on video. For most of the video recordings the investigator was also present and played with Thomas. However, as the investigator is engaged in play activities with Thomas, and as she speaks much less in these recordings than Thomas and his mother usually do as a whole, this does not detract from the naturalness and ecological validity of the corpus data. For all of the transcriptions where the investigator is present, the average frequency of tokens uttered by the investigator is 376.8, compared with an average of 1,339.75 for Thomas and 4,775.2 for his mother.

Having introduced the corpus database used for analysis, we will next turn to issues of methodology, namely the representativeness of the corpus data and their problems and limitations.

### 4.2 Methodological Issues: Representativeness, Problems, and Limitations

Given the wealth of available corpora in the CHILDES database, it is essential that researchers discuss issues of corpus selection and the representativeness of their data. That is, they need to specify "what characteristics are relevant to their own research questions and select portions of the database that meet their criteria (essentially designing their own corpus)" (Corrigan 2012: 275). This means that for research projects such as the current study, it is crucial that it is made clear why this particular selection of corpora was chosen (Corrigan 2012: 275).

Moreover, the characteristics of corpus data, and that of particular corpora as well, such as their representativeness, influence what conclusions can be drawn from the analysis. This is why it is necessary to elaborate on these characteristics and the methodological issues surrounding them. As Hunston (2008: 160) states,

[35] Again, most other tokens were uttered by an investigator and were disregarded in this analysis.

> [r]epresentativeness is the relationship between the corpus and the body of language it is being used to represent. A corpus is usually intended to be a microcosm of a larger phenomenon, […]. As such, although some statements can be made with absolute confidence about the corpus itself, the value of the corpus lies in being able to make somewhat more tentative statements about the body of language as a whole.

In this particular case, a corpus is assumed to enable us to make statements about the phenomenon of language acquisition, and the development of pretend play and perspectivation in particular.

When considering issues of representativeness, three key methodological issues arise:

(1) Are the corpus data representative and, if so, which population are they representative of?

(2) How was a particular corpus sampled?

(3) Are the corpus data authentic and ecologically valid?

(Tognini-Bonelli 2001: 54-62; Rowe 2012: 206).

As has been discussed in Section 4.1, CHILDES data in general, and the TC and MC data in particular, both represent authentic, spontaneous speech in natural situations, and therefore fulfil the latter two criteria.

The other issues related to representativeness and sampling will be discussed in more detail in the next section (4.2.1). After that, I will discuss the question to what extent the results of the analysis can be judged to be representative (4.2.2).

### 4.2.1 Representativeness of the Corpus

When choosing to analyse a specific research question using corpus data, researchers make this decision on the basis that they think that corpus data are well-suited to answer the research question at hand. Their choice of a particular corpus or particular corpora for analysis is based on the same assumptions.

Overall, as I will discuss below, the assumption that corpus data are a valid source for linguistic analyses are well-founded. However, there are also some problems and limitations that come with the analysis of corpus data, which will also be addressed. I will do the same for the specific corpus data that were chosen for this analysis.

I will first turn to the discussion of the representativeness of the corpus regarding issues of sampling (4.2.1.1) before discussing the representativeness of the selected corpora and problems of limitations of the current corpus study (4.2.1.1).

#### 4.2.1.1 Frequency and Corpus Size

When researchers want to investigate a particular structure and its acquisition using corpus data, one of the most important questions they have to ask themselves is "How big is big enough?" (Rowland et al. 2008) in order to adequately capture the phenomenon at hand. As Diessel (2009: 1198) puts it, researchers have to ask themselves the following questions: "How much data do we need to investigate the development of a particular phenomenon? Specifically, how much data do we need to determine the age of appearance, the order of acquisition, and the developmental pathway?"

Recording and transcribing child language over a long period of time is an extremely laborious, time-consuming, and also expensive process. This and other factors naturally restrict the size of any child language corpus. Most longitudinal child language corpora record children for about one to two hours each month. Assuming that children are awake and communicating for about 10 hours each day, this only captures an estimated 1-2% of children's speech and language experience (Tomasello & Stahl 2004: 102; Rowland et al. 2008: 2; Diessel 2009: 1198; Lieven & Behrens 2012: 226-227).

This issue becomes even more pressing when searching for a phenomenon that is relatively rare in the data. In these cases, the smaller the sample, the higher the likelihood that there are only few relevant examples (Behrens 2008: xv). Unfortunately, this holds for quite many structures in corpus data: "In any corpus, a small set of frequent words makes up the majority of tokens, with most words occurring with very low frequency" (Corrigan 2012: 273). This general relation is called Zipf's law (Zipf 1949; cf. Erker & Guy 2012: 529; for the role of Zipfian distribution in language acquisition see, e.g., Ellis et al. 2015: 167-168). A particular structure might therefore not be found or not be represented adequately because it does not occur frequently enough. Pomikálek et al. (2009) even propose that the study of items that occur only very rarely in corpora may require a corpus of up to one billion words (cf. Corrigan 2012: 273).

As soon as we are interested in linguistic structures that a child might only produce one or a few times a day, corpora with a 1% sampling rate might not be adequate to answer such research questions (Tomasello & Stahl 2004: 118). For example, when a particular structure is not found in the corpus, this could be "due to its rarity rather than due to the fact that the child has not yet acquired that structure" (Lieven & Behrens 2012: 227). This, in turn, could lead to researchers severely underestimating the developmental level of a child, as absence of evidence in this case would not likely also be evidence of absence. As Tomasello and Stahl (2004: 104) put it, "for some low frequency phenomena the majority of CHILDES-like samples are not dense enough to support valid and reliable analyses." The accuracy of estimating the age when a particular target structure emerges in a child's language is therefore closely related to the frequency of the structure and the density and size of the corpus data (Tomasello & Stahl 2004: 112-113). As the frequency analysis in Chapter 5 will show, with a relative frequency of 0.033% *pretend* clearly belongs to the more infrequent forms, so this has to inform the selection criteria for the corpus data. At the end of the analysis, these considerations should also inform the question: "Given my sample, how confident should I be in my results?" (Tomasello & Stahl 2004: 104).

More recently, there have been attempts to increase the representativeness of corpus data by creating so-called dense databases (DDBs, Lieven & Behrens 2012). These databases have a much denser sampling rate, capturing an estimated 7-15% of children's language experience (Lieven & Behrens 2012: 226). They are "extremely useful for tracing the acquisition of infrequent structures" and "provide the data necessary for good descriptive accounts and fine-grained analyses of developmental processes" (Lieven & Behrens 2012: 228). DDBs differ in their sampling rates, but their overall aim is to record children for at least 5 hours a week.

There are, however, also some limitations to DDBs, the most important one being that by using this method, "corpora can only be collected from a very small number of children" (Lieven & Behrens 2012: 227). It also places limitations on which types of children can be recorded. Given the frequency of the recordings, "dense sampling is easier and timewise better if children spend more time at home rather than full-time nursery or school" (Lieven & Behrens 2012: 227). This of course matters for issues of representativeness, as the language trajectories found in DDBs might not be representative of children with different social environments. As already mentioned above, in addition, the collection of DDBs is a process that requires a long-term commitment from families, and so it is much more likely that families with an intense interest in their children's language development will be part of such projects (cf. Lieven & Behrens 2012: 228). This also matters for representativeness as data from DDBs therefore might not be representative of the language environment of children with families with a less intense interest in their children's language acquisition. This issue likely can be generalised to a significant degree to families who take part in long-term corpus projects such as the MC.

In addition, families who participated in the recording of DDBs were also asked not to engage in noisy activities, keep background noise to a minimum and also not to turn on noise sources such as the radio or the TV in order to guarantee recording quality. One of the effects of this is that DDBs mostly cover play situations involving one or sometimes two adults interacting with the child. The interactants also usually belonged to the family or to a small number of visitors who usually were well-known to the family. This also limits the representativeness of the sample as it does not cover other language and interactive environments, which again is also true for the CHILDES data in general.

The question to what degree the corpora of the present study can be seen as representative and as suited for the analytical goals of the study will be discussed in the next section. Before turning to this question, there is one more important caveat to be made. The process of transcription reduces a richly multimodal communicative situation to its monomodal linguistic aspect. However, as much research in Cognitive Linguistics has shown,

> [i]n both expression and comprehension, conceptualizations integrate information from multiple sources in multiple modalities, such as bodily, auditory and visual information (Forceville 2009, 21; Steen & Turner 2013). These sources are then integrated into a coherent and unified dynamic mental representation. Meaning construction is thus fundamentally and always multimodal in nature (Schneider & Pleyer 2018: 258).

Communication does not only consist of linguistic cues, but integrates gestures, tone of voice, gaze, pauses, hesitations and information from other modalities in the process of dynamic, multimodal meaning construal (Pleyer & Schneider 2014: 39; see also Forceville 2009: 21; Steen & Turner 2013; Hall et al. 2019 for reviews). More recent research in construction grammar has also stressed that many constructions are essentially multimodal, posing the question if we need a "multimodal construction grammar" (see Steen & Turner 2013; Ziem 2017; Zima & Bergs 2017 for discussion).

Transcribed corpus data, which are the basis for analysis in the current study, do not capture these aspects. In corpora without audio data, aspects such as intonation are also not captured. Transcription systems often try to address this state by also coding non-linguistic signals and communicative meta-data. For example, the CHAT format used for transcripts in the CHILDES database, which was mentioned in Section 4.1.1, provides researchers with guidelines of how best to capture the complex communicative utterances produced by children. But of course, any transcript in a way is still reductive and filtered through the perception and transcription decisions of transcribers (Behrens 2008: xxx). As the research question of the present study is predominantly a cognitive-semantic one, all these multimodal aspects are disregarded in the analysis. However, we should keep in mind that in instances of actual language usage, language and meaning construction is a fundamentally multimodal affair.

An additional aspect relevant for language acquisition is that children's language often differs quite strongly in its phonetic realisation from that of adult language users. Transcribers often have to decide whether to "transcribe forms that are not yet fully adult like in an orthographic fashion according to adult standards" (Behrens 2008: xxiii) or whether they should transcribe the perceived form in some other manner, e.g., phonetically. These decisions can have important consequences for the analysis of corpus data, especially in domains such as morphosyntactic development (Johnson 2000). Regarding *pretend*, in the TC there are some instances where the form occurs as and is transcribed as tend@c,[36] which indicates that

[36] @c is a special form marker for child-invented forms (MacWhinney 2019a: 42-43).

Thomas has a unique form of *pretend* in his repertoire that might however not always be coded as such, given that

> [t]he corpus was gathered over a number of years during which time CLAN was updated, the experience of the transcribers increased, transcribers came and went, and problems were identified and rectified along the way. This has inevitably led to some inconsistencies in transcription (Goh n.d.).

Therefore, the form *pretend* might have different phonetic realisations in the corpus data, which, however, are all coded as *pretend*.

#### 4.2.1.2 Representativeness of the TC and MC

As mentioned in Section 4.1, the TC was chosen because it is a dense corpus that due to its composition is well-suited to analyse the kind of low-frequency structures this study is interested in. However, the TC consists of data from only one child, which again raises the issue of representativeness (cf. Demuth 2008: 204). This is especially the case given that children's language acquisition trajectories can be quite different. On the one hand, this holds, for example, for children with different socioeconomic backgrounds, a point we will return to in Section 4.2.2. However, even within the same socioeconomic background, there is still individual variation in how children's use of language develops (see Fenson et al. 1994; Shore 1995; Bornstein & Putnick 2012; Kidd et al. 2018 for discussion).

With these considerations in mind, the MC was chosen to extend the dataset with a wider range of children and therefore increase representativeness. The MC is considered "to give a representative sample of speech heard by British English children between the ages of 2 and 3 years of age" (Matthews et al. 2005: 125) as well as – with qualifications – for the speech these children produce. This is why the MC was chosen for analysis. The MC, however, is not a dense database. At the beginning of the present research project, the TC was the only available English-language DDB on CHILDES, so no other DDB could be chosen for the analysis.[37] This means that the limitations of less densely sampled corpora when analysing low-frequency items have to be taken into account when we ask what conclusions we can draw from this dataset.

[37] At the time of writing another DDB, the MPI-EVA-Manchester corpus (Lieven & Goh n.d.; Lieven et al. 2009; Theakston et al. 2015) has been released on CHILDES. As of now, the transcripts of two children, Eleanor and Frasier, are freely available, with the data of three more children to be released at a later date.

With recordings on two separate occasions in every three-week period, the MC is also more densely sampled than most other corpora in the CHILDES database. This makes it one of the best-suited corpora for the current analysis, especially as it contains data of 12 children.

Still, the issue of representativeness in terms of corpus size has to be kept in mind. One important caveat here is that it is extremely difficult to estimate how representative a corpus sample is of the baseline language experience a child has. Gilkerson et al. (2017) used the LENA (Language ENvironment Analysis) system for a longitudinal study of the early language environments of young children. The LENA system differs from corpus sampling in that it "collects day-long audio recordings of children's vocalizations and their language environments" (Naigles 2012: 240), which are then analysed by an automated computer system. Using this system, Gilkerson et al. (2017) collected and analysed the language environments of "329 monolingual English-speaking families with typically developing children 2-48 months of age" on a daily basis over a period of six months (Gilkerson et al. 2017: 250). Out of these families, a further 59 families recorded their language environments for an additional 32 months. In total, "49,765 hr of data were collected over 3,615 daylong recording sessions" (Gilkerson et al. 2017: 254). In contrast, the TC and MC data taken together represent a total of 781 recorded hours. In Gilkerson et al.'s (2017: 255) study, adults produced an average of 12,622 words a day in the context of child-caregiver interaction. If we extrapolate from these data, this means that on average, children hear 4,607,030 words a year in child-caregiver interactions. Regarding the average token frequency produced by mothers in the MC data, taking Gilkerson et al.'s (2017) measurements as our basis, we can estimate that the MC captures about 2.5% of children's total caregiver input. For the TC data, we have to differentiate between Sections A, B, and C with their different sampling regimes (see Section 4.1.2). For Section A (2;00-3;02) with its very intensive sampling period, taking Gilkerson et al.'s (2017) data as our basis, the TC data represent about 24% of total caregiver input. For Section B (3;03-3;11), the TC data represent about 7% of caregiver input. Finally, for Section C (4;00-4;11), they represent about 6.1% of the child's language environment.

However, there is a significant problem with this analysis. If we do not take Gilkerson's et al. (2017) data as the basis of our estimates, but instead extrapolate from the average token frequency in the MC and TC recordings, we get vastly different results.

Let us start with the MC data. The average MOT token frequency for an hour-long recording in the MC data is 3,392 tokens. If we assume that the MC data are representative of the child's general language environment, this would mean that on a ten-hour day, these children are not exposed to about 12,622 words but instead to 33,923 words. Over a year, this would add up to 12,381,980 words of caregiver input in a year instead of 4,607,030. Given this estimate, the percentage of language captured in the MC data would fall to 0.9%.

For the TC data, extrapolating from the average token frequency in an hour-long recording, we get the following results: For Section A (2;0-3;02), the average word count is 3,435, adding up to 34,350 words a day and 14,598,750 words during the recording period. With these numbers as our basis, the estimate for the percentage of caregiver input would drop to 8.9%. For Section B (3;03-3;11), the average token frequency for an hour-long recording is 4,989, accumulating to 49,869 words a day and 12,118,176 words for the whole recording period. Given this estimate, the percentage of caregiver input captured in the corpus data would drop to 1.8%. Finally, for Section C (4;00.02-4;11.02), the average token frequency for an hour-long recording is 4,979, resulting in an estimate of 49,796 tokens a day and 18,165,685 tokens for the whole recording period. With this estimate, the estimated percentage of tokens captured in the corpus data for Section C would drop to 1.6%.

There are several possible reasons for these differences. One important contributing factor is related to the question to what degree one-hour-corpus recordings are representative and typical of children's language experience throughout the day. Hart and Risley (1995, 2003), in their seminal study of 42 families, also arrived at much higher daily word frequencies than Gilkerson et al. (2017). Hart and Risley (1995, 2003) recorded 42 families for one hour each month from 7-9 months until 3 years of age. They then extrapolated from the averages of the observational data, assuming a 14-hour-waking day. Extrapolating from their measurements, children from professional families with academic backgrounds hear an average of 30,142 adult words each day, resulting in 11,001,830 words in a year. This average is much closer to the estimates for the MC and TC Section A data than to the ones by Gilkerson et al. (2017). However, these data are based on families with a high socioeconomic status (SES). For middle-SES families, Hart and Risley's (1995, 2003) data suggest a daily adult word count of 17,514 and a yearly word count of 6,392,610. However, Hart and Risley (2003: 7-8) also sometimes refer to middle-SES families as "working class," so they are probably different in composition than the predominantly middle-class TC and MC families.

It is important to note that Hart and Risley (1995, 2003) usually recorded during the early evening hours. This is relevant because talk and interaction are highest "in the early morning beginning at 7 and in the late afternoon–early evening" (Greenwood et al. 2011: 86). Gilkerson et al. (2017: 261) argue that this fact probably inflated Hart and Risley's (1995, 2003) daily estimates.

Another possible reason is that the MC and TC data simply represent outliers to the median arrived at by Gilkerson et al. (2017). Indeed, the standard deviation in the Gilkerson et al. (2017: 255) data set is 4,281, meaning that in many families, the adult word count was actually much higher or lower than the mean. In fact, 1% of the recordings in the Gilkerson et al. (2017) study range as high as 30,000-40;000 adult words in a day (Jill Gilkerson, personal communication).

As noted in Section 4.2.1.1, families participating in longitudinal corpus projects, especially in those that establish DDBs, likely display a particularly pronounced interest in their children's language acquisition. They might therefore generally talk to their children much more than other families. This means that it is definitely possible that extrapolating from the corpus data does, in fact, give an accurate representation of the amount of language the children in the corpora are exposed to on a daily basis.

On the other hand, it is quite likely that recording sessions as part of a project to document language acquisition will be more talk-intensive than other parts of the day, almost by definition. There is, therefore, a high probability that during the recording sessions, adults actually engage with their children at a higher frequency and more intensively than at certain other times of the day. The estimated daily adult word counts based on extrapolating from the token frequency in the recordings are therefore likely also inflated. It is, of course, an important question what this means for issues of representativeness, authenticity and ecological validity. At the moment, though, no definite and satisfying answer can be given. Nevertheless, when doing corpus research, either in general or using specific corpora, we should acknowledge that representativeness is a problematic issue and reflect this in how confident we can be in our results (see Biber 1993; Leech 2007; Hunston 2008: 160-165 for discussion).

However, from a methodological perspective, using the TC and MC for analyses of pretend play behaviour and the lexical item *pretend* is actually quite well-motivated. Almost by definition, usage of *pretend* will be much more likely to occur in play contexts than in other everyday contexts. Indeed, evidence suggests that "the setting of interaction influences the nature of the talk produced" (Hoff 2006: 70). For instance, several studies have found differences in mother-child interactions when comparing toy play and book reading (e.g., Choi 2000; Yont et al. 2003; Hoff 2006: 70). Therefore, in the context of the issue of representativeness, the question is not necessarily if corpus recordings are representative of children's daily interactions as a whole, but if the data are representative of children's play behaviour in general, which they in fact seem to be.

When we consider the corpus descriptions of the MC and TC, we do indeed find that the recordings predominantly capture play situations. As discussed in Section 4.1.1, for the TC "all of the audio recordings took place in Thomas's home where he was engaged in normal play activities with his mother" (Goh n.d.). For the MC, it is also noted that during the recordings, children "engaged in normal play activities with their mothers" (Lieven et al. n.d.).

For the MC and TC data, we can glean some more information from looking at the @Situation header at the beginning of the transcript, which "describes the general setting of the interaction" (MacWhinney 2019a: 40). In the MC data, 175 (21.8%) transcripts are tagged with the situational description "Free Play," 163 are tagged as "Structured Play" (20.3%), and 366 are tagged as "playing with toys" (45.5%). The 100 remaining transcripts (12.4%) do not include an explicit situational description.

For the TC data, 175 (46.2%) transcripts are tagged with the @Situation tier "playing with toys," and 73 (19.3%) are tagged as other kinds of play activities such as "playing at home," "role playing," or specifying exactly what Thomas is playing with, such as "playing with train set," "mending and cleaning vehicles," and "playing with cheese." 82 (21.4%) transcripts include a situational description that is not related to play, such as "talking about their day," "having breakfast," or "getting up in the morning." 49 (12.9%) transcripts do not include an @Situation tier.

Divided into the three sampling sections, we get the distribution found in Table 4.2. Section A contains 132 (47.3%) "playing with toys" @Situation descriptions, 35 (12.5%) other play activities, and 62 (22.6%) other situation types. 49 (17.6%) transcripts do not feature a situational description. Section B contains 24 (55.8%) instances of "playing with toys," 6 (14%) other types of play activity and 13 (30.2%) non-play activities. Finally, in Section C there are 19 (33.3%) transcripts tagged as "playing with toys," 32 (56.1%) transcripts feature other descriptions of play activities and 6 (10.5%) transcripts are tagged with some other type of activity. As we have seen, in Section A there are quite a number of transcripts without an @Situation tag. Moreover, in Section B and C the @Situations tags are often more specific. This is likely due to the inconsistencies in the transcriptions mentioned in Section 4.2.1.1.

| **Situation** | **MC** | **TC** | **TC Section A** | **TC Section B** | **TC Section C** | **Total** |
|---|---|---|---|---|---|---|
| Free Play | 175 (21.8%) | / | / | / | / | 175 (14.6%) |
| Structured Play | 163 (20.3%) | / | / | / | / | 163 (13.6%) |
| Playing with Toys | 366 (45.5%) | 175 (46.2%) | 132 (47.3%) | 24 (55.8%) | 19 (33.3%) | 541 (45.1%) |
| Other Play Activities | / | 73 (19.3%) | 35 (12.5%) | 6 (14%) | 32% (56.1%) | 73 (6.1%) |
| Other Activities | / | 82 (21.4%) | 63 (22.6%) | 13 (30.2%) | 6 (10.5%) | 82 (6.8%) |
| No @Situation Tier | 100 (12.4%) | 49 (12.9%) | 49 (17.6%) | / | / | 149 (12.4%) |

Table 4.2: Number and percentages of types of play @Situation tiers, other activities and no @Situation tiers in the MC and TC

Overall, then, the vast majority of TC and MC transcripts is of play situations. Out of all transcripts, 952 (80.5%) refer to some type of play activity in their @Situation tier, 82 (6.9%) refer to non-play activities, and 149 (12.6%) do not feature an @Situation tier.

The issues and problems that were discussed regarding sampling density therefore might not apply to the corpus data used in this study, as they can be regarded as specialised play corpora. Regardless of the issues of sampling density and representativeness, then, they are clearly well-suited for the analysis at hand as they are more likely to yield *pretend* utterances than corpus data which truly represent a random sample where "any given target structure of interest occurs at random intervals in the child's speech" (Rowland et al. 2008: 4). This presents a strong argument why the MC is suited for the current analysis. It is true that the MC is not a densely sampled corpus and therefore in principle might not be suited to investigate low-frequency structures. However, on the basis of the discussion above, we can indeed make the argument that we will find more *pretend* items for analysis in these corpus data. This is the case because the MC can be treated as a representative play corpus.

However, as briefly discussed in Section 3.3.1, we need to take into account that in these play situations, especially situations where children play with toys, a play frame has already been established. Therefore, the need for children to explicitly announce actions and objects as *pretend* might be reduced (cf. Bunce & Harris 2008: 453). This means that in the corpus data, we can expect more implicit references to pretence vs. reality status than explicit ones such as *let's pretend that…*. This conclusion can be drawn when comparing Bunce and Harris' (2008) and Woolley and Wellman's (1990) results on the use of fantasy-reality metalanguage in young children. Both studies found a higher frequency of implicit references than explicit ones, but in Bunce and Harris' (2008) data, in contrast to the findings of Woolley and Wellman (1990), young children used more explicit references to fantasy and reality status than did older children (cf. Bunce & Harris 2008: 453). The researchers explain this finding in light of the different contexts in which the data were gathered. Woolley and Wellman (1990) used data from the CHILDES database, much of which had been collected in the context of toy play. Bunce and Harris

(2008: 453), on the other hand, sampled children's uses of pretend metalanguage over a wider range of contexts using diary records and interviews.

In addition, as seen above, free play and other types of non-toy related play activities also make up for a significant proportion of the corpus data. As Hall et al. (1995: 248) note, children use *pretend* more frequently than mental verbs such as *know* or *think* in free play than in other types of situations. This, then, serves as another indication for the well-suitedness of the corpus data.

A further issue is that analyses of corpus data that only contain information on few children clearly have limitations in what they can tell us about how linguistic constructions develop (Demuth 2008: 204). As mentioned above, in order to increase representativeness, the MC was chosen and combined with the TC data for analysis. However, this leads to a number of characteristics influencing the analysis that have to be addressed. Regarding the CHI data, for the age group of 3;00-4;11 all corpus data only stem from the TC, so that for this time span, we have to acknowledge that the representativeness of the data is limited by the fact that they are only of a single child. The same holds for the MOT data for the 3;0-4;11 period.

In addition, since the two corpora do not have the same sampling frequency, this means that the frequency in the corpora is skewed towards the TC. Simply put, for the age period of 2;0-3;0 the TC data are overrepresented and contain more transcripts, and consequently more tokens than the MC data. So for the Anne dataset of the MC, for example, there are 68 transcripts for the 2;0-3;0 period, representing 34 one-hour recordings. In comparison, in the TC, for the same period, there are 233 transcribed recordings. For the CHI data this does not constitute a problem as in the TC CHI the lexical item *pretend* does not occur in Thomas's speech before age 3;0 at all. So analyses of CHI utterances of *pretend* before age 3;0 only represent the MC data. In the TC MOT data, however, *pretend* does occur in the timeframe of 2;0-3;0, which means that when analysing the corpus data for that timeframe, the TC MOT data are overrepresented.

This is especially relevant given the discussion of searching for low-frequency items in DDBs. Due to its higher sampling density, we would therefore expect *pretend* to be found more frequently in the TC MOT data. However, because the MC contains data for 12 children, the overall number of one-hour recordings is much more similar to each other (TC: 379 vs. MC: 402). If we just consider the age span of 2;0-3;0, the TC 2;0-3;0: data has 279 recordings. However, the sampling density is of course still very different, and this needs to be taken into account. This is also one of the reasons why in Chapters 5, 6, and 7 we will often compare to what extent the TC MOT and MC MOT data differ. If we find differences, however, it has to be kept in mind that these could be due to differences in sampling, or due to individual variation.

Even if we are not able to answer the question to what extent the factors of sampling differences and individual differences play a role in the structure of the data, they are still interesting in themselves. This is especially so given that the current study is also interested in the cognitive and semantic properties of *pretend* utterances. The utterances featuring *pretend* that we find in the corpora will still "provide a revealing window onto the everyday but often opaque world of early childhood, and into young children's understanding of persons and minds" (Bartsch & Wellman 1995: 11), as well as of their understanding of pretence and other people's perspectives. So the data we do find are still highly relevant and can shed light on how perspectivation in *pretend* utterances works and develops. However, because of the lower sampling rate, especially of the MC CHI data, the representativeness of the data as markers for age of emergence have to be seen critically.

Overall, we can conclude that the TC and MC data provide us with interesting data on perspectivation, pretend play, and the acquisition of the lexical item *pretend*, even though we have to acknowledge a number of limitations in what the data can tell us. In general, then, the combination of a dense corpus of a single child and a representative, less densely sampled corpus of 12 children can provide valuable insights on the linguistic realisation of pretend play. However, we have to explicate precisely to what extent and for which population these results can be seen as representative. We will turn to this issue next.

### 4.2.2 Representativeness of the Results

This study is interested in the question how children and their caregivers use perspectivation in pretend play, how it develops over time, and how children's and mothers' pretence behaviours are related and differ from each other. By using a corpus of 13 child-caregiver dyads to investigate this question, the assumption is made that these data can tell us something about English-speaking children's and mothers' use of perspectivation and pretend play in general. That is, it is assumed that these data are in some way representative. However, these assumptions need to be explicated. It also needs to be made clear which population these data are thought to be representative of. In this section, it will be discussed what kind of subjects and what kind of population we can draw conclusions for.

Two qualifications have already been introduced in the section above. First, as mentioned, the corpus analysis investigates English-speaking children. This means that all conclusions drawn in the analysis might not reflect how pretend play and its linguistic realisations develop in languages other than English. Of course, as discussed in Section 3.1.6, pretend play seems to be a cultural and cognitive universal. Indeed, for a number of cognitive and sociocognitive capacities, research suggests that they develop following a relatively universal timeline (Callaghan et al. 2011). However, as we have also seen in Section 3.1.6, despite its universal nature, there are significant cultural differences in the realisations of pretend play.

In addition, whereas WEIRD cultures show many similarities in terms of their cognitive-behavioural tendencies and their development, much cross-cultural research has indicated that these cultures are not representative of humans as a species. As Henrich et al. (2010) have shown, in domains such as categorisation, inference, spatial reasoning, cooperation, fairness, and visual perception, people from WEIRD cultures are actually unusual and differ quite strongly from those of non-WEIRD cultures. This not only holds for cognition in general (e.g., Cole & Cagigas 2010), but also for language. In fact, research indicates that languages differ quite remarkably in their structure as well as their acquisition (Evans & Levinson 2009; Lieven & Stoll 2010). Furthermore, this research also suggests that "English is not a very good basis for understanding how children learn this wide range of languages because it has a number of characteristics that make it a poor exemplar" (Lieven & Stoll 2010: 157). So while it is assumed that the analysis presented here is relevant for the question of how pretend play and perspectivation develop, and that the data might be indicative of more general trends that are true for the human population in general, this assumption is also problematic to a certain degree.

We also need to further qualify the statement “English-speaking.” For one, the corpus data only represent English children, as the MC and TC are both drawn from the Eng-UK data and no Eng-NA data were sampled. So this means that our conclusions are narrowed further to only applying to British English-speaking children. The Eng-UK and Eng-NA data (see Section 5.1), as well as the CDI data for the UK, North America and Australia (see Section 3.3.2), are quite similar in their distribution of *pretend*, but we should be aware that in a narrow sense, the analysis only applies to children who grew up in England.

A further important qualification is that the corpus consists of data of predominantly middle-class children. As Hart and Risley’s (1995) study, which was already discussed in Section 4.2.1.2, and many studies after them have shown, SES plays a vital role in how much language children are exposed to and this has consequences for their linguistic development. English-speaking children in low-SES families hear fewer words than mid-SES children and especially high-SES children (e.g., Hart & Risley 1995; Hoff 2003; Rowe 2008; Gilkerson et al. 2017). The same holds for children from families speaking a minority language (Erika Hoff 2013). As a result of the different communicative environments they grow up in, these children also “have different language trajectories than children from middle class, monolingual English-speaking homes” (Erika Hoff 2013: 4). It therefore needs to be stated that the results of the present study might not be transferrable to the development of perspectivation in pretend play in other SES groups. Some studies stress the substantial variability of how many words children hear within a particular SES stratum (e.g., Gilkerson et al. 2017; Sperry et al. 2018), which indicates that because of this variation, data obtained from a small number of middle-class families might not be representative of the language environment of mid-SES families as a whole. However, as on average mid-SES families are more similar to each other in their language environment than they are to low-SES and high-SES families (Hart & Risley 1995; Gilkerson et al. 2017), we can nevertheless be relatively confident that the data analysed here are on average representative of the linguistic trajectories and communicative context of English middle-class children.

There are also some factors pertaining to family structure that need to be mentioned in order to specify to what degree the present corpus analysis can be seen as representative. Most importantly, as mentioned, all 13 children in the corpus were cared for primarily by their mother. The analysis therefore does not represent the language environment of children who are cared for by a caregiver other than their mother. Indeed, as we have seen in Section 3.1.5, mothers and fathers differ in their pretend play with their children, which indicates that the present analysis of mother-child data are not necessarily transferrable to father-child dyads. The data also cannot be automatically transferred to families where there is no primary caregiver but where caregiving duties are distributed more equally among more than one person. The children in the study also did not have any siblings and were monolingual. Therefore, the analysis does not shed light on the linguistic and cognitive development of children growing up in bi- or multilingual settings, nor on the influence of sibling interactions on language acquisition. In the MC, gender is balanced (6w, 6m), but it has to be kept in mind that for the age group of 3;00-4;11 all corpus data only come from one child-mother-dyad, with the child, Thomas, being a boy. So for this dataset, it can be asked to what extent it is representative of the linguistic development of girls as well, as there is some evidence of gender differences in the way that language is acquired (Karrass et al. 2002; Diessel 2009: 1198; Eriksson et al. 2012).

Taking all of these considerations into account, this means that the analysis of the corpus data is assumed to be representative of monolingual English children from middle-class families without siblings and their mother as their primary caregiver. The extent to which these data can also be argued to be representative for a wider population is, as we have seen, a matter of debate.

With these considerations in mind, I will now turn to the methodology of the corpus analysis and describe how the research questions of this study were investigated.

## 4.3 Methodology: Corpus Analysis of Perspectivation and Pretend Play

When performing a corpus analysis, researchers need to make transparent in what way the corpus data were handled and analysed in order to investigate the research question at hand. How were the data coded? How and by which criteria were they grouped? Which methods were used to then analyse these data and draw conclusions from them?

In this section, we will turn to questions of how the corpus data were coded, grouped, and analysed for the present study in order to gain insight into the use of perspectivation in pretend play in language acquisition. Section 4.3.1 will spell out the research questions in more detail and describe the process of data annotation. Section 4.3.2 will explain the concept of mean length of utterance (MLU), which is one of the ways linguistic development is measured in this study. Section 4.3.3 will briefly introduce the statistical methods employed in the study.

### 4.3.1 Research Questions and Coding

As the discussion in Section 3.3 has shown, *pretend* is only one node in the complex network of constructions children and caregivers use to talk about, negotiate and coordinate pretend play. In addition, children very often do not make the fact that they are pretending explicit via metacommunication (see Section 3.2.3). So just looking at one lexical item in the corpus data will not capture all pretence activities a child is engaged in. However, given that *pretend* as a lexical item is of high importance in children's play activities (see Sections 3.2.5 and 3.3.3), we can still expect that searching for it in the corpus data will yield insightful results. Moreover, the lexical item *pretend* clearly is the word most strongly associated with pretend play situations both when caregivers produce it and when children start using the word themselves. Studying what happens when pretence behaviour is explicitly marked and commented on can tell us much about how children and their caregivers conceptualise pretence in general. Overall, it represents a very useful starting point for investigating children's pretend play interactions.

Moreover, it is not only interesting to investigate children's use of *pretend* but also how their caregivers use it. One reason for this is the importance of child-directed speech for language acquisition, as discussed in Section 2.2.3. Another reason follows from the cognitive orientation of the current study. If we are interested in the structure of pretend play interactions between children and caregivers, we should just as much look at caregiver speech as we do at children's speech. Pretend play situations are co-constructed and negotiated by children and caregivers. If we are interested in this process and the kinds of pretence behaviours mother-child dyads engage in, we have to analyse both groups of speakers. In line with the usage-based approach adopted here, the goal of this study therefore is a careful analysis of how the lexical item *pretend* is employed in discourse by children and caregivers. More specifically, this study investigates the question of how *pretend* is used in the context of pretend play "for the purpose of making meaning" (Tyler & Huang 2018: 28).

To find instances of *pretend* in the corpus data, I performed an analysis by lexical tracking (MacWhinney 2008: 168). Using the CLAN programme (Diessel 2009: 1203-1205; MacWhinney 2019b), occurrences of *pretend* and its word forms were tracked in the TC and MC data. The programme then sorted these results into a concordance of utterances featuring *pretend* word forms (cf. Wynne 2008: 706). These data were then coded for further analysis according to a number of categories.[38] The categories are discussed in more detail in Chapters 5, 6 and 7, so here I will just give a brief overview along with some methodological considerations.

For the analysis in Chapter 5, the different surface forms of *pretend* and their frequency were analysed to investigate their overall distribution and development. Many studies in a usage-based approach focus on surface forms so as not to make too many assumptions about their underlying constructional composition (Erker & Guy 2012: 530). This usage-based commitment is reflected in the analysis of different forms of *pretend* in Chapter 5. However, Chapter 5 also looks at *pretend* and its different morphological constructions using the morphological coding in the transcripts (see Section 5.2). In addition, utterances containing the lexical item *pretend* were coded for utterance type/speech act type: declarative, imperative, question, question tag, repetition.

[38] Coding refers to the "process of categorizing transcribed speech […] for analysis. The type of coding system used depends upon the intended goal of the analysis" (Rowe 2012: 206). The coding of data represents "the researcher's conceptual description of the data collected" (Blume & Lust 2017: 217) and the coding system reflects the research questions that are investigated.

The aim of Chapter 6 is to investigate questions tightly connected to the relation between cognitive development and children's pretence behaviour: Which pretend target domains occur in children's naturalistic interactions? How do these develop over time and with increasing linguistic complexity in language acquisition? For this analysis, the data were coded for the semantic target domains evoked or involved in pretend play situations in a bottom-up manner. Utterances were first coded for individual targets of a pretend play situation (e.g., something being an elephant, seeing something, knowing something, being on a boat, something being broken). In the following step, based on the types of individual targets in the utterances, higher-order, more abstract and schematic categories were inferred that the individual target structures can be seen as instantiations of. For example, the utterance *you're pretending to eat him* (MOT, aran27b.cha) is treated as an instantiation of the action schema. These schematic categories were inferred on the basis of a qualitative analysis of the interactional sequences in which *pretend* utterances were produced, and with the goal that they should a) be cognitively realistic and b) be motivated by what we know about cognitive development and categorisation. In short, the pretend target categories were inferred using Cognitive-Linguistic considerations, which will be outlined in more detail in Chapter 6.

For the analysis in Chapter 7, *pretend* utterances were coded following the event schema typology of Radden and Dirven (2007: 269-299), which will be discussed in more detail in the chapter.

One caveat that needs to be addressed here is that, especially for children's language use, coding is not an objective process but in essence a subjective one based on the researcher's analysis and coding decisions. This also means that another coder might make different coding decisions. Due to the nature of this project, all data were analysed and coded by only one person (the author), so that no inter-rater reliability information (cf. Corrigan 2012: 277-278) is available.

Coding children's linguistic utterances generally is a problematic endeavour. As Blume and Lust (2017: 215) summarise,

> interpreting what a given child utterance was "intended" to mean can be difficult. Although methods such as "rich interpretation" have been developed, wherein the context of natural speech is carefully considered to determine what a child's utterance means and what its structure likely is (e.g., Bloom, 1970), this process remains subjective, and inferences must be qualified appropriately.

This also has to be kept in mind for the current study. *Pretend* utterances were coded using as many contextual cues as possible, also taking into account the preceding and following utterances of an interaction. This was especially important when the utterance itself did not make explicit the pretend situation children and caregivers were involved in. This happened frequently with children's utterances, which are often one- or two-word utterances such as *pretend* (e.g., CHI, becky12b.cha, talking about eating a sandwich) or *just pretend* (e.g., CHI, gail12a.cha, talking about a toy boat capsizing), but also with mothers' utterances, e.g., when pronouns are used to refer to a pretend situation or entity, as in *it's only pretend* (MOT, carl10b.cha, talking about a pretend doughnut).

### 4.3.2 Analysing Development

To investigate the development of *pretend*, after coding the data were grouped by two different measures: by age and by linguistic development. For *pretend* utterances and the analysis of the targets and event schemas these are associated with, these two different groupings relate to two different questions. On the one hand, we can ask if the distribution and development of pretend categories changes with age. This question is relevant if we want to assess which role cognitive development plays when it comes to which kinds of pretend play situations children partake in and how these are being talked about. If we are interested in the relation between pretend play and linguistic complexity, this question is relevant in order to investigate whether a given change is simply a result of cognitive development, or if it reflects the acquisition and mastering of a more complex repertoire of constructions used to initiate, negotiate, and coordinate pretend play. It is also important to note that the key focus of Chapters 6 and 7 lies on the conceptual representations, target domains, and event schemas associated with any surface form of *pretend*. Therefore, in the analyses in Chapters 6 and 7 different surface realisations of *pretend* are pooled for analysis.

Grouping by age is relatively straightforward, but sorting *pretend* utterances into groups by language level is a more complicated matter, which is why I will discuss it in more detail. The "most commonly used measure of language proficiency in child language research" (Corrigan 2012: 275) is that of mean length of utterance (MLU): “MLU consists of counting the length of each of the subject’s utterances and dividing the total unit count by the total number of the subject’s utterances” (Blume & Lust 2017: 192). In the following, we will present MLU counted by words (MLUw).

For example, we can calculate the MLUw of the first seven CHI utterances in one randomly chosen transcript of the MC:

(1) First 7 utterances for Nicole, age 2;06.11 (nic16a.cha):
*my purse*
*purse gone*
*put in there*
*no*
*get Nicole purse in there*
*done it all*
*Nicole done it all*

To calculate MLUw here, we add the unit count of each utterance (*my purse* = 2; *purse gone* = 2; *put in there* = 3; *no* = 1; *get Nicole purse in there* = 5; *done it all* = 3; *Nicole done it all* = 4; total = 20) and divide it by the total number of utterances, in this case, seven. The resulting MLUw for these seven utterances is therefore 2.9 (cf. Blume & Lust 2017: 193). If we follow the same procedure for the whole transcript, we arrive at a relatively reliable average of utterance length for that particular child at that particular time; the MLUw for this transcript is 1.9. If we calculate MLU for children at different ages, we can get a measurement of their language level that is independent of age. For example, if we take the TC data at age 03;07.01, Thomas’ first seven utterances are the following:

(2) First 7 utterances for Thomas, age 3;07.01 (030701.cha):
*Mummy* (1)
*yes it is* (3)
*Mummy* (1)
*my numbers <are still> [//] is [*] still on the telly* (9)[39]
*can I switch them off?* (5)
*oh* (1)
*Mummy, I like you* (4)

[39] The symbol [//] indicates retracings “when a speaker starts to say something, stops, repeats the basic phrase, changes the syntax but maintains the same idea” (MacWhinney 2019b: 75).

For these utterances, the MLUw is 3.4 (for the whole transcript the MLUw is 3.6). Based on these calculations of MLUw, we can state that Thomas' utterances exhibit a higher linguistic complexity than those of Nicole. We can therefore compare different levels of linguistic development independent of age.

Following Brown (1973), for many types of research question researchers prefer to classify children by MLU instead of age because children at the same age may vary strongly in their MLU and therefore their language level (Corrigan 2012: 275; Owens 2012: 272; Blume & Lust 2017: 192). For example, Fig. 4.1 contains the MLUw measured at two separate ages for the children in the MC and TC data. MLUw was measured first around 2 years of age, that is, roughly at the beginning of the recording period, and then around 2;6, based on the MLUw analysis of one transcript for each child for each age group.

Fig. 4.1 below shows that children in the TC and MC differ quite strongly in their MLU at a given age. However, what we can also see is that MLU increases uniformly with age, although it does so at different rates (cf. Miller & Chapman 1981; Rice et al. 2010).

Following Brown (1973: 53-59), most researchers measure MLU in morphemes (MLUm), but it can be argued that this is not very much in line with a usage-based, constructionist approach. In such an approach it is not necessarily assumed that children's use of constructions is based on knowledge of morphemes but instead proceeds via item-based learning and progressive schematization (see Tomasello 2003: 94-143; Booij 2010: 15; Ambridge & Lieven 2011: 137-190 for discussion). I therefore follow Lieven et al. (2009: 485) in preferring to measure MLU in words (MLUw) "rather than to make assumptions about the productivity of morphemes." However, measures of MLU by morphemes and by words correlate very strongly, suggesting that both types of measurements effectively capture children's general language development (Parker & Brorson 2005; see MacWhinney 2008: 169-170; Norris & Ortega 2009; Corrigan 2012: 275 for discussions of other types of measurements of the development of linguistic complexity in language acquisition). It also has to be noted that whereas there are good theoretical grounds to measure MLU in words for English, this might be less appropriate for other languages (Owens 2012: 272; Ezeizabarrena & Garcia Fernandez 2018; though see

Parker & Brorson 2005: 368). In addition, there are some languages, such as Hebrew, where an increase in grammatical complexity "does not necessarily result in longer utterances" (Owens 2012: 272; cf. Dromi & Berman 1982).

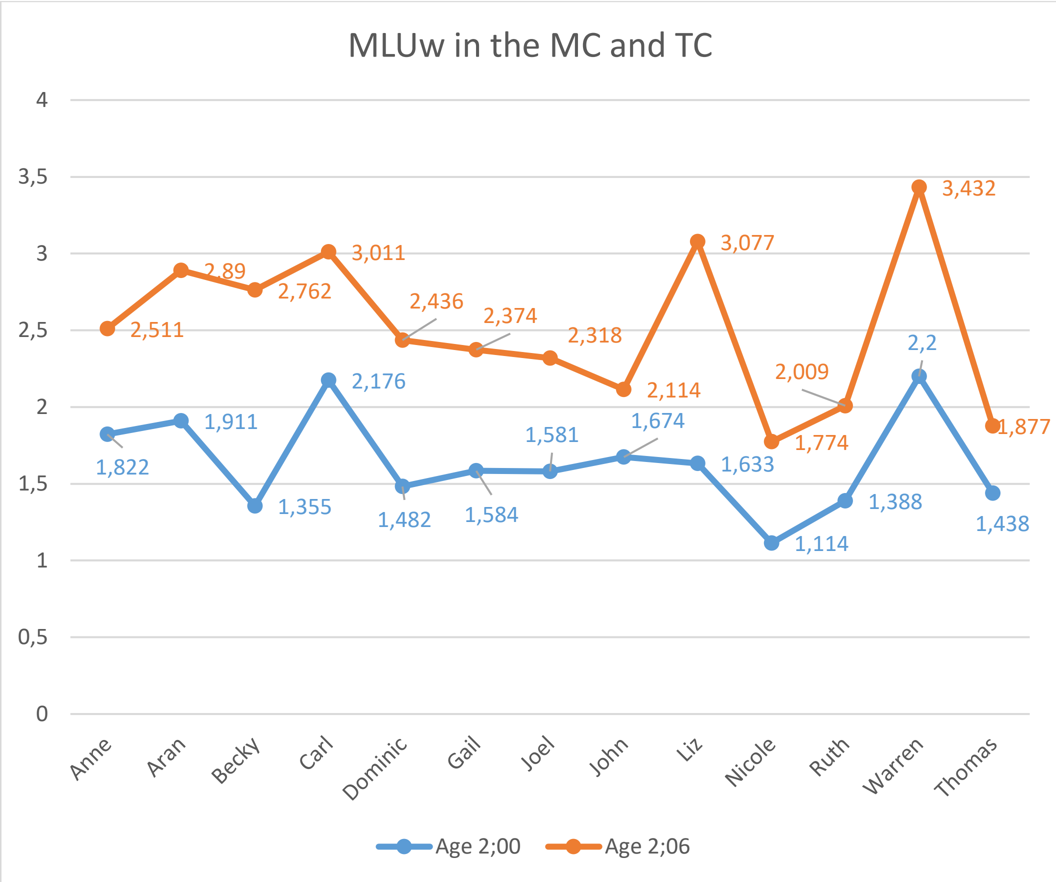

Figure 4.1: MLUw around age 2;00 and 2;06 based on the available transcripts for that particular month

Of course, especially when it comes to language acquisition, word boundaries cannot always be clearly defined. For example, *just pretend* is written as two words in the CHILDES transcripts, but it is possible that children represent this construction as a unitary chunk *just_pretend*.[40] While the concept of 'word' does not necessarily capture the basic units of language that children acquire when learning a language, it is arguably subject to interpretation to a lesser degree than morphemes.

Moreover, the question if MLU really measures grammatical development is controversial. Brown (1973: 53-54; cf. Ezeizabarrena & Garcia Fernandez 2018) argued that

[40] In the CHAT transcription format, linkages are marked by an underscore, such as *Santa_Claus*, *Fireman_Sam*, *got_to*, *or thank_you* (MacWhinney 2019a: 49).

> [t]he MLU is an excellent simple index of grammatical development because almost every new kind of knowledge increases length: the number of semantic roles expressed in a sentence, the addition of obligatory morphemes, coding modulation of meaning, the addition of negative forms and auxiliaries used in interrogative and negative modalities, and, of course, embedding and coordinating. All alike have the common effect on the surface form of the sentence of increasing length.

However, Dethorne et al. (2005) argue that "MLU is better viewed as a global measure of expressive language ability" as it is not only related to grammatical complexity but also to semantic complexity and the number of different words children use (cf. Douglas 2012: 88). Blake et al. (1993: 193), on the other hand, maintain that MLU "is a valid measure of clausal complexity up to 4.5" (cf. Blume & Lust 2017: 192-193), although others find this measure to be less predictive as a measure of grammatical complexity beyond an MLU of 3.0 (Rondal et al. 1987; Hoff 2014: 186). Even though there are debates as to what exactly MLU measures, it is generally found to be a valid and reliable index of language development as well as language impairment (Rice et al. 2010: 333). Overall, MLU is generally found useful in conceptualising development as it correlates positively with age and in that MLU generally increases with age, even though children's linguistic trajectories can be quite different (Owens 2012: 272; Hoff 2014: 186).

We have established that MLU can be seen as an index of language development; it therefore represents a metric other than age that we can relate the development of *pretend* utterances to. However, for purposes of analysis it makes sense not to simply relate the development of *pretend* utterances to MLU per se, but to also group MLU by some higher-order system. The grouping system I am using for the current study is that of Brown's (1973) five stages of grammatical development, a system that is used quite frequently to categorise children's MLU development (e.g., Lieven et al. 2009; Wieczorek 2010; Ninio 2011). Following Brown (1973: 56), researchers have found it useful to divide the MLU continuum into the following and associated MLU ranges: Early I (MLU 1.01-1.49), Late I (1.50-1.99), II (2.00-2.49), III (2.50-2.99), Early IV (3.00-3.49), Late IV/Early V (3.50-3.99), Late V (4.00-4.49), Post V (4.5+) (Miller & Chapman 1981: 160; Ingram 1989: 50; Singleton & Ryan 2004: 26; Hoff 2009: 244; see Table 4.3). Brown (1973: 32) described these stages as constituting "the core of English sentence construction, and with some allowance for variation in syntax and meaning, of language generally."

Brown (1973) also used these stages to summarise some of the most important developments in language acquisition. Stage I captures children's first combinations of words and first inflections. Stage II captures the addition of grammatical morphemes to word combinations and a productive use of grammar. In Stage III, different sentence modalities such as negatives and questions begin to be used. Stage IV marks the beginning of the use of complex sentences, including embedding of sentences. Stage V is thought to mark the emergence of new forms of complex sentences and the coordination of sentences (Hoff 2014: 186). Clear-cut stages associated with particular abilities are generally treated with more scepticism both in linguistic and cognitive development more generally, as cognitive development does not proceed in an additive, stage-like, linear progress of structural changes. Instead, the emergence of system novelty should be modelled in terms of organisational transformation and increasing complexity in a dynamically developing system, with changes often being non-linear and variable, forming a multidimensional developmental web of task-dependent skills (cf. Mascolo & Fischer 2015; Overton 2015; see also Section 2.3.2).[41] Owens (2012: 272) goes so far as to claim that "much of the work on MLU, suggesting stages of development, has been discredited." This is especially the case from a usage-based, constructionist point of view, where early rote-learned items might become more abstracted and schematic over time. This might also mean that inflections might disappear and language production in general might change as children construct their language (e.g., Tomasello 2003, 2006). But Owens (2012: 272), too, recognises the role of MLU in conceptualising development.

In general, Brown's stages can be argued to divide linguistic development "somewhat arbitrarily" (Hoff 2014: 186). However, as Ingram (1989: 50-51) points out, Brown's stages should be seen as intervals on a continuum, without reference to categorical distinctions of what a child can and cannot do at a particular stage. Instead, Brown's argument was that samples from children within these MLU ranges "would be typical of the kinds of linguistic behaviours shown for that range

[41] It has to be noted though that contrary to the received view of Piaget's model of stages of development, his actual views were much more complex and allowed for degrees and décalages in terms of the variability and consistency of children's cognitive performance (Carpendale et al. 2018: 52-58; cf. Overton 2015: 14-16).

of MLUs" (Ingram 1989: 51). Brown (1973: 59) stresses that "the whole development of any one of the major constructional processes is not contained within a given stage interval." He explicitly differentiates his conception of linguistic stages from his understanding of stages in Piaget's (e.g., 1962) sense as marking a qualitative developmental change (Brown 1973: 58; cf. Ingram 1989: 51). He also stresses that "as utterances get longer and MLU increases, some sort of increase in complexity is bound to occur, but there is no *a priori* reason why the increase should take only the forms it does, and, in particular, that these forms should be the same for all children studied" (Brown 1973: 64-65; cf. Shore 1995; Owens 2012: 272; Hoff 2014: 186; Ezeizabarrena & Garcia Fernandez 2018). Understood as useful groupings to investigate some measure of linguistic proficiency, however, "Brown's stages are descriptively accurate and have stood the test of time" (Hadley 2014: 110).

In the current study, Brown's stages are also understood as useful groupings broadly representative of typical linguistic behaviours and abilities in a given MLU range. That is, in this study, Brown's stages are mostly used as groupings for comparison in the same way that age is grouped into three-month-intervals for comparison.

There is one more very important aspect in which use of Brown's (1973) stages is different from the way it is used in this study and should not be interpreted in the same ways. Brown's (1973) original conception of stages and the one most often used in the literature is based on MLU measured by morphemes (MLUm), whereas this study, as outlined above, opts for measuring MLU in words (MLUw). Given the strong correlation of MLUw and MLUm discussed above, however, studies adopting MLUw also often refer to Brown's stages (e.g., Lieven et al. 2009: 485). However, some have argued that MLUw and MLUm do in fact measure different aspects of linguistic development (e.g., Wieczorek 2010: 68). In addition, although both values are almost perfectly correlated, MLUm counts in general tend to be higher than corresponding MLUw counts (e.g., Rice et al. 2010: 344; Wieczorek 2010: 65) by a coefficient of 1.108 (Parker & Brorson 2005: 372-373). This means that an MLUw of 2.99 can be converted, or correlates, to an MLUm of 3.3. This is of course of importance for our conceptualisation of stages grouped by

MLU, and another reason to treat the grouping into Brown's stages in the current study mainly as a heuristic measure. Table 4.3 below summarises Brown's stages and associated MLU ranges, as well as the age ranges these occur in that are found in the literature.

In the current study, the usage of *pretend* will be correlated with age on the one hand, and Brown's stages on the other. In this way we will gain insight into the question to what degree the use of *pretend*, the target domains and the event schemas associated with it change a) over time, and b) with linguistic development.

As mentioned above, however, we have to be careful about which conclusions we can draw if we find such correlations. Generally speaking, changes in the distribution of *pretend* usage with age might speak for a correlation with general cognitive and sociocognitive development, but it could of course also be related to maturation or changes that are specific to the lexical item *pretend*. Changes in the distribution of *pretend* usage by Brown's stages might indicate a correlation with linguistic development. However, as we have seen, whether this is a correlation with grammatical development, global expressive language ability, general language level or general language proficiency is a point of contention. This needs to be reflected in the conclusions drawn from these correlations.

| **Stage** | **MLU** | **Age range** |
|---|---|---|
| Early I | 1.01-1.49 | 16-26 months |
| Late I | 1.50-1.99 | 18-31 months |
| II | 2.00-2.49 | 21-35 months |
| III | 2.50-2.99 | 24-41 months |
| Early IV | 3.00-3.49 | 28-45 months |
| Late IV/Early V | 3.50-3.99 | 31-50 months |
| Late V | 4.00-4.49 | 37-52 months |
| Post V | 4.5+ | 41- |

Table 4.3: Brown's stages of grammatical development with associated MLU ranges and normative age ranges. Adapted from Miller and Chapman (1981: 160; see also Ingram 1989: 50; Singleton & Ryan 2004: 26; Hoff 2009: 244; Rice et al. 2010: 344; Ezeizabarrena & Garcia Fernandez 2018)

However, before we can discuss what conclusions we can draw from any attested correlations, it needs to be addressed how correlations between variables are established in the dataset in the first place. That is, which statistical measurements are used to investigate possible correlations? This is the question the next section will turn to.

### 4.3.3 Statistical Methods

In the current study, I also want to investigate possible relationships between the distribution of various aspects relating to the use of *pretend*, for example in terms of target domains and event schemas on the one hand, and other measures, mostly age and Brown's stages, on the other. That is, the research question to be investigated is whether there is a correlation between changes in a particular variable related to *pretend* and changes in age or MLU.

If there is a linear relationship between two variables, this means that as one variable changes, the other also changes. For example, in children, there is a relationship between age and height. As children grow older, they also become taller. In such a case, we speak of a positive correlation, because we can phrase the result in terms of "the higher the value of x, the higher the value of y" or "the lower the value of x, the lower the value of y" (Gries 2013: 147), meaning that both changes are changes in the same direction.

However, for adults there is no such relationship. Whereas a child at age 12 will, as a rule, be taller than a child at age 6, an adult at age 50 will not necessarily and automatically be taller than an adult at age 25. In this case, we would say that there is no correlation between adult height and adult age.

The third type of possible correlation is a negative one. If there is a negative correlation between two variables, we expect that if one variable changes, the other variable will also to change, but in the opposite direction. For instance, there is a negative correlation between the corruption level of a country and the effectiveness of its legislature. So the higher a nation's corruption index is, the lower its level of government effectiveness will be (Klomp & De Haan 2008; cf. Warne 2018: 337). Such a negative correlation can be phrased in terms of "the higher the value of x, the lower the value of y" or "the lower the value of x, the higher the value of y" (Gries 2013: 147).

Positive and negative correlations can also be found in language. In their research on the "30 Million Word Gap," Hart and Risley's (1995, 2003; see also Section 4.2.2) finding that children growing up in higher-SES families on average hear more words than children in lower-SES families would qualify as a positive correlation between the two factors. Their finding that the more words parents spoke to their children, the more words children knew at a later point in time also counts a s a positive correlation between parental word frequency and children's vocabulary size. As an example of a negative correlation, consider the following two examples from research on population structure and linguistic structure. Lupyan and Dale (2010) have found a negative correlation between population size and morphological complexity. That is, they found that the bigger a particular linguistic community is, the simpler their inflectional morphology. Similarly, Bentz et al. (2015) found a negative correlation between the number of non-native speakers and the number of word forms of a language: the more non-native speakers a language has, the fewer word forms it will have.

After having established how to talk about the direction of a correlation we can find between two variables, the next question we will turn to is how the strength of such a correlation can be measured. As Cohen (1988: 75) states, "[b]y far the most frequently used statistical method of expression of the relationship between two variables is the Pearson product-moment correlation coefficient, r." Using Pearson's product moment correlation allows us to evaluate the degree to which there is a linear relationship between two variables, meaning it allows us to assess to which degree one variable changes if the other one also changes (Sheskin 2004: 957). The current study will follow this approach and mostly measure the relationship between two variables using Pearson's product moment correlation.[42]

[42] Hilpert and Gries (2009: 389-390) suggest that in language acquisition research, Kendall's Tau would be a better statistical measure. However, they also note that most scholars in language acquisition research use Pearson's r (Hilpert & Gries 2009: 396), and I follow this common practice here, with the exception of a number of cases where Kendall's Tau is seen as more appropriate.

Computing Pearson's product moment correlation yields the correlation coefficient, r. In a second step, we can derive a measure of its statistical significance from the correlation coefficient, p. We can interpret the p-value as telling us how confident we can be that a distribution like the one we observe did not occur by chance. The lower the p-value, the higher the confidence that an effect that we observe is not random. Generally, a p-value of <0.05 is treated as being statistically significant (Miles & Banyard 2007: 87; Albert & Marx 2016: 130-132); this means that there is only a 5% probability that the effect we observe is due to chance and that there is, in fact, no relationship between the two variables we are measuring. A p-value of <0.001 is treated as being statistically highly significant, and I will follow these conventions here. However, it has to be noted that the cut-off points for statistical significance are essentially arbitrary and based on convention (see Miles & Banyard 2007: 300-305; Field et al. 2012: 52 for discussion). Therefore, it has been suggested that instead of simply stating that a given effect is statistically significant, the exact probability level always be reported as well (Dancey & Reidy 2017: 145). I will follow this practice here.

The value of the correlation coefficient r can lie between 1 (positive correlation) and -1 (negative correlation). This is referred to as the strength of a correlation. When r is 0 there is no linear relationship between the two variables. When r is 1 (or -1) both variables are perfectly correlated. For instance, measuring weight in pounds or kilograms is perfectly correlated, in that the higher a measurement is in pounds, the higher it will also be in kilograms to exactly the same degree (Warne 2018: 336). However, most real-life correlations are essentially never this perfect. Instead, they generally lie somewhere between 0 and 1. This, of course, makes the assessment of the strength of a correlation more complicated. In general, we can state that the closer a correlation coefficient is to 1 (or -1), the stronger the relationship between the two variables is, and the closer it is to 0, the weaker the relationship.

Beyond that, verbally describing the effect size or strength of a correlation is much more problematic. In fact, in the research literature, there are many different suggested cut-off points regarding when a correlation should be labelled as high (or strong), moderate (or intermediate), or low (or weak). As we can see, even the terminology itself is already contentious, i.e. whether we should speak of high vs. low (e.g., Gries 2013: 147; Hinkle et al. 2003), strong vs. weak (e.g., Evans 1996; Dancey & Reidy 2017: 182; Schober et al. 2018: 1765), large vs. small (Cohen 1988: 82; Brezina 2018: 144) or even high vs. weak (Albert & Marx 2016: 130-131). In the current study, these verbal labels will be used interchangeably.

One of the most influential guidelines for interpreting the size of a correlation coefficient is Cohen's (1988: 82) suggestion of r = .10 for a small effect, r = .30 for a medium effect, and r = .50 for a large effect (cf. Brezina 2018: 144). Most researchers have subdivided this classification further, adding a distinction between .50 to .70 for a high correlation, and .70 to 1 for a very high correlation (see, e.g., Gries 2013: 147). However, many researchers have not only introduced this subdivision, but also assume an even higher cut-off point for labelling a correlation as moderate, or high/strong (Hinkle et al. 2003; Albert and Marx 2016: 130-131; Dancey & Reidy 2017: 182; Schober et al. 2018: 1765). I will follow these researchers when discussing the strength of the correlation coefficient r. Therefore, in this study, a correlation coefficient .00 to .30 will be labelled as very weak/low, .30-.50 as weak/low, .50-.70 as moderate, .70-.90 as high/strong and .90 to 1.00 as very high/strong. Table 4.4. summarises the guidelines for interpreting and labelling the correlation coefficient r used in this study.

| **Correlation coefficient r** | **Interpretation** |
|---|---|
| .90 to 1.00 (-.90 to -1.00) | very strong/high positive (negative) correlation |
| .70 to .90 (-.70 to .-90) | strong/high positive (negative) correlation |
| .50 to .70 (-.50 to -.70) | moderate positive (negative) correlation |
| .30 to .50 (-.30 to -.50) | weak/low positive (negative) correlation |
| .00 to .30 (-.00 to -.30) | very weak/very low/negligible positive (negative) correlation |

Table 4.4*:* General guidelines for the interpretation of Pearson's product moment correlation coefficient r, following Hinkle et al. 2003; Albert & Marx 2016: 130-131; Dancey & Reidy 2017: 182; Schober et al. 2018

It has to be noted, of course, that just as with the p-value, the cut-off points and suggested labels for the correlation coefficient are arbitrary and inconsistent and should be seen more as a general guide given the research question at hand (Cohen 1988: 13; Brezina 2018: 144; Schober et al. 2018: 1765).

A further important caveat has to be noted here. It is often tempting to see correlation as causation, but observing a correlation does not give us grounds to assume that the change in one variable causes the change in the other variable. For example, following earlier work by Sies (1988), Matthews (2000) shows that there is a statistically highly significant correlation between human birth rates across Europe and stork populations. This is, of course, an "association which is clearly ludicrous" (Matthews 2000: 36). In this case people would not actually infer causality. However, this example still points to a genuine problem in statistics. For one, as the example shows, there is the danger of "spurious correlations" (Roberts & Winters 2013) where there is, in fact, no direct relationship between the two variables. Roberts and Winters (2013), for example, discuss statistical links such as those found between linguistic diversity and traffic accidents, the occurrence of siestas and morphological complexity, phoneme inventories and levels of extramarital sex, or chocolate consumption and numbers of serial killers in a country. As they caution, if studies do not control for factors such as whether variables are linked by common descent, or are linked by another underlying cause, and if studies are not grounded in an adequate theory, they might actually have little explanatory power.

Even for correlations that appear to be meaningful, we are left with the problem of how to conceptualise the causal links underlying them. There are three distinct possibilities for why we might observe a relationship: a) variable x might cause changes in variable y; b) variable y might cause changes in variable x; c) a third, unknown variable, z, causes changes in both x and y. Clarifying which of these three possibilities is the one that is most likely can be quite problematic. Warne (2018: 350-351) uses the Hart and Risley (1995, 2003) study cited above as an example of this problem. According to Warne (2018: 350-351), Hart and Risley (1995, 2003) did not consider other possibilities in their claim that children's vocabulary size is caused by the number of words spoken to them by their parents:

> For example, it is possible that children with larger vocabularies talk more to their parents, who respond by speaking more words than they would to a child with a smaller vocabulary […]. Another interpretive model for their data is that some unknown third variable – such as the family's income level, or genetic factors – causes the correlation (Warne 2018: 350-351).

Applied to the current study, this means that we need to be careful what conclusions to draw from any given correlation between *pretend* uses on the one hand and age and MLU on the other.

### 4.4 Summary

In this chapter I have described the corpora to be analysed and discussed the methodology of this study in more detail. First, I described the CHILDES database, which is a freely available archive of child language corpora that enables researchers to analyse naturalistic data. I then described the structure of the two corpora that were selected for analysis: the Manchester corpus, which contains data on 12 English-speaking children from 2 to 3 years of age, and the Thomas corpus, which contains data on one English-speaking child from 2 to 5 years.

For all corpora, we have to critically assess how representative they are. Here I critically note that transcribed data cannot capture multimodal phenomena and differences in phonetic realisation. We also have to ask how much of children's language experience a particular corpus actually captures, especially when looking for rare structures. To take this into account, a so-called dense database corpus was chosen in the Thomas corpus, and the Manchester corpus was chosen to increase the number of children who could be analysed. Moreover, both corpora are particularly well-suited to analyse occurrences of the lexical item *pretend* as they feature quite a high number of play situations. Regarding the representativeness of the overall results, we have to keep in mind that the analysis focusses on middle-class, British English-speaking children without siblings, cared for primarily by their mother, in an environment where caretakers and family have an especially high interest in their children's language development, and might also talk more often to their children. This means that findings might not be transferrable to other contexts, SES and family backgrounds, languages and cultures, especially non-WEIRD cultures.

I then turned to questions of the methodology of this study, whose main goal it is to investigate perspectivation and pretend play in language acquisition by analysing the lexical item *pretend* in the TC and MC. In order to do this, I lexically tracked *pretend* word forms in children's and mothers' utterances and annotated these utterances for a number of criteria. The data were sorted both by age, and by MLU, taking Brown's stages of development as a framework to sort utterances into different stages of linguistic complexity. Finally, I outlined the statistical methods employed in the analysis, along with a critical discussion of what conclusions we can draw from statistical measurements.

After laying the theoretical and methodological groundwork in this and the previous chapters, the following three chapters focus on the empirical analysis of *pretend* utterances using language acquisition and corpus data.

Chapter 5 presents a corpus analysis of *pretend* with a focus on the frequency and distribution of *pretend* tokens in the corpus data. It also analyses the morphological constructions that *pretend* is part of as well as speech act types to elucidate the pragmatic functions of *pretend* utterances.

Chapter 6 adopts a cognitive-semantic perspective and investigates the targets of *pretend* utterances, i.e. the kinds of entities, situations and events children and caregivers talk about when they pretend. This will be done both from a quantitative perspective, i.e. by examining the absolute and relative frequencies of the occurrences of pretend targets, as well as from a qualitative perspective which explores the conceptual and cognitive dimension of the targets of *pretend* utterances. Importantly, in Chapter 5 I will discuss the distribution of the frequency of *pretend* in my dataset in total. In Chapter 6, I will adopt a developmental perspective as well and not only discuss the overall frequency of pretend targets in my dataset but also their development in terms of age and linguistic complexity.

Chapter 7 analyses *pretend* utterances using the Cognitive-Linguistic concept of event schemas (e.g., Radden & Dirven 2007), which refers to the conceptual patterns into which we sort types of events and situations. Specifically, the chapter investigates a) the question which event schemas children and caregivers evoke in their pretend play and b) how the distribution of event schemas in pretend activities changes with age and the growing complexity of children's utterances.

# 5. Corpus Analysis of *Pretend*: Frequency, Distribution, Morphological Structure, Speech Act Types, and Development

This chapter will be structured as follows: Section 5.1 presents analyses of the frequency and distribution of *pretend* word forms in the corpus data using a number of different measures and points of comparison. The following Section, 5.2, presents an analysis of *pretend* morphological constructions. The next two sections will be the first that adopt a temporal and developmental perspective on the lexical item *pretend*. Section 5.3 describes the timeframes of the first occurrence of *pretend* for the various speakers. Section 5.4 then gives a brief overview of the development of the frequency of *pretend* and which factors might influence it.

## 5.1 Analysis of Number of *Pretend* Word Forms

As mentioned above, to first get an overall impression of the frequency of *pretend* in the data, let us review the total number of *pretend* word forms found in the corpus.

If we go by the number of words contained in all utterances in the MOT and CHI tier in the TC and MC, there are 4,189,147 tokens in total that were searched for occurrences of *pretend*. In total, 1,392 *pretend* tokens were found in the corpora (= 0.033%). In comparison, there are 211 *pretend**[43] word forms in the 10,409,851-item spoken word part of the British National Corpus (BNC), which amounts to a frequency of 0.002%. In the Corpus of Contemporary American English (COCA), there are 2,416 occurrences of *pretend* word forms in the 118,167,133-item spoken word part of the corpus, also amounting to a frequency of 0.002%.

Out of the 1,392 utterances found in the CHILDES data, 394 (relative frequency = 0.038%) were uttered by the children in the corpora (TC: 300 = 0,018%; MC: 94 = 0,059%), and 998 (= 0,032%) were uttered by the mothers (TC: 508 = 0,037%; MC: 490= 0,027%).

[43] The *-asterisk is a wildcard character in the corpus search syntax yielding all word forms that feature words beginning with *pretend**. This search the yields results for word forms such as *pretend, pretends, pretended, pretender,* or compound nounds such as *pretend-mistress*.

However, regardless of the differences between MOT and CHI measurements, in all of the sub-corpora the relative frequency of *pretend* word forms is much higher than in the spoken BNC and COCA data. In fact, the relative frequency of *pretend* word forms in the English CHI data in CHILDES is 19 times higher than in the COCA and the BNC. For the MOT data in CHILDES, the occurrence of *pretend* word forms is 16 times higher than it is in the spoken BNC and COCA data. This is clear evidence that the lexical item *pretend* plays a bigger role in the interaction of young children and their mothers than it does in the types of more balanced spoken data found in the BNC and COCA (Aston & Burnard 1998: 28; McEnery et al. 2006: 16-19).

Let us compare the data from the MC and TC to the frequency of *pretend* in the English-language CHILDES corpus data database (Eng-UK and Eng-NA = ECD) as a whole. In the ECD, there are 4,118 instances of *pretend* in total. Out of these, 1,692 were uttered by children in the corpora (Eng-NA: 1,060; Eng-UK: 632), and 2,426 were uttered by mothers in the corpora (Eng-NA: 1,037; Eng-UK: 1,389). If we subtract the TC and MC data, this leaves 1,298 *pretend* word forms spoken by the other children in the ECD (Eng-NA: 1,060; Eng-UK: 238), and 1,428 *pretend* word forms spoken by mothers (Eng-NA: 1,037; Eng-UK: 391), for a total of 2,726 *pretend* word forms in the ECD excluding TC and MC data. Overall, then, as already mentioned in Section 4.1, the TC and MC data make up for 33.8% of *pretend* utterances in the ECD (TC and MC CHI: 23.2%; TC and MC MOT: 41.8%).

Looking at the total distribution of *pretend* in percentages, this means that *pretend* word forms make up 0.029% of the ECD data (Eng-NA: 0.030%; Eng-UK: 0.028%). If we exclude the TC and MC data, the percentage drops slightly, to 0.027% (Eng-NA: 0.30%; Eng-UK: 0021%). For the CHI data, the percentage of *pretend* word forms in the ECD is 0.032%, (Eng-NA: 0.036%; Eng-UK: 0.028%), and for the MOT data it is 0.027% (Eng-NA: 0.026%; Eng-UK: 0.029%). Excluding the TC and MC data, the ECD percentage drops to 0.031% for the CHI data

(Eng-UK without TC and MC CHI: 0.019%) and to 0.25% for the MOT data (Eng-UK without TC and MC MOT: 0.022%).[44]

Overall, the MC CHI data exhibit a lower frequency of *pretend* than the North American data in the same timeframe, but a higher frequency of *pretend* than the British data in this timeframe. The TC CHI data exhibit a higher frequency than the other British data around this timeframe, and a much higher frequency than the North American data for this timeframe.

| **TYPE** | **TOKENS: MOT** | **EXAMPLE** | **TOKENS: CHI** | **EXAMPLE** |
|---|---|---|---|---|
| Total | 508 | | 300 | |
| *pretending* | 313 | *are you pretending to cough like Daddy?* (2-01-15.cha) | 50 | *just pretending I'm eating it* (3-10-01.cha) |
| *pretend* | 184 | *a pretend fly?* (4-10-10.cha) | 245 | *just pretend you've got no dustbin* (3-06-01.cha) |
| *pretends* | 2 | *play that game where Daddy pretends he's a gate* (03-01-03.cha) | 0 | |
| *pretended* | 9 | *you pretended to blow out the candle and then you went hooray* (02-05-20.cha) | 1 | *I just pretended I was one of those xxx [+ PI]* (04-03-00.cha) |
| *tending@c* | 0 | | 1 | *(be)cause I'm tending@c* (04-00-07.cha) |
| *tend@c* | 0 | | 3 | *just tend@c you were <getting the train> [>]* (04-11-20.cha) |

Table 5.1: *Pretend* tokens in the TC by number of occurrences

[44] These data are for the whole time span of the corpus collections. In Section 5.1.1 we will be looking at the timeframe of 1;6-5;0, which is the time span of the TC and MC.

If we consider these overall frequencies, we can state that *pretend* and its word forms can be counted among the infrequent linguistic forms. Erker and Guy (2012: 536) define infrequent forms as those that constitute less than 1% of a corpus. In all of the corpora studied here, *pretend* clearly falls within this category. For the TC, MC and ECD overall, then, the distribution of *pretend* is in accordance with Zipf's law (Zipf 1949) in that it belongs to the majority of words with very low frequencies (cf. Erker & Guy 2012: 529; see also Section 4.2.1.1).

I will now turn to the distribution of *pretend* tokens in the TC and MC. First the data for the TC will be presented, divided in the data for the CHI tier and MOT tier, respectively. The same will be done for the MC data. I will then compare these distributions to the ECD.

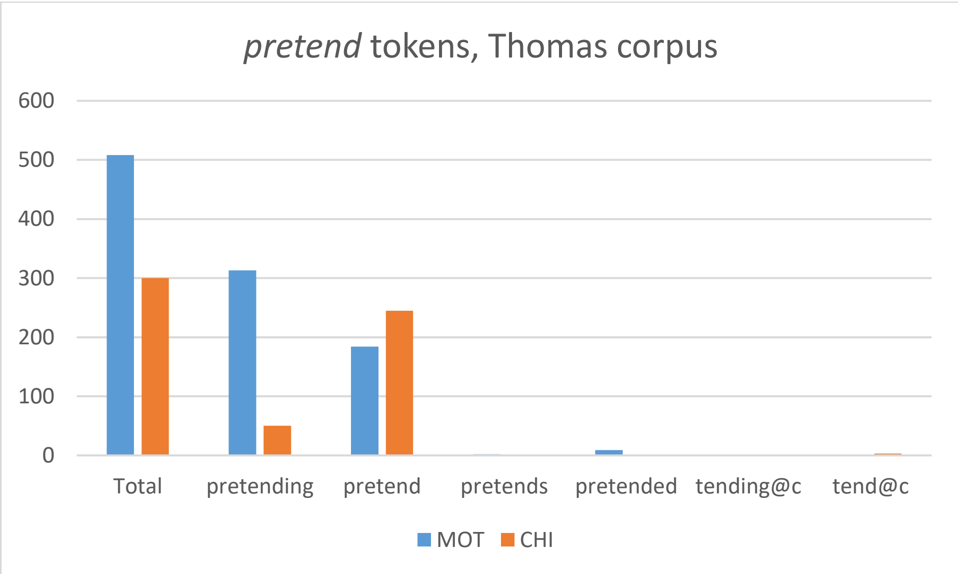


Figure 5.1: *Pretend* tokens in the TC

In the TC, the following distribution of *pretend* word forms can be found: Out of the 508 MOT *pretend* tokens, 313 (61.7%) belong to the *pretending* category, 184 (36.2%) to the *pretend* category, 9 (1.8%) to the *pretended* category, and 2 (0.4%) to the *pretends* category. Out of the 300 CHI *pretend* tokens, 245 belong to the *pretend* category (81.7%), 50 to the *pretending* category (16.7%), and 1 (0.33%) to the category *pretended*. There also were 3 instances (1%) of the reduced child-invented form *tend* and 1 (0.33%) instance of *tending*. The most striking difference here is that Thomas' mother uses the progressive *pretending* much more often than

Thomas, whereas for Thomas himself, the token *pretend* is the most frequent (see the discussion in Sections 5.2.5 and 5.2.1). Table 5.1 above summarises these results, which are also represented in graph form in Fig. 5.1.

The number of *pretend* tokens is of course quite different for the MOT tier and the CHI tier. If we analyse the overall relative distribution of *pretend* types in both tiers separately, we find the pattern in Fig. 5.2.

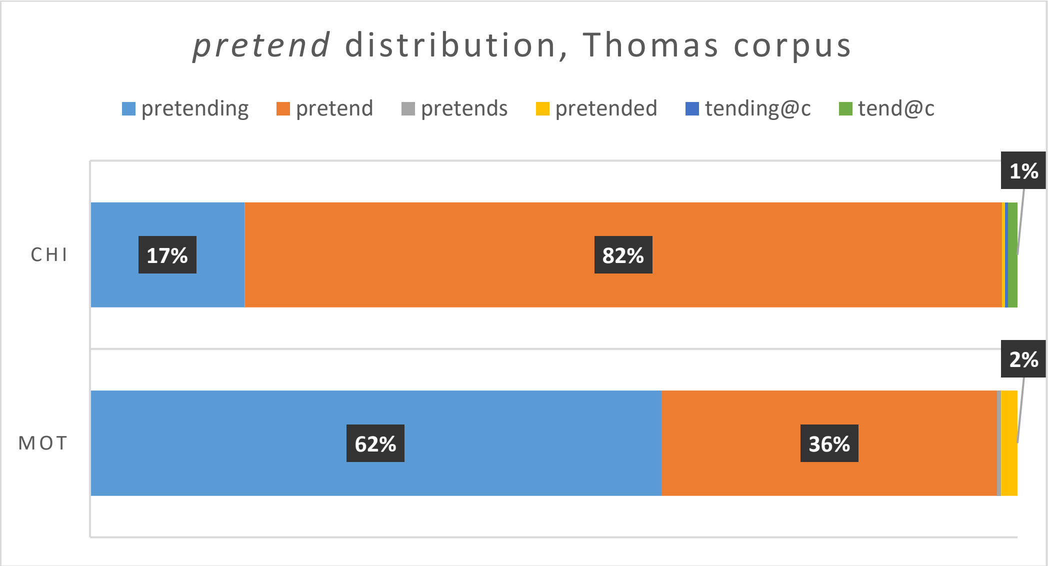


Figure 5.2: Comparison of the relative distribution of *pretend* types in the TC for MOT and CHI

In the MC, we find the following distribution: Out of the 492 MOT utterances, 428 (87.3%) belong to the *pretend* category, 58 (11.8%) belong to the *pretending* category, 4 (1%) are in the *pretended* category, and 1 (0.2%) is in the *pretends* category. Out of the 94 CHI pretend tokens, 83 (88.3%) belong to the *pretend* category and 11 (11.7%) are in the *pretending* category. In contrast to the TC data, the MC MOT and MC CHI data are therefore much more similar in their distribution. Table 5.2 summarises these results; the distribution in graph form can be found in Fig. 5.3 below.

| TYPE | TOKENS: MOT | EXAMPLE | TOKENS: CHI | EXAMPLE |
|---|---|---|---|---|
| Total | 490 | | 94 | |
| *pretending* | 58 | *you're only pretending, are you?* (becky19a.cha) | 11 | *it's for pretending* (becky27a.cha) |
| *pretend* | 428 | *just pretend that the babas can have it* (ruth01a.cha) | 83 | *I pretend to be a prince* (ruth31b.cha) |
| *pretends* | 1 | *well he pretends that he's good at juggling, doesn't he?* (john33a.cha) | 0 | |
| *pretended* | 3 | *you pretended for a long time then* (gail25b.cha) | 0 | |

Table 5.2: Pretend tokens in the MC by number of occurrences

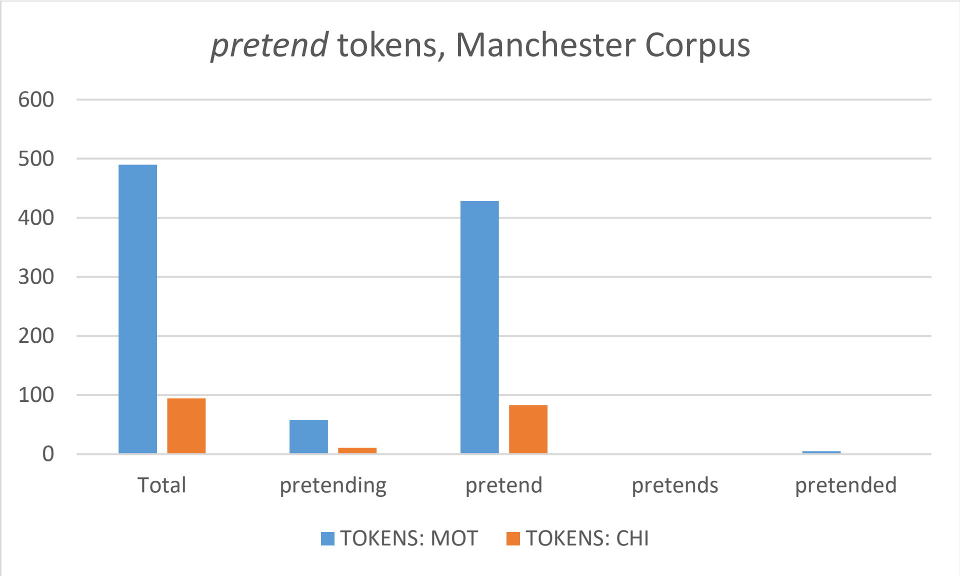


Figure 5.3: *Pretend* tokens in the MC

As the total number of *pretend* tokens again differs quite strongly between the MOT and CHI tier, this makes it difficult to compare the two datasets. Therefore, it can be insightful to analyse relative frequencies instead. Here we see that the relative frequency of *pretend* in MOT (87.3%) and CHI (88.3%) is very similar, as is the relative frequency of *pretending* (MOT: 11.8%; CHI: 11.7%). This is shown in Fig. 5.4.

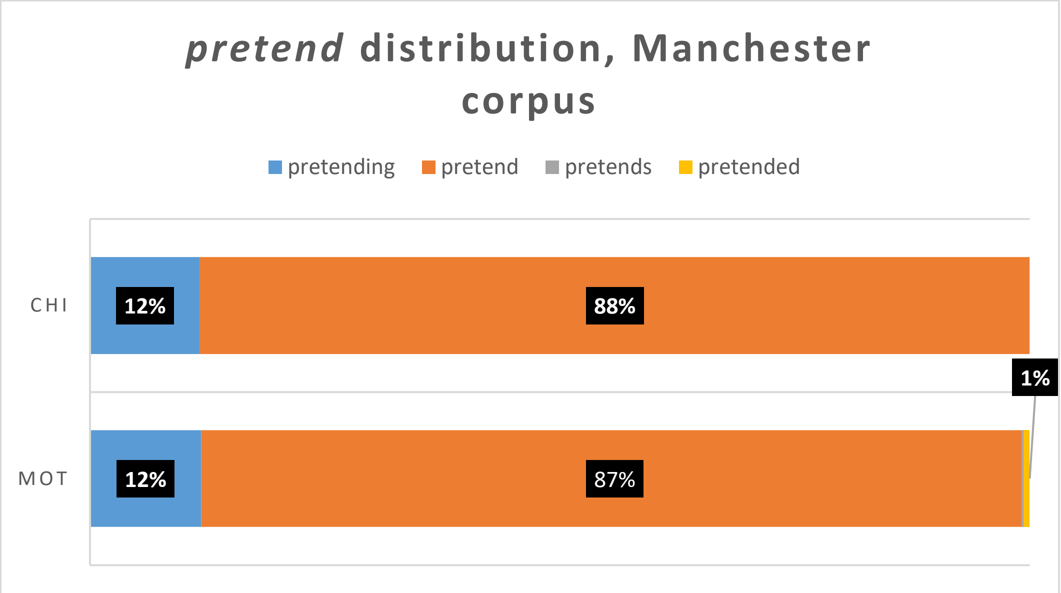


Figure 5.4: Comparison of the relative distribution of *pretend* tokens in the MC for MOT and CHI

In the ECD, with the TC and MC data subtracted, we find the following distribution: Out of 1,436 utterances in the MOT tier, 1,153 (80.3%) belong to the *pretend* category, 246 (17.1%) belong to the *pretending* category, 22 (1.5%) are in the *pretended* category, and 13 (0.9%) are in the *pretends* category. Out of the 1,302 CHI *pretend* tokens, 1,074 (82.5%) belong to the *pretend* category and 200 (15.4%) are in the *pretending* category. There are 6 instances of *pretends* (0.5%) and 24 (1.8%) instances of *pretended*. Table 5.3 summarises these results; again, the distribution in graph form can be found in Fig. 5.5 below.

| TYPE | TOKENS: MOT | TOKENS: CHI |
|---|---|---|
| Total | 1,436 | 1,302 |
| *pretending* | 246 | 200 |
| *pretend* | 1,153 | 1,074 |
| *pretends* | 13 | 6 |
| *pretended* | 22 | 24 |

Table 5.3: *Pretend* tokens in the ECD by number of occurrences (MC and TC data have been subtracted)

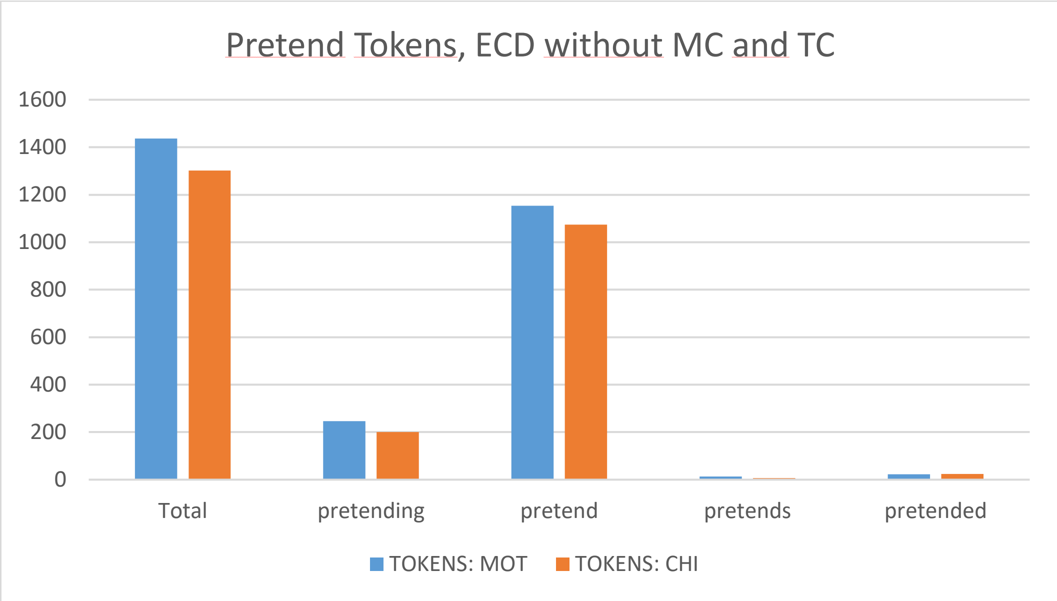


Figure 5.5: *Pretend* tokens in the ECD with MC and TC subtracted

As can be seen in Fig. 5.6 below, if we compare MOT and CHI data in the ECD, their distributions are quite similar.

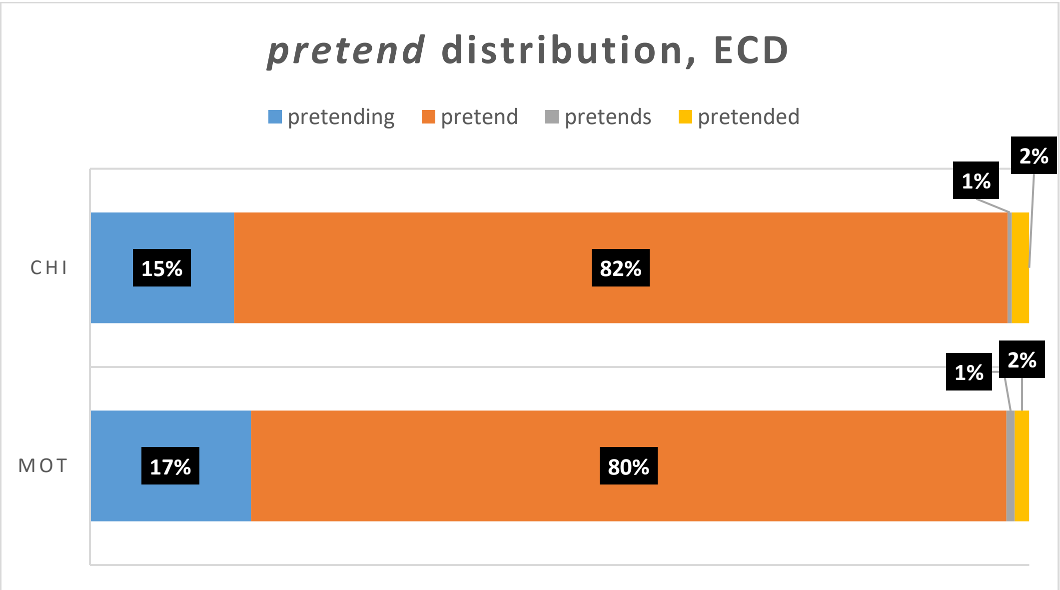


Figure 5.6: Comparison of the relative distribution of *pretend* tokens in the ECD MOT and CHI (MC and TC data have been subtracted)

If we compare the data we find that, overall, the distributions of *pretend* tokens are quite similar across corpora, with the exception of the TC MOT data, which display a much higher frequency of *pretending*, to the extent that in this dataset, it is by far the most frequent category. In addition, the MC CHI and MC MOT data have the highest frequency of *pretend* as compared to the TC CHI, ECD CHI and ECD MOT data. Table 5.4 summarises the data for all corpora:

| **TYPE** | **TC CHI** | **MC CHI** | **ECD CHI** | **TC MOT** | **MC MOT** | **ECD MOT** |
|---|---|---|---|---|---|---|
| Total | 300 | 94 | 1,302 | 508 | 490 | 1,436 |
| *pretending* | 50 (16.7%) | 11 (11.7%) | 200 (15.4%) | 313 (61.7%) | 58 (11.8%) | 246 (17.1%) |
| *pretend* | 245 (81.7%) | 83 (88.3%) | 1,074 (82.5%) | 184 (36.2%) | 428 (87.3%) | 1,153 (80.3%) |
| *pretends* | 0 | 0 | 6 (0.5%) | 2 (0.4%) | 1 (0.2%) | 13 (0.9%) |
| *pretended* | 1 (0.3%) | 0 | 24 (1.8%) | 9 (1.8%) | 3 (0.6%) | 22 (1.5%) |
| *tending@c* | 1 (0.3%) | 0 | 0 | 0 | 0 | 0 |
| *tend@c* | 3 (1%) | 0 | 0 | 0 | 0 | 0 |

Table 5.4: Number of *pretend* tokens and percentages in the TC, MC, and ECD (without TC and MC) data for MOT and CHI

In this section, we have investigated word forms, meaning that we analysed surface-level realisations of the lexical item *pretend*. However, only discussing surface re-alisations masks the different uses of the same word form. Importantly, the same word form can represent different morphological constructions. As a case in point, the discussion above does not shed light on the question of when *pretend* is used with an adjectival meaning, as in *pretend bricks* (John20a.cha), and when it is used as a verb, as in *me [*] pretend a be a workman* (Ruth27b.cha). Therefore, in the next sections we will analyse *pretend* and its instantiations on a morphological level.

## 5.2 Analysis of *Pretend* Morphological Constructions

In the previous sections, I have discussed the overall frequency and distribution of the lexical item *pretend* and its associated word forms. In this section, I will take a closer look at the different morphological constructions that *pretend* occurs in, as well as at their frequency and distribution. The analytical categories in this section are based on the tagging of *pretend* word forms in the %mor (i.e. morphosyntactic structure) tier of the TC and MC. The morphological tier is a feature of the CHAT format (see Section 4.1).[45] It codes "morphemic segments by type and part of speech" (MacWhinney 2019a: 83). These codings/taggings are automatically created by the MOR programme (MacWhinney 2000, 2008; Sagae et al. 2010).[46] The coding scheme in the case of *pretend* morphological constructions has the following structure: part-of-speech|stem-SUFFIX. Using an instance of *pretending* as an example, morphosyntactic tagging in CHAT files looks like this:

(1) CHI: I'm **pretending** that I'm making green sausage .
%mor: pro:sub|I~aux|be&1S **part|pretend-PRESP** rel|that pro:sub|I~aux|be&1S part|make-PRESP adj|green n|sausage .
(4-11-06.cha, emphasise mine, MP)

Here, as we can see, *pretending* is coded as part|pretend-PRESP. This means that the code for *pretending* consists of three parts: a part-of-speech tag indicating that it is a participle/compound verb form (part|), a tag indicating the stem of the morphological construction (*pretend*), and a tag specifying that the suffix is the present participle suffix (-PRESP), yielding part|pretend-PRESP. Table 5.5 below lists the types of *pretend* codings found in the TC and MC and their meanings as well as the corresponding word forms tagged in the corpus (cf. MacWhinney 2000).

| **TYPE** | **EXPLANATION** | **WORD FORMS** |
|---|---|---|
| part|pretend-PRESP | verb, present participle | Pretending |
| v|pretend | verb, base form | pretend |
| adj|pretend | adjective | pretend |
| v|pretend-PAST | verb, past tense | pretended |
| part|pretend-PASTP | verb, past participle | pretended |
| v|pretend-3S | verb, 3rd singular present | pretends |

Table 5.5: Codings of *pretend* morphological constructions in the %mor tier of the TC and MC

[45] The most recent version of the manual detailing the structure and features of the CHAT format can be found here: https://talkbank.org/manuals/CHAT.pdf (last accessed 10/11/2018).
[46] The most recent version of the manual detailing the MOR programme and other programmes that automatically tag parts of speech for CHAT transcripts, as well as the morphosyntactic coding scheme used for taggings of parts of speech, can be found here: https://talkbank.org/manuals/MOR.pdf (last accessed 17/04/2019).

As we can see, examining the distribution of *pretend* morphological constructions gives us more detailed distributional linguistic information than the analysis of *pretend* word forms only. This is the case because the same word form can be an instantiation of different morphological constructions, depending on the sentential context and the meaning of the utterance as a whole. In the case of *pretend* word forms, the word form *pretend* without context could be either coded as an adjective (adj|pretend) or a verb (v|pretend), and the word form *pretended* could be coded as either v|pretend-PASTP or part|pretend-PASTP. Unfortunately, this is also where the automatic tagging of the MOR programme can run into trouble, as it sometimes tags morphological constructions incorrectly. This happens when the word form itself can be tagged in more than one way when context and utterance meaning are not taken into account. As Corrigan (2012: 278) states, "[a]ny automatic tagging program generates a certain percentage of errors." Given the often fragmentary nature of children's utterances and the frequent difficulty of assigning exact meanings to them, the MOR programme encounters this problem of mistagging quite frequently for some word forms. For automatic tagging of the CHILDES data, the error rate is an estimated 6% (Corrigan 2012: 278). For *pretended,* this problem did not arise very often, as the programme could correctly take the co-occurrence of the word form with auxiliary verbs into account (*I pretended* vs. *I've pretended*). The problem was significantly more pronounced for the word form *pretend,* however. Take, for example, the two following utterances:

(2) MOT: they're **pretend** though .
%mor: pro:sub|they~cop|be&PRES **adj|pretend** adv|though .
(Anne03b.cha, emphasis mine, MP)

(3) CHI: I just **pretend** .
%mor: pro:sub|I adv|just **adj|pretend .**
(4-11-08.cha, emphasis mine, MP)

As we can see, in example (2) the MOR programme has coded the *pretend* morphological construction correctly as an adjective. In example (3), however, the automatic tag adj|pretend is incorrect, as taking utterance meaning into account clearly shows that it should correctly be v|pretend. Because of this inconsistency in tagging, for the analysis in question, all *pretend* %mor codings in the TC and MC were manually checked and corrected.

Section 5.2.1 will present the distribution and frequency of *pretend* morphological constructions in the TC, whereas Section 5.2.2 will do the same for the MC. In the next two sections, I will compare both datasets. Section 5.2.3 will compare the data for the MOT tier, and Section 5.2.4 will do the same for the CHI tier. Section 5.2.5 will adopt an explicitly pragmatic perspective and show which speech act types are tied to which *pretend* constructions.

### 5.2.1 *Pretend* Morphological Constructions in the TC

As Table 5.6 and Fig. 5.7 show, the use of *pretend* as a verb (v|pretend) is by far the most frequent in the CHI tier, followed by the progressive form (part|pretend-PRESP). For the MOT data, the progressive morphological construction *pretending* (part|pretend-PRESP) dominates, followed by *pretend* used as a non-progressive verb (v|pretend).

| **TYPE** | **TOKENS: MOT** | **EXAMPLE** | **TOKENS: CHI** | **EXAMPLE** |
|---|---|---|---|---|
| Total | 508 | | 296 | |
| part\|pretend-PRESP | 313 (61.6%) | *You're pretending to drive, aren't you?* (2-00-23.cha) | 50 (17%) | *just pretending there's a fire* (03-02-06.cha) |
| v\|pretend | 164 (32.3%) | *are you going to pretend someone's ringing up?* (2-03-17.cha) | 234 (79%) | *(pre)tend this is the oven* (03-04-02.cha) |
| adj\|pretend | 20 (3.9%) | *they're two pretend Smarties, aren't they?* (2-04-08.cha) | 11 (3.7%) | *they're pretend sandwiches* (4-00-07.cha) |
| v\|pretend-PAST | 7 (1.4%) | *you pretended to blow out the candle and then you went hooray* (2-05-20.cha) | 1 (0.3%) | *I just pretended I was one of those xxx* . [+ PI][47] (4-03-00.cha) |

Table 5.6a: Frequency of *pretend* morphological constructions in the Thomas corpus (cf. Pleyer 2017b: 180-181)

[47] xxx stands for unintelligible speech and [+PI] indicates a partially intelligible utterance.

| TYPE | TO-KENS: MOT | EXAMPLE | TO-KENS: CHI | EXAMPLE |
|---|---|---|---|---|
| part\|pretend-PASTP | 2 (0.4%) | *you could have pretended you were making some nice curry or some biscuits* (4-09-06.cha) | 0 | |
| v\|pretend-3S | 2 (0.4%) | *play that game where Daddy pretends he's a gate* (3-01-03.cha) | 0 | |

Table 5.6b: Frequency of *pretend* morphological constructions in the Thomas corpus (cf. Pleyer 2017b: 180-181)

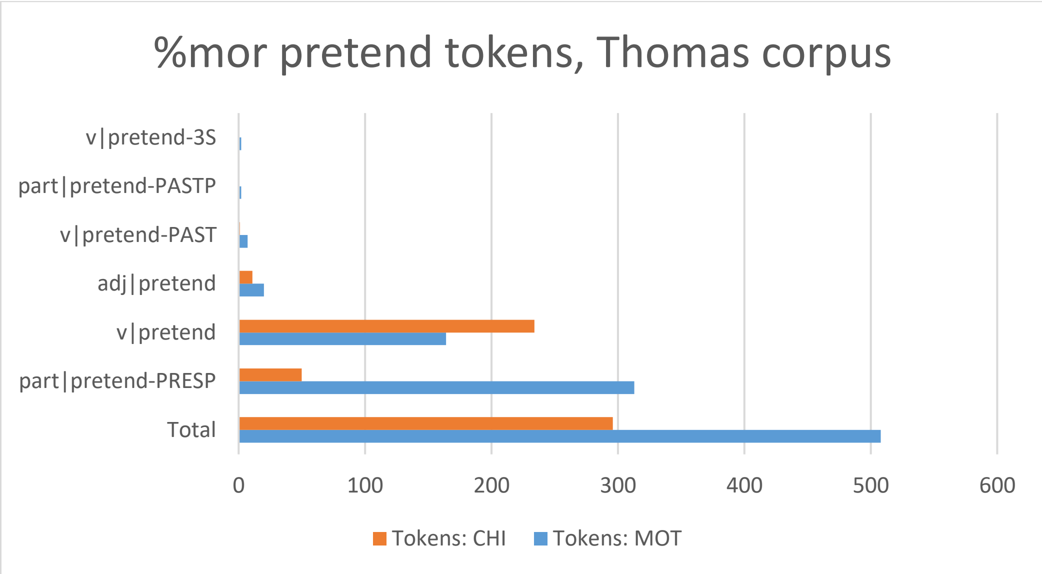


Figure 5.7: %mor *pretend* tokens in the TC

Fig. 5.8 below displays the relative frequencies of these two datasets, which brings out the differences in distribution more clearly (cf. Pleyer 2017b).

From a Cognitive-Linguistic and constructionist point of view, different morphological constructions also differ in terms of the construals and pragmatic functions they are associated with. Regarding *pretend* morphological constructions, the part|pretend-PRESP progressive construction *pretending* is a good example, which is why I will analyse this construction in more detail in the next two sections. First, I will deal with its occurrence in terms of construal (5.2.1.1) and then look at its distribution in different utterance types (5.2.1.2).

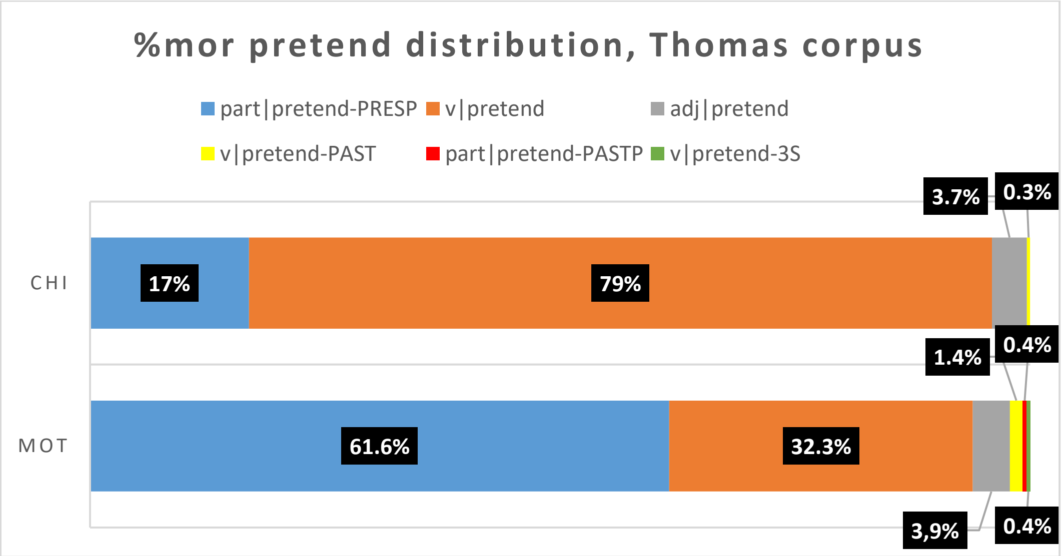


Figure 5.8: Relative distribution of %mor *pretend* types in the TC for MOT and CHI (cf. Pleyer 2017b: 181)

#### 5.2.1.1 The Progressive Construction and *Pretend*: Construal

As we can see from these data, the most frequent morphological construction used in the MOT CDS in the Thomas corpus is the part|pretend-PRESP progressive form. In terms of construal mechanisms, this can give us information on the use of viewing frames in MOT utterances. In 62% of cases, Thomas' mother uses a restricted viewing frame that focusses on the dynamic, processual nature of an event or action. That is, this viewing frame presents an internal, involved viewpoint of a situation (Radden & Dirven 2007: 176-179). This is consistent with the findings discussed earlier by Ibbotson et al. (2014) that caregivers often tend to narrate "their children's actions as they perform them, in the here-and-now" (Ibbotson et al. 2014: 708; see also Section 5.2.5). Ibbotson et al. (2014) also found this feature in the Thomas corpus along with a significant use of the progressive aspect in CDS. This also holds for *pretend* utterances as in, e.g., *you sit behind Daddy pretending to steer the wheel* (2-01-11.cha) or *you're pretending to blow out the candles* (2-03-24.cha). The restricted viewing frame expressed by part|pretend-PRESP constructions is not only used for this narrative commenting function, however. We also find cases where Thomas' mother uses this involved, internal viewing frame in order to negotiate or clarify a shared perspective on a pretend play situation. This happens most often with questions (e.g., *are you pretending to throw a bin bag?* 2-03-23.cha; *are you* *pretending you're a boy and I'm a girl?* 2-10-05.cha) or tag questions (e.g., *so you're pretending to read a letter, aren't you?* 3-00-10.cha; *oh you're pretending to be a ginger cat, are you?* 2-07-15.cha).

#### 5.2.1.2 The Progressive Constructions and *Pretend*: Utterance Types

Analysing the frequency of declarative utterances, interrogative utterances, and tag questions in the MOT tier, we find the following distribution: 44.4% of utterances are declarative utterances, whereas 55.6% are questions (33.6% questions, 22% tag questions; see Fig. 5.9). To a significant degree, then, mother-child interactions regarding pretend play involve the negotiation and clarification of a shared perspective on the situation by the mother.

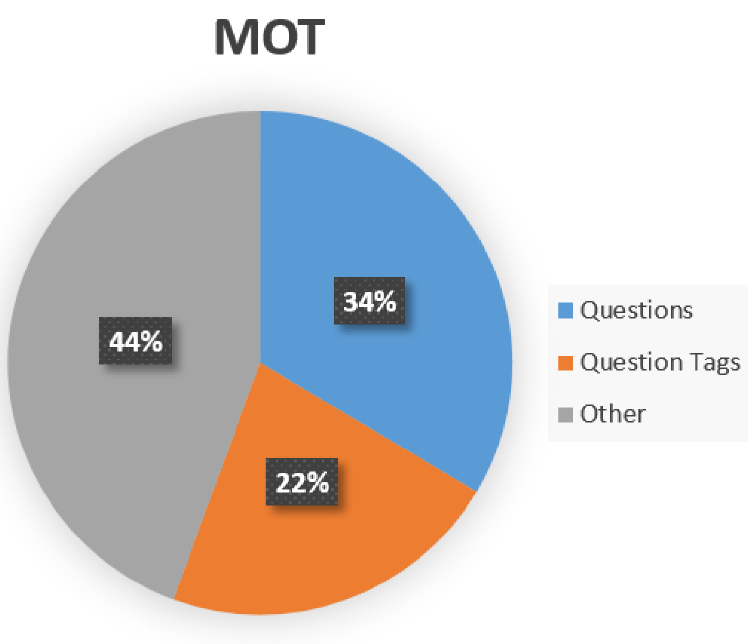


Figure 5.9: Relative frequency of declarative utterances (Others), questions, and question tags of part|pretend-PRESP utterances in the MOT tier of the TC

Questions are one particular area where the TC MOT data differ quite strongly from the TC CHI data. But there are also distinguishing features of the TC CHI data. For instance, as seen in Fig. 5.8, child utterances exhibit a much higher degree of v|pretend constructions (79%) than MOT utterances (32%). From a construal point of view, we can interpret this result as follows: Thomas' mother mostly expresses a dynamic, internal perspective on a pretend play situation, using a restricted viewing frame. Thomas, on the other hand, often evokes conceptualisations of pretend play situations and actions with a maximal viewing frame that puts the whole situation or action into focus.

In order to examine the internal structure of v|pretend utterances, instances were manually coded for the following categories, question: question tag, declarative, and imperative. The codings took into account contextual cues in the ongoing interactional exchange (cf. Cameron-Faulkner 2014: 43-44). Of the 234 v|pretend TC CHI utterances in the corpus, most (160 or 68%) are imperative constructions with the constructional pattern *just pretend* (e.g., *just pretend you've got no dustbin* 3-06-02.cha; *Mummy, just pretend that's my cup of tea* 3-07-02.cha). Overall, then, we can conclude that Thomas' mother mostly uses the restricted viewing frame construal operation and questions and question tags to negotiate pretend play situations. Thomas, on the other hand, most often employs a maximal viewing frame and often uses the *just pretend* imperative construction to instruct and negotiate pretend play (cf. Pleyer & Lindner 2014: 249; Pleyer 2017b: 180-184).

In the next section, we will take a look at the distribution of pretend morphological constructions in the MC data.

### 5.2.2 *Pretend* Morphological Constructions in the MC data

Comparing the TC and MC data shows some interesting differences. Table 5.7 and Fig. 5.10 give an overview of the data.

The absolute frequencies of tokens, of course, differ quite strongly when we compare morphological constructions in the MC MOT and MC CHI data, respectively. What is interesting is that when we consider the relative distribution of morphological constructions, the results are much more homogenous and similar to each other than in the case of the TC MOT and TC CHI data (see Fig. 5.11).

In both MC CHI and MC MOT, the part|pretend-PRESP is the third most frequent construction (12%). In the MOT tier, the v|pretend-construction is most frequent (45%), followed closely by the adj|pretend-construction (43%). In the CHI tier, it is the other way around. The adj|pretend-construction is the most frequent one (48%), followed by the v|pretend construction (40%). This also means that judging by the frequencies of morphological *pretend* constructions alone, there seem not to be significant differences in conceptualisations of viewing frames between children and mothers in the MC.

| **TYPE** | **TOKENS: MOT** | **EXAMPLE** | **TOKENS: CHI** | **EXAMPLE** |
|---|---|---|---|---|
| Total | 490 | | 94 | |
| part\|pretend-PRESP | 58 | *Are you pretending to be a fire+engine then?* (aran08b.cha)[48] | 11 | *I pretending to eat him* (aran27b.cha) |
| v\|pretend | 219 | *pretend this is the car* (anne02b.cha) | 38 | *me pretend be a workman* (nic32a.cha) |
| adj\|pretend | 209 | *you want a pretend bath* (nic10b.cha) | 45 | *a pretend castle* (ruth34b.cha) |
| v\|pretend-PAST | 3 | *I pretended to eat my biscuit* (becky28.cha) | 0 | |
| v\|pretend-3S | 1 | *well he pretends that he's good at juggling, doesn't he?* (John33a.cha) | 0 | |

Table 5.7: Frequency of *pretend* morphological constructions in the Manchester corpus

However, this picture changes slightly when we look at the distribution of questions and question tags in the MC MOT data (Fig. 5.12). Although the frequency of part|pretend-PRESP is lower in the MC MOT tier than in the TC MOT tier, it is still interesting to examine the frequency of different utterance types in MC MOT utterances. Out of the 58 part|pretend-PRESP utterances, 41.4% are declarative utterances, and 58.6% are questions (43.1% questions, 15.5% question tags). As can be seen, in terms category frequency, the MC MOT data and TC MOT have the same ordering. However, the MC MOT data have a higher frequency of questions and a lower frequency of question tags compared to the TC MOT data.

[48] In the CHAT format, compounds such as *fire engine* or *birdhouse* are sometimes written as *fire+engine* or *bird+house* because this helped earlier versions of the morphological tagging programme MOR to identify compound nouns (MacWhinney 2019a: 49).

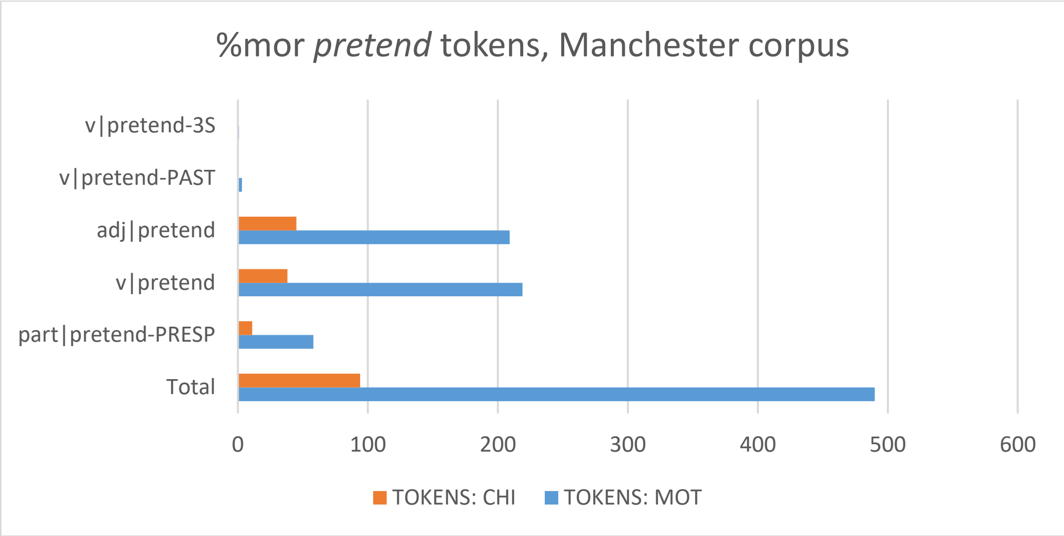


Figure 5.10: %mor *pretend* tokens in the MC

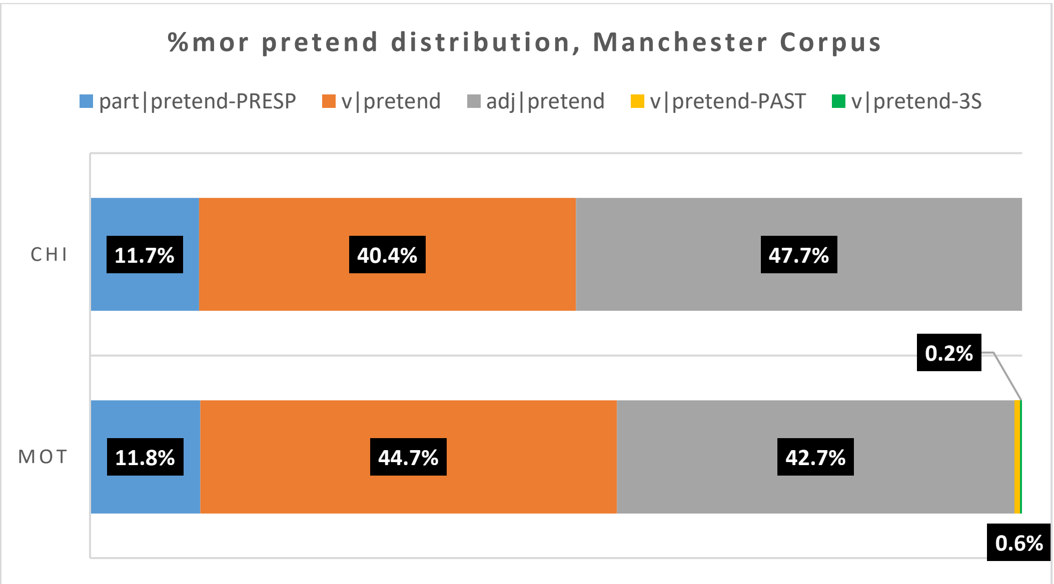


Figure 5.11: Comparison of the relative distribution of %mor *pretend* types in the MC for MOT and CHI

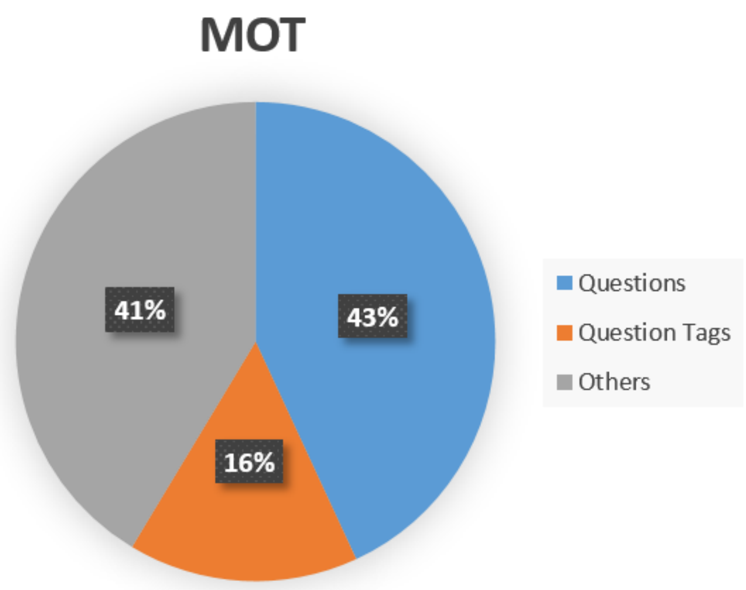


Figure 5.12: Comparison of the relative frequency of declarative utterances (Others), questions, and question tags of part|pretend-PRESP utterances in the MOT tier of the MC

To investigate the differences between the two corpora, we will now compare the MC and TC data in more detail, first for the MOT tier (5.2.3) and then for the CHI tier (5.2.4).

### 5.2.3 Comparing MC and TC Data for the MOT Tier

As Fig. 5.13 below shows, although the relative frequencies of questions and question tags are somewhat different in the MC and the TC, the overall ratio of declarative utterances to interrogative utterances in the MOT tiers is very similar in both corpora (MC MOT: 41.4% to 58.6%; TC MOT: 44.4% to 55.6%).

This means that just like in the TC, mothers in the MC often use the construal operation of expressing a restricted viewing frame in combination with question and question tags that serve to clarify and negotiate pretend play situations, but they seem to do so to a different degree. As an illustration, here is an example from the MC for a progressive form evoking a restricted viewing frame to clarify a shared perspective on a situation.

| | | |
|---|---|---|
| (4) | CHI: | I crying . |
| | MOT: | are you crying ? |
| | MOT: | oh there_there . |
| | MOT: | oh . |
| | MOT: | are you pretending ? |

MOT: are you pretending ?
CHI: no .
MOT: no ?
MOT: are you really crying ?
MOT: why ?
MOT: are you sad ?
MOT: are you sad ?
CHI: yeah .
MOT: why ?
MOT: what's happened ?
MOT: what happened to make you sad ?
CHI: xxx .
MOT: &eh ?
MOT: you [/] you're kidding me, aren't you ?
MOT: you're tricking .
MOT: are you tricking ?
(Joel09a.cha)[49]

In this case here, Joel's mother tries to establish if the situation currently unfolding is, in fact, a pretend situation. As noted in Section 3.2.4, it is often not exactly clear what children are pretending, and sometimes, it is not even clear if they are pretending at all. Such interpretative perspective statements by caregivers – interpreting not only what is being pretended, but commenting on whether pretend is taking place at all – therefore occur relatively frequently. In addition to example (4) above, for instance, there are 11 other references in the MC and TC (TC: 10, MC: 1) to pretending to cry where part of the MOT perspective statement is trying to clarify if the crying is 'real' or 'pretend.' However, as can be seen, this pattern is much more pronounced for the TC MOT data, which, as noted in Section 5.2.1.1, also have a much higher frequency of questions with the progressive form *pretending* (See also Section 5.2.3.2 below). In general, as we will see below, questions and question tags do indeed make up for a significant amount of MOT *pretend* utterances, both in the TC and the MC. But, as we can see, there are also differences in how pretend activity is being talked about.

[49] Unintelligible words and utterances are coded as *xxx*; the symbol *&* indicates phonological fragments and fillers such as *&eh* and *&um*; (MacWhinney 2019a: 46-47). The symbol [/] indicates repetitions (MacWhinney 2019a: 74-75).

#### 5.2.3.1 Comparing Different Age Spans in the TC MOT and MC MOT Data for the part|pretend-PRESP Construction

One source of the differences could, of course, be the fact that the MC covers the age range of 2-3 whereas the TC covers a wider age range, namely 2-4;11. To see if the differences between MC and TC are due to this factor, we can split the data for the TC into the age range 2-3 and 3-4;11, respectively. Splitting the TC MOT data in these two age ranges, we get the distribution in Fig. 5.13 below.

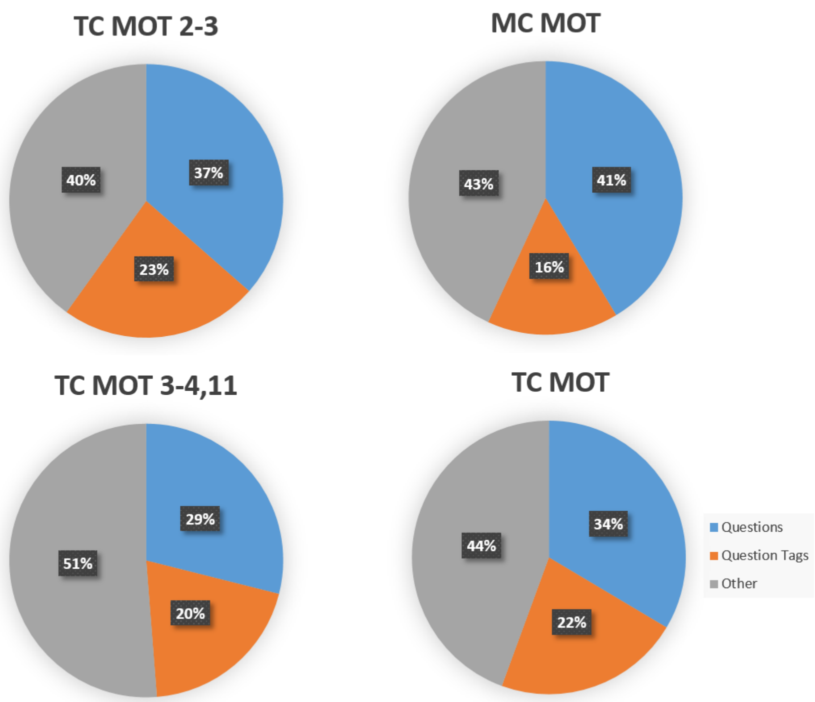


Figure 5.13: Relative distribution of part|pretend-PRESP utterance types for MOT in the MC, the TC and the TC for the age spans 3-4,11 and 2-3

As can be seen in Fig. 5.13, the TC MOT 2-3 data are most similar to the MC MOT data. They show less similarity to the TC MOT 3-4;11 data. In the TC MOT 2-3 data, 60% of part|pretend-PRESP data are questions (37% questions, 23% question tags), and 40% are declarative utterances, compared to 57% questions (41% questions, 16% question tags) and 43% declarative utterances in the MC MOT data. What this shows is that across the corpora, mothers seem to use more questions and question tags in the negotiation of pretend play situations in the age range from 2-3 than Thomas' mother does in the later age range. In the 2-3 age range, then, mothers seem to exhibit a higher degree of linguistic scaffolding of pretend play situations. In the TC MOT 3-4;11 age range, we find a lower relative frequency of questions (49% with 29% questions and 20% question tags). This can be seen in the context of Vygotsky's (e.g., 1978: 84-91) concept of the zone of proximal development (cf. Sections 3.1.3 to 3.1.5). In line with this, we can state that the emerging cognitive and interactional capacity for pretend play in this age range is supported by mothers asking questions and using question tags to enable a shared perspective and intersubjectively classify a situation as pretend.

This change is not only apparent when we look at relative frequency, but also at overall frequency. In the TC MOT 2-3 dataset, there is a total of 192 part|pretend-PRESP utterances. In the TC MOT 3-4;11 dataset, on the other hand, there are only 121 instances, although the age range is almost twice as long as in the 2-3 set. What we have to keep in mind here, however, is that overall the 2-3 age range has a much denser sampling range than the 3-4;11 set. The TC 2-3 subcorpus consists of 234 transcripts, whereas the TC 3-4;11 subcorpus consists of only 145 transcripts, and this might explain the lower overall frequency of part|pretend-PRESP.[50] For the TC CHI data, however, this is not really the case, as Thomas utters 251,808 tokens in the TC CHI 2-3 timeframe, and 255,692 tokens in the TC 3-4;11 timeframe. For the TC 2-3 data, this amounts to an average ratio of 1,076.1 tokens per transcript. For the TC 3-4;11 data, on the other hand, the average token/transcript ratio is 1,777.5 This is correlated with and likely due to an increase in utterance length. In the TC 2-3 data, the average MLU is 2.2, but in the TC CHI 3-4;11 data Thomas on average produces much longer utterances, with an average MLU of 3.4. As Thomas does not use *pretend* tokens before age 3, these data, of course, do not impact the distribution of *pretend* utterances. The situation is different for MOT utterances. In the TC MOT 2-3 timeframe, Thomas' mother utters 1,070,149 tokens. This amounts to a token/transcript ratio of 4,573. In this timeframe, the average MLU of Thomas' mother is 6.34. In the TC MOT 3-4;11 timeframe, Thomas' mother utters 730,133 tokens, amounting to a token/transcript ratio of 5,035.4. The average MLU in this timeframe for the MOT tier is 6.39, which means that the TC

[50] For the TC MOT 2-3 data, there are only 232 transcripts, as there are two transcripts in which Thomas is talking to an investigator (INV).

MOT utterance length stays relatively constant. Given these data, it is indeed possible that the lower number of part|pretend-PRESP utterances in the TC MOT 3-4;11 data is due to the fact that the TC MOT 2-3 subcorpus has a denser sampling rate. However, Thomas' on average utters more tokens per transcript in the TC CHI 3,-4;11 dataset, which is likely due to Thomas himself becoming a more active contributor to their interactions, taking longer turns and using longer utterances. In addition, the average token frequency of Thomas' mother also rises in the TC MOT 3-4;11 data, indicating that Thomas and his mother in fact have longer conversations than when Thomas is younger, although his mother's MLU does not seem to change much.

Still, the results regarding relative frequency at different age ranges are quite interesting. This holds especially if we take into account that in the CHI tier of the TC, the first *pretend* utterance does not appear before 3;00;25 (*I pretend this be one*; 3-00-25.cha). It makes sense, therefore, that since Thomas himself is not linguistically negotiating pretend play situations before age 3, we have a higher frequency of questions and question tags for clarifying and establishing pretend play situations in the TC MOT 2-3 dataset.

#### 5.2.3.2 Comparing Other *Pretend* Construction Types in the TC MOT and MC MOT Data

So far, we have only discussed the relative frequency of questions vs. declarative utterances in the part|pretend-PRESP dataset. But what about the overall relative frequency of questions in *pretend* utterances? To answer this question, let us compare the frequency of questions in the part|pretend-PRESP data vs. other types of *pretend* morphological constructions (Fig. 5.14).

In the TC MOT data without part|pretend-PRESP, 33.5% of utterances are questions (questions: 22.7%; question tags 10.8%) and 66.5% of utterances are declarative utterances. This means that the relative frequency of questions in the part|pretend-PRESP data is much higher than in the rest of the data (58.6% for TC MOT part|pretend-PRESP vs. 33.5% for TC MOT *pretend* without -ing.).

In the MC MOT data, the difference to the part|pretend-PRESP utterances is even more pronounced. Here, the non-part|pretend-PRESP data show a relative distribution of 22% questions (14% questions, 12% question tags) and 78% declarative utterances. The part|pretend-PRESP MC MOT data therefore have a much higher relative frequency of questions than the rest of the data (55.6% for MC MOT part|pretend-PRESP vs. 22% for MC MOT *pretend* without -ing). Of course, interrogative constructions not using the progressive construction are still used in the MC MOT data, and with 22% they do still play an important role in how mothers negotiate pretend play situations. Overall, however, the data for TC MOT and MC MOT lend further support to the argument that questions and question tags in combination with a progressive, internal, restricted viewing frame serve as a key constructional pattern to establish and negotiate a perspective on a pretend play situation as it is happening at the moment.

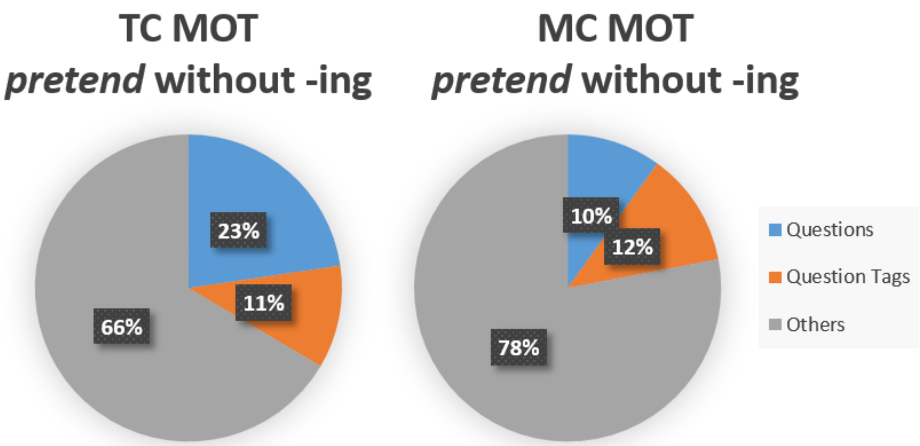


Figure 5.14: relative frequency of *pretend* morphological constructions (v|pretend, adj|pretend, v|pretend-PAST, v|pretend-3S) without part|pretend-PRESP for TC MOT and MC MOT

In the MC MOT data, the difference to the part|pretend-PRESP utterances is even more pronounced. Here, the non-part|pretend-PRESP data show a relative distribution of 22% questions (14% questions, 12% question tags) and 78% declarative utterances. The part|pretend-PRESP MC MOT data therefore have a much higher relative frequency of questions than the rest of the data (55.6% for MC MOT part|pretend-PRESP vs. 22% for MC MOT *pretend* without -ing). Of course, interrogative constructions not using the progressive construction are still used in the MC MOT data, and with 22% they do still play an important role in how mothers negotiate pretend play situations. Overall, however, the data for TC MOT and MC

MOT lend further support to the argument that questions and question tags in combination with a progressive, internal, restricted viewing frame serve as a key constructional pattern to establish and negotiate a perspective on a pretend play situation as it is happening at the moment.

Are there any other frequent constructional patterns we can find in the data that are part of the constructional repertoire used by mothers to establish a pretend play perspective on a situation? If we analyse the constructions that occur frequently in the MC MOT dataset, we find that there are a one-word constructional pattern and a two-word constructional pattern that occur even more often than interrogative constructions: *pretend* and *just pretend*. Overall, these two constructions make up for 36.3% of the utterances in the non-progressive-pretend data (*just pretend*: 18.8%, *pretend*: 17.5%; see Fig. 5.15). In comparison, 42% of the MC MOT data are other types of constructions, that is, multiword declarative constructions featuring the lexical item *pretend*, such as *let's pretend NP BE NP (e.g. let's pretend the goat's a rabbit then,* Aran24b.cha*)* and *it's only pretend* (gail01b.cha)

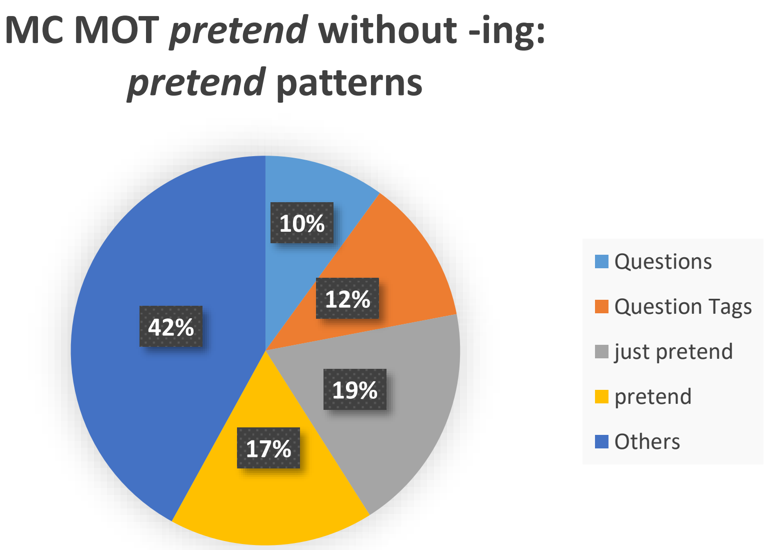


Figure 5.15: Constructional patterns in the MC MOT dataset for *pretend* forms without part|pretend

A significant amount of MOT utterances in the MC are therefore imperative constructions initiating and instructing pretend play. This is in line with the observations and argument made in Section 5.2.3.1 that mothers play an essential role in scaffolding pretend play situations.

Interestingly, we do not find a similar pattern in the TC MOT data. Here, *just pretend* as a two-word utterance only occurs in the context of commenting on Thomas' language use:

(5) MOT: well do you know what I think your favorite saying is ?
CHI: no .
MOT: <just pretend> [/] <just pretend> [/] just pretend .
MOT: just pretend .
(4-04-05.cha)

Other multi-word constructions with *pretend* occur more frequently, but nowhere as frequently as *pretend* and *just pretend* do in the MC MOT data: *let's pretend [X]* (5 times), *shall we pretend* [X] (12 times).

### 5.2.4 Comparing MC and TC Data for the CHI Tier

To what degree are the respective TC MOT and MC MOT data similar to the data in the CHI tier? In the TC MOT data, we do not find a single occurrence of the single-word utterance *pretend*. As mentioned in the previous section, the two-word utterance *just pretend* only occurs when commenting on Thomas' language use. For Thomas, on the other hand, more than half of his non-progressive *pretend* utterances include the constructional pattern *just pretend* (134 instances or 54.5%).

In the MC CHI data, there are no instances of questions and only one instance of a question tag (&*um must pretend*, *don't we?* nic34a.cha). In the TC CHI data, there are 6 (2%) instances of questions and 5 (2%) instances of question tags. Overall, though, although they occur more often in the TC CHI data than the MC CHI data, interrogative constructions still only make up for 4% of Thomas' utterances. Moreover, the first question tag only appears at age 3;04.02 (*you (pre)tend that's money, can't you?* 3-04-02.cha) and the first question at age 4;00.07 (*can I pretend to tread on it?* 4-00-07.cha). This is a very stark contrast to the high frequency of interrogative statements found in the MOT tiers. This difference in discourse strategies becomes especially apparent given that in other contexts questions are relatively frequent in child language, with every single child in both datasets already using questions in their very first recordings at the beginning of their third year of life. Of course, it takes longer for children to acquire more complex question constructions (Dąbrowska & Lieven 2005; Dąbrowska et al. 2009). Nevertheless, the fact that even simple question constructions with *pretend* are very infrequent points to different discourse strategies when it comes to talking about pretend play situations.

Regarding different discourse strategies, it can also be insightful to explore the different utterance types in children's utterances in more detail. That is, after we have looked at the frequency of questions and frequently occurring constructional patterns like *pretend* and *just pretend*, what other utterance types, or more precisely, which speech act types can we find in the corpus data?

### 5.2.5 Speech Act Types and Pretend Constructions

To investigate the relationship between *pretend* constructions and speech act types, the CHI data have been annotated for the following structural types of speech acts: Declaratives – which serve as a comment on or explanation of an ongoing pretend play situation –, imperatives – which serve as instructions to initiate, assume or perform specific pretend play acts or situations –, questions, question tags, and repetitions.

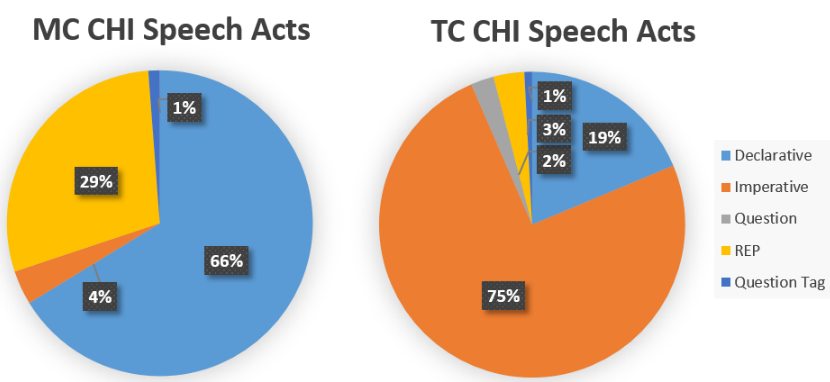


Figure 5.16: Relative frequency of speech act types in the MC CHI and TC CHI data

As has been established, questions and question tags only play a minor role or no role at all in children's pretend utterances. But if we look at the other categories, we find that the MC CHI and TC CHI data are very different from each other (Fig. 5.16). That is, Thomas and the MC children seem to use very different speech acts and discourse strategies in pretend play situations. In the TC CHI data, the most frequent speech acts are imperative speech acts (74.8%), followed by declarative speech acts as the second most frequent category with 18.7%. In the MC data, on the other hand, we hardly find any imperative speech acts (3.6%, only 3 in total), with by far the most frequent speech act type being declarative speech acts (66.3%). This coincides with the high frequency of the constructions *pretend* and *just pretend*, which are most often used declaratively to comment on or explain an ongoing pretend play situation that the child is performing in. The second most frequent category in the MC CHI data are repetitions (REP). This means that in 28.9% of non-progressive pretend utterances the children in this corpus directly repeat their mother's utterance, as in (6), where Anne is pretending to eat strawberries, and (7), where Becky pretends to eat a sandwich:

(6) MOT: please don't put them in your mouth , Anne .
CHI: strawberry xxx .
MOT: yeah .
MOT: pretend .
MOT: just pretend .
MOT: pretend .
MOT: that's it .
CHI: pretend .
MOT: pretend .
CHI: pretend , Mummy .
CHI: pretend , Mummy .
(Anne03b.cha)

(7) CHI: alright .
CHI: I bite it .
MOT: just pretend .
CHI: just pretend .
(Becky12b.cha)

What this shows is that Thomas has a much more interactive, cooperative and directive role in establishing and coordinating pretend play. He has a much higher rate of imperative speech acts instructing his mother on what to do and pretend in a pretend situation and coordinating a shared perspective on the developing pretence. Children in the MC, on the other hand, are much more often explaining their behaviour or commenting on it and expect their mothers to enter into their pretence or perform it on their own.

We have already established the importance of questions and question tags in child-directed-speech. As illustrated in Fig. 5.17 below, in the TC and MC MOT data (excluding the progressive form *pretending*) we also find that questions and question tags form a significant part in both corpora with 35.5% in the TC MOT data (24.7% questions and 10.8% question tags) and 25% in the MC MOT data (12.3% questions and 12.7% question tags).

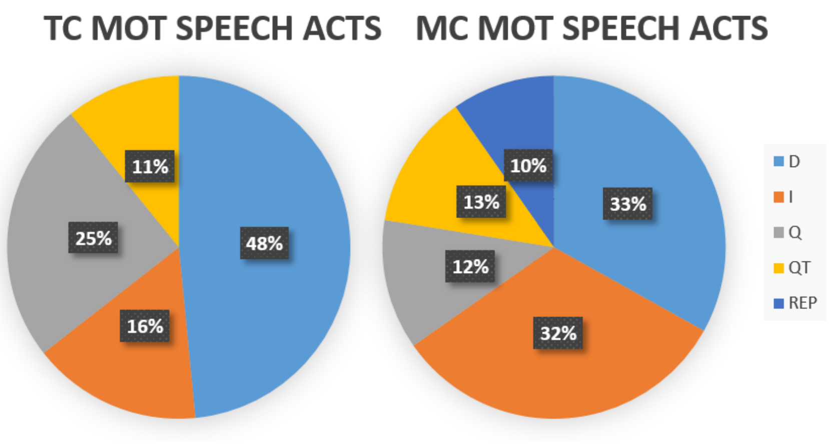


Figure 5.17: Relative frequency of speech act types in the MC MOT and TC MOT data (D = declarative, I = imperative, Q = question, QT = question tags, REP = repetition)

As already stated, questions play a more significant role in the TC MOT data than in the MC MOT data. In the TC MOT data, declarative utterances are most frequent with 48.5%. This fits with the pattern established above regarding the high frequency of part|pretend-PRESP constructions. So generally, both in terms of the frequency of part|pretend-PRESP and declarative speech acts, we find many instances of clarifying and commenting on pretend play situations in the TC MOT data. Imperatives are least frequent with 16%. That is, Thomas' mother uses fewer instructions and directions to initiate and coordinate pretend play. This fits well with the much higher frequency of imperative speech acts in the TC CHI data, indicating that Thomas takes a much more active role in the coordination and initiation of pretend play. It is also in line with the higher frequency of questions in the TC MOT data.

In the MC MOT data, declarative and imperative speech acts are roughly similar in their relative frequency (declarative: 33.1%, imperative: 32.2%). This shows that here we can find a relative balance of commenting on pretend play on the one hand and initiating and coordinating pretend play on the other. One category that only appears in the MC MOT data are repetitions of previous utterances, with a relative frequency of 9.7%. Repetitions can be seen as another way of clarifying utterances and securing understanding, together with declarative utterances.

Overall, we can see that discourse strategies for mothers and children in the TC and MC are complementary. In the TC CHI speech act data, we have a very high degree of imperatives. In comparison, in the TC MOT speech act data there is a high frequency of declaratives and questions that serve to clarify Thomas' imperatives. In the MC MOT speech act data, we have both a high degree of questions and imperatives, whereas in the MC CHI data, we have a high degree of declarative utterances and repetitions. This is probably due to the high frequency of *pretend* and *just pretend* in the dataset. In addition, we also have to keep in mind that part|pretend-PRESP plays a much more critical role in the TC MOT data, which is why in this dataset there are only 195 non-progressive occurrences of *pretend*. In the MC MOT data, on the other hand, there are 432 non-progressive occurrences of *pretend*. We can therefore say that the progressive plays a much weaker role as a discourse strategy between mothers and children in the MC than it does in the TC.

### 5.3 First Occurrences of *Pretend*

One of the reasons for the patterns described above could be the difference in age in the samples as well as the syntactic complexity and utterance length in both corpora. Whereas the MC stops at age 3, Thomas does not start using the word *pretend* before age 3 at all. If we compare the MLU of Thomas and the children in the MC, we find that there are both similarities and significant variation in when they start using *pretend*, as shown in Fig. 5.18 below.

For most children (5: Anne, Aran, Becky, Liz, Nic), their first use of *pretend* occurs somewhere between MLUs 1.317 and 1.72. However, there are three children (Gail, John, Ruth) who only start using it later, between MLUs 2.176 and 2.538, and two children who start using *pretend* even later at MLU 3.053 (Joel) and MLU 3.311 (Thomas). We can therefore see some general patterns when children start using *pretend*, but these are only slight tendencies with significant variations.

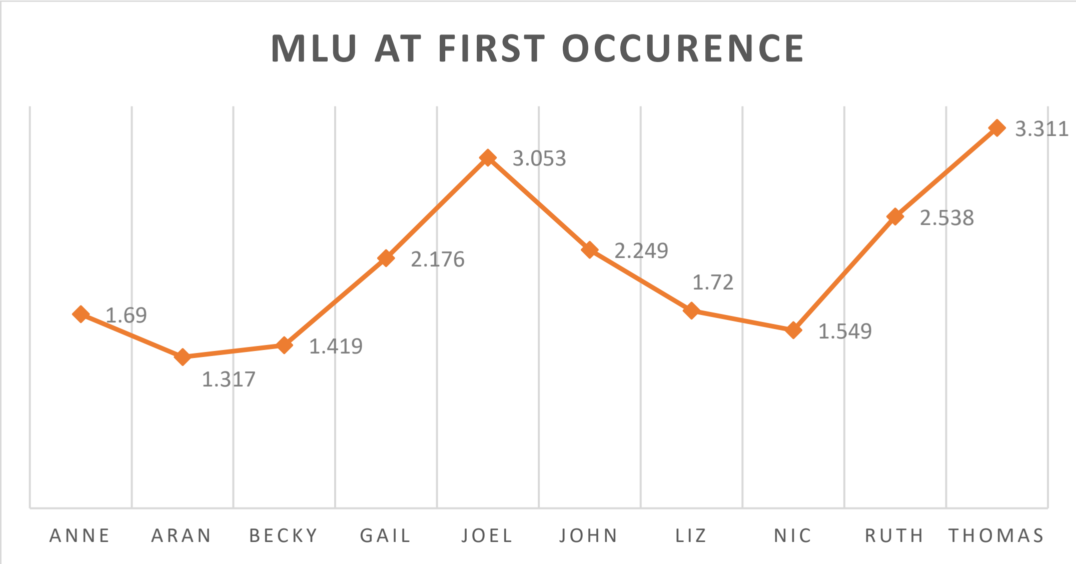


Figure 5.18: Mean length of utterance (MLU) at first occurrence of *pretend* for children Thomas and in the MC

Looking at Thomas' use of *pretend* in terms of morphological complexity, his first use of the word *pretend* is in the Early IV stage of linguistic development, with an MLU of 3.31. Thomas' subsequent *pretend* utterances in the next 23 months from 3 years onwards are in the range of III (MLU 2.50-2.99), Early IV (3.00-3.49), Late IV/Early IV (3.50-3.99), and Late V (4.00-4.49) to Post V (MLU 4.5+). As we have seen, the relationship between MLU and the occurrence of *pretend* utterances looks entirely different for the children in the MC. This becomes evident, for example, when comparing MLU at the first and last occurrence for children in the MC. An overview of MLU, stage of development and age at first occurrence as well as last occurrence can be found in Table 5.8 below.

As we can see, most children in the MC start to use the word *pretend* at the stages Early I (two: Aran, Becky), Late I (three: Anne, Liz, Nic) and II (two: Gail, John). The average MLU for the first occurrence of *pretend* in the MC is 1.97, which is at the end stage of linguistic stage Late I and close to Stage II (with Joel and Ruth being outliers somewhat; without these two the average MLU would be 1.73). As discussed, this is much earlier than the first occurrence of *pretend* in the TC CHI dataset (Early IV, 3.31). The stage of linguistic development at the first occurrence of *pretend* for the different children in the MC and TC is shown in Fig. 5.19.

| Child | NoO | MLU/ FO | SLD/ FO | Age/ FO | MLU/ LO | SLD/ LO | Age/ LO |
|---|---|---|---|---|---|---|---|
| Anne | 8 | 1.69 | Late I | 1;11.04 | 2.795 | III | 2;5.25 |
| Aran | 8 | 1.317 | Early I | 1;11.12 | 3.231 | Early IV | 2;10.21 |
| Becky | 20 | 1.419 | Early I | 2;1.30 | 3.119 | Early IV | 2;11.15 |
| Gail | 4 | 2.176 | II | 2;0.25 | 3.1 | Early IV | 2;3.17 |
| Joel | 2 | 3.053 | Early IV | 2;8.23 | 3.319 | Early IV | 2;10.11 |
| John | 1 | 2.249 | II | 2;5.27 | 2.249 | II | 2;5.27 |
| Liz | 7 | 1.72 | Late I | 2;0.07 | 2.335 | II | 2;7.17 |
| Nic | 16 | 1.549 | Late I | 2;4.00 | 3.044 | Early IV | 3;0.10 |
| Ruth | 17 | 2.538 | III | 2;8.21 | 3.173 | Early IV | 2;11.21 |
| Thomas | 246 | 3.311 | Early IV | 3;0.25 | 4.15 | Late V | 4;11.20 |

Table 5.8: Number of occurrences (NoO), mean length of utterance at first occurrence of *pretend* (MLU/FO), stage of linguistic development at first occurrence of *pretend* (SLD/FO), age at first occurrence of *pretend* (Age/FO) as well as the corresponding data for the last occurrence of *pretend* in the dataset

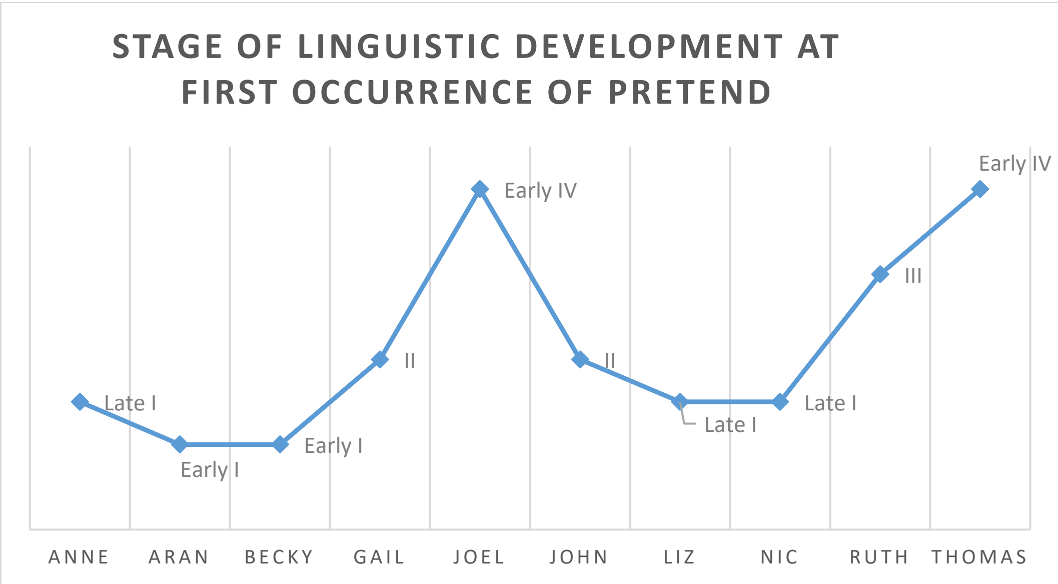


Figure 5.19: Stage of linguistic development at the first occurrence of *pretend* for Thomas and the MC CHI data

### 5.3.1 Comparing First Occurrences of *Pretend* in the CHI and MOT data

Is there any relationship between when *pretend* is first used by children and when their mothers use it? To answer this question, let us compare the age at first occurrence for all children in the MC and TC and their mothers. If we go by age at first occurrence, we get the distribution in Fig. 5.20. As we can see, for many children, their first occurrence of *pretend* closely follows that of their mothers, sometimes even within only a few days (Anne, Aran) or a month (Becky, Gail, Liz). For some pairs, the delay is some months longer (John, Nic), and in the cases of Joel and Ruth, they only start using *pretend* about 8 months later. Thomas even uses *pretend* about a year after his mother's first use. In three cases, the children do not use the term at all, although their mothers use it from very early on (Domin, Carl, Warren). As seen in the discussion of the CDI and Wordbank data in Section 3.3.2, only about half of all children use *pretend* around 30 months of age, and in the British Wordbank, at 35 months of age, this result has not changed very much (cf. Frank et al. 2017). The TC and MC data are consistent with this finding. Another interesting observation is that all mothers use *pretend* roughly around the same time (with the exception of Domin and Carl). However, this does not necessarily imply a developmental sequence. Instead, it is important to note at what age these corpora actually begin. When we compare age of first occurrence of *pretend* and age of first recording, we find that for most mothers (apart from Domin, Carl) and some of the children (Anne, Aran, Becky, Gail and Liz), the very first occurrence of *pretend* coincides with or follows very closely the time of the first transcript. This means that it is possible, and perhaps even likely, that many mothers commented on their children's pretend play behaviour using the word *pretend* prior to the time span of the corpus. The same goes for the children in the corpora, so that it is possible that the children who use *pretend* close to the beginning of the corpus recording have already been using this form earlier. As discussed above, it is of course also possible that the children have used *pretend* at a time they simply were not being recorded. As pretend play generally starts around 18 months of age (Weisberg 2015; see also Section 3.1.2), it is indeed possible that the first instances of *pretend* both by mothers and children took place before the time the corpora start.

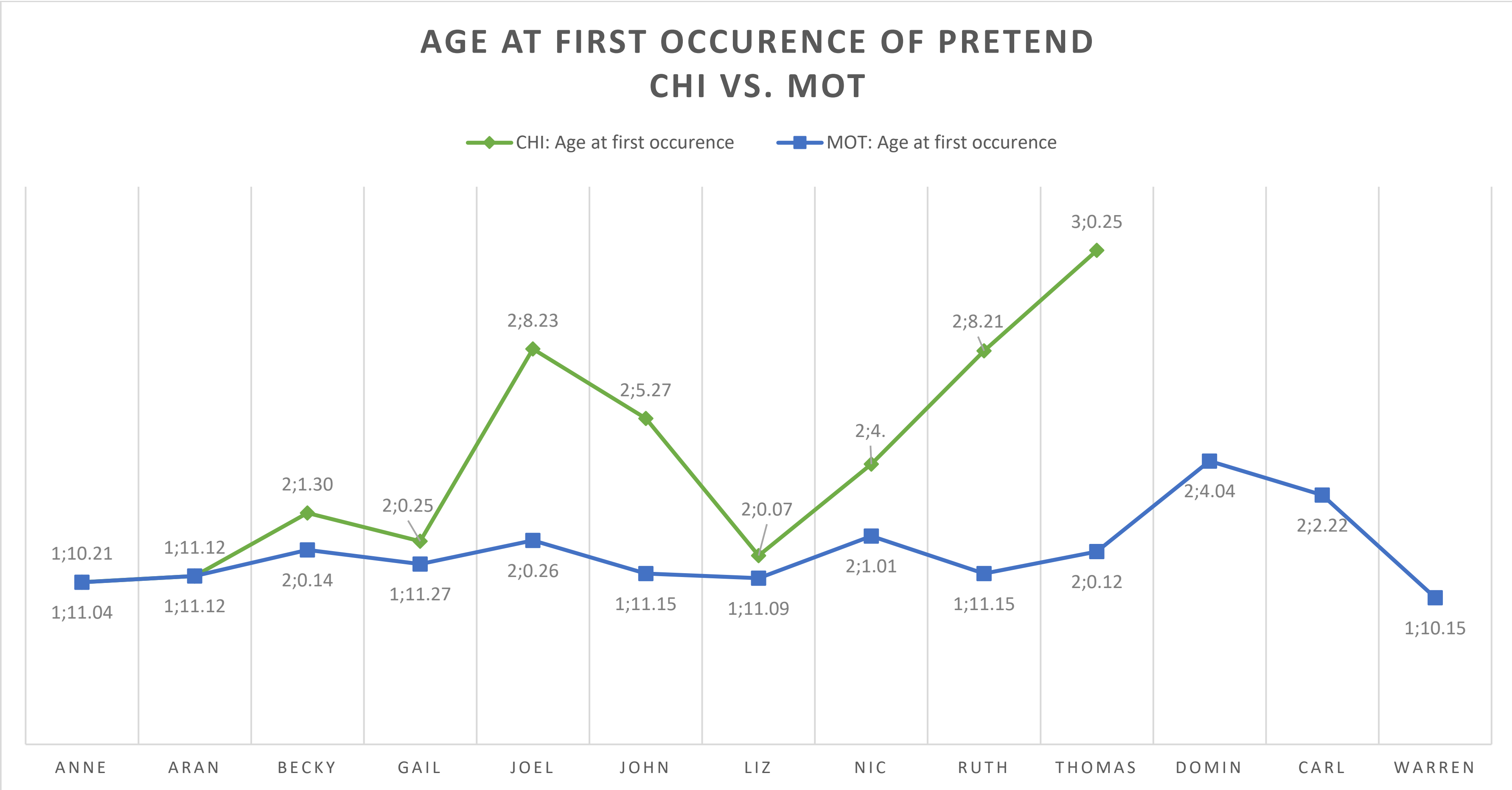


Figure 5.20: Age at first occurrence of *pretend* for the CHI tiers and the MOT tiers in the MC and TC data and age at the time of the first corpus recording

### 5.3.2 First Occurrences of *Pretend* in Other Corpus Data

Concerning maternal behaviour in pretend play situations, we do find the use of *pretend* in other corpora that start at an earlier age. Indeed, the CDI and Wordbank data discussed in Section 3.3.2 show that there are children who use *pretend* before age 2. In the Forrester corpus (Howe 1981) we can also find an example of a mother coordinating a pretend play situation with her 1;7-year-old son Kevin using the lexical item *pretend*. In this section of the transcript, mother and child are engaged in a play session involving a teddy bear and a tea set. They are pretending to pour tea and coffee for the teddy when Kevin utters the name of a person. This leads to his mother following up on his utterance first with a question involving *pretend* (*shall we pretend Joanna's here?*), and later on, a clarifying statement using *pretend* (*pretend Joanna's there*). In this way, Kevin's mother construes a new target and state of affairs – and with it, affordances for new pretend actions with the overall pretend frame of drinking tea.

| | | |
|---|---|---|
| (8) | CHI: | Joanna . |
| | MOT: | is that for Joanna ? |
| | MOT: | she's not here is she ? |
| | MOT: | shall we pretend Joanna's here ? |
| | MOT: | give it to Joanna here . |
| | MOT: | there's Joanna . |
| | MOT: | pretend Joanna's there . |
| | CHI: | 0 . |
| | %act: | looks at pretend Joanna |
| | MOT: | Joanna's gone to Nanny's (.) hasn't she ? |
| | %act: | <bef> passes tea to pretend Joanna |
| | %par: | <dur> laughs |
| | CHI: | coffee . |
| | %act: | <bef> passes cup to mother |
| | MOT: | coffee for me (.) thank_you . |

(Kevin1.cha; Howe 1981)[51]

As outlined above, *pretend* also occurs frequently in the other English-language corpora. In the following I will give an overview of some of the data of first occurrences of *pretend* in a selection of other CHILDES corpora (see Table 5.9 and Fig.

[51] "0" indicates an action without speech; "(.)" indicates a pause; "%act" represents the action tier; "%par" represents the paralinguistic tier indicating behaviours such as laughing and crying; <bef> indicates an occurrence before; <dur> indicates an occurrence during an action.

5.21). What has to be kept in mind, however, is that most of these corpora are less densely sampled than the MC and the TC. However, these examples can still give us an indication of when the first instances of *pretend* can be found in the various corpora and represent further evidence that many children in corpora use *pretend* from quite early on. This can be seen in Table 5.9.

| **Corpus** | **Age Range** | **N** | **Child** | **Age/FO** |
|---|---|---|---|---|
| Bates corpus (Bates et al. 1988) | 1;8-2;4 | 27 | Nan | 2;4. |
| Bates corpus (Bates et al. 1988) | 1;8-2;4 | 27 | Olivia | 2;4. |
| Bates corpus (Bates et al. 1988) | 1;8-2;4 | 27 | Ruth | 2;4. |
| Bloom70 corpus (Bloom et al. 1974, 1975) | 1;9-3;2 | 3 | Peter | 2;05.22 |
| Braunwald corpus (Braunwald 1978) | 1;0-6;0, | 1 | Laura | 2;00.11 |
| Brown corpus (Brown 1973) | 1;6-5;1 | 2 | Eve | 2;02.00 |
| Brown corpus (Brown 1973) | 1;6-5;1 | 2 | Adam | 2;05.12 |
| Clark corpus (Clark 1978) | 2;2-3;2 | 1 | Shem | 2;07.18 |
| Lara corpus (Rowland & Fletcher 2006) | 1;9-3;0 | 1 | Lara | 2;01.11 |
| McCune corpus (McCune 1995) | 1;0-3;0 | 9 | Alice | 1;10.00 |
| Nelson corpus (Nelson 1989) | 1;9-3;0 | 1 | Emily | 2;00.13. |
| MacWhinney corpus (MacWhinney 1991) | 0;7-8;0 | 2 | Mark | 3;00.02 |
| MacWhinney corpus (MacWhinney 1991) | 0;7-8;0 | 2 | Ross | 3;04.03 |

Table 5.9: Corpus, age range, number of children (N), name of the child using *pretend*, and age of child at first occurrence of *pretend* (Age/FO) in selected ECD corpora

There are, of course, also other corpora where *pretend* occurs at a later date, suggesting that the later first instance of *pretend* in the Thomas corpus is not an unusual outlier. For example, in the MacWhinney corpus (age range, 0;7 to 8;0, MacWhinney 1991), a corpus of two brothers in natural situations, Mark's first documented usage of *pretend* is 3;00.02 and that of his older brother Ross at age 3;04.03. As discussed above, for most children in the MC the first use of *pretend* occurs earlier than in these other corpora. Whereas the average MLU at first occurrence in the MC was 1.97, in the selected ECD corpora it is 3.61. But, as also discussed above, the higher MLUs at first occurrence of *pretend* in the corpora discussed in this section are also likely influenced by sampling density. MLU at first occurrence of *pretend* is represented in Fig. 5.21.

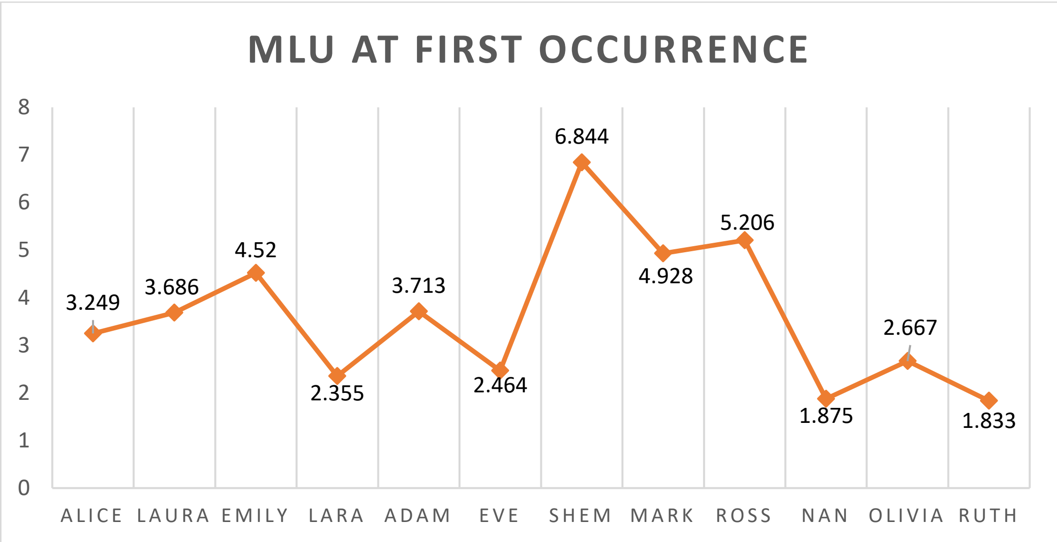


Figure 5.21: Mean length of utterance (MLU) at first occurrence of *pretend* for selected children in the ECD: the McCune corpus (Alice), the Braunwald corpus (Laura), the Nelson corpus (Emily), the Lara corpus (Lara), the Brown corpus (Adam, Eve), the Clark corpus (Shem), the MacWhinney corpus (Mark, Ross), and the Bates corpus (Nan, Olivia, Ruth)

When we look at Brown's stages of linguistic development, the later occurrence of *pretend* compared to the MC is also evident. In the MC, stages Early I, Late I, and II were the most frequent stages where *pretend* is first found. In the selected ECD corpora, the most frequent stage where *pretend* first occurs is Post V (Shem, Mark, Ross, Emily). But after that, Late IV/Early V (Laura, Adam), Late I (Nan, Ruth), and II (Lara, Eve) are represented with two children each. The data are summarised in Fig. 5.22 below.

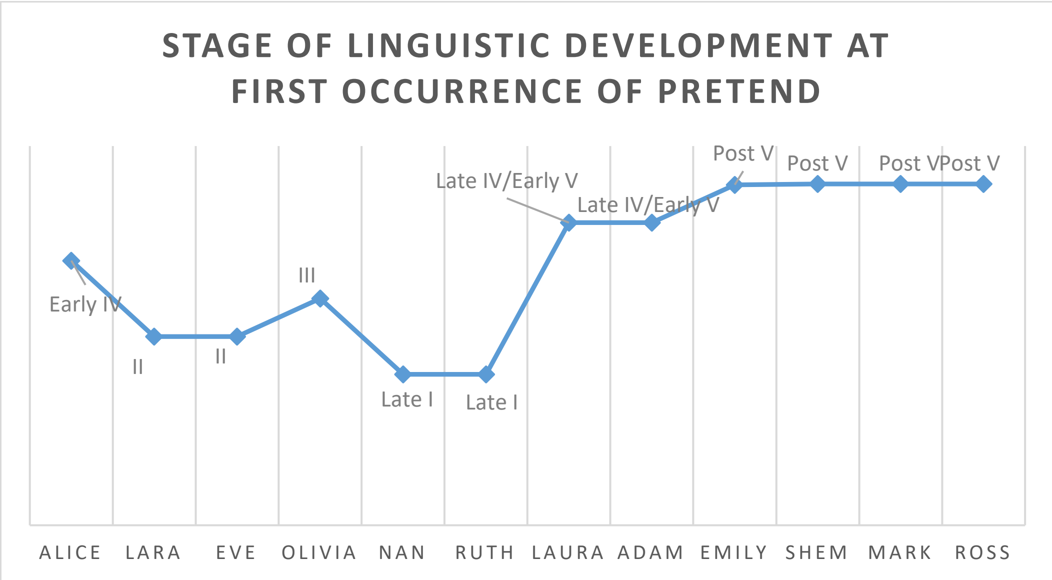


Figure 5.22: Stage of linguistic development at the first occurrence of *pretend* for selected children in the ECD: the McCune corpus (Alice), the Braunwald corpus (Laura), the Nelson corpus (Emily), the Lara corpus (Lara), the Brown corpus (Adam, Eve), the Clark corpus (Shem), the MacWhinney corpus (Mark, Ross), and the Bates corpus (Nan, Olivia, Ruth)

### 5.4. Development of *Pretend* Frequency

So far, we have investigated the overall distribution as well as at the first occurrences of *pretend* in the corpus data. This section will present a first brief look at the distribution of *pretend* by age. The question if there are any specific developmental patterns when it comes to the usage of *pretend* will be investigated in more detail in Chapters 6 and 7. For a first overall impression, the distribution of *pretend* frequencies can be found in Fig. 5.23.

The key question that is discussed in this section is whether the changes in the distribution of *pretend* frequencies that we see in Fig. 5.23 are related to other measures that might predict this distribution. Essentially, the question that is addressed here is if *pretend* shows its own independent developmental trajectory. This question is important because it is possible that the trajectory we observe is simply due to other factors, such as corpus size (5.4.1) or overall lexical development (5.4.2). We will discuss each of these possibilities in turn.

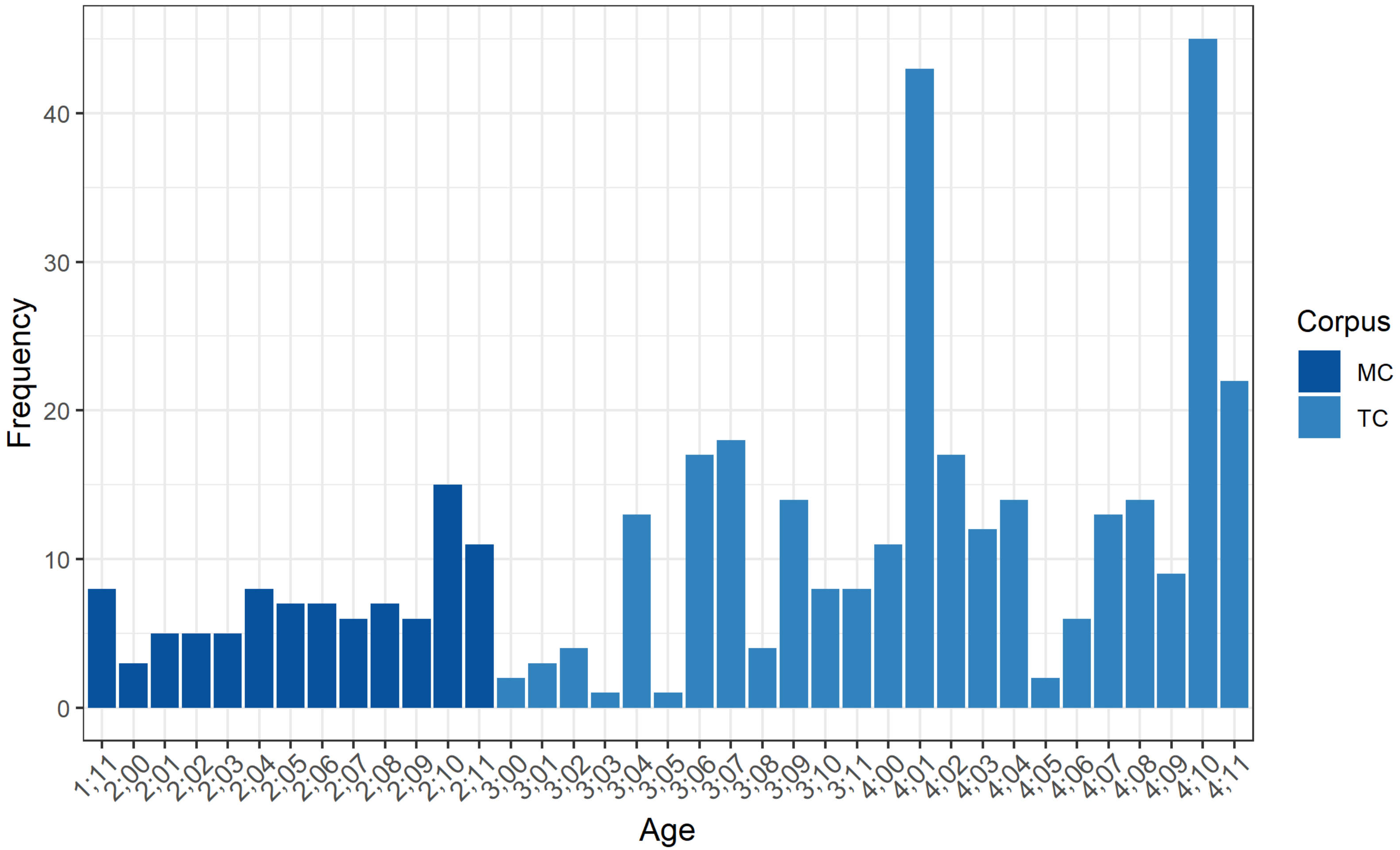


Figure 5.23: Overall distribution of *pretend* frequencies by age for the CHI data

### 5.4.1 *Pretend* Frequency vs. Corpus Size

To investigate this question further, we have to go beyond measuring the absolute frequency of *pretend* in isolation. For example, it might be possible that the variations in absolute frequency are simply due to the fact that there are more corpus transcripts, and therefore more tokens in general, for a given time span or stage of linguistic complexity. If that were the case, changes in the frequency of *pretend* could not be seen as being due to linguistic or cognitive development. Instead, any observed changes simply would be a matter of variation in corpus size/availability. If this was the reason for the pattern we see, we would expect the frequency of *pretend* to correspond very closely to corpus size, either measured in number of transcripts or token frequency. So, for example, if the *pretend* frequency at a certain stage is higher than for other stages, we would expect that the corpus size for this stage is also bigger than for other stages. If, on the other hand, there is no strong relationship between the number of transcripts and *pretend* frequency, a bigger corpus size for a given interval would not necessarily correlate with a higher number of *pretend* tokens.

According to Pearson's product moment correlation test, there is only a negligible negative correlation between *pretend* frequency and number of transcripts, and the results are not statistically significant ($r = -0.40$; $p = 0.17$). So the number of transcripts available does not predict the frequency of *pretend*. This, therefore, points to a different explanation for the changes in *pretend* frequency. We get similar results for the data divided by Brown's stages as for the data divided by age. According to Pearson's test, there is a negligible negative correlation between the two values and the result is not statistically significant ($r = -0.048$, $p = 0.91$). In terms of token frequency, there is only a negligible negative correlation between token frequency and frequency of *pretend* divided by age, which is not statistically significant ($r = -0.38$; $p = 0.26$).

The same holds for the relationship between token frequency and frequency of *pretend* sorted by Brown's stages, which is also a negative negligible one and not statistically significant ($r = 0.25$; $p = 0.54$). This result is not surprising as number of transcripts and token frequency are strongly correlated, both when we look at its development by age and by Brown's stages. Pearson's test shows that for the data sorted by age there is a very high positive correlation that is statistically highly significant ($r = 0.96$; $p = 0.000000031$). MLU and token frequency also have a very high positive relationship that is statistically highly significant ($r = 0.93$; $p = 0.00095$). This means that both when considering age and Brown's stages, there are more tokens the more transcripts there are. Overall, then, *pretend* seems to follow its own trajectory regardless of the number of transcripts or token frequency.

Two candidates for the developmental pattern we see are linguistic and cognitive development. To investigate the influence of these factors, we can perform Pearson's product moment correlation to see if there is a relationship between the development of the frequency of *pretend* with increasing MLU and age, respectively. If we compare the development of relative frequency of *pretend* with the increase in MLU according to Brown's stages in the CHI data, we find that there is a high positive correlation between the two values and the result is statistically significant ($r = 0.86$; $p = 0.006$). This means that as MLU rises, the relative frequency of *pretend* also rises. If we apply Pearson's test to the data sorted by age, we find a moderate positive relationship between the values that is also statistically significant ($r = 0.64$; $p = 0.017$). So as children grow older, the relative frequency of *pretend* increases, but the pattern is less pronounced for age as it is for development in terms of Brown's stages. However, it has to be kept in mind that this difference is very likely due to the fact that the development in terms of Brown's stages is a much more coarse-grained measure. This means that more data are aggregated for a given stage of measurement, which masks some of the underlying variation in the data. This in turn results in a more monotonous distribution and a stronger correlation.

Interestingly, for the MOT data the relationship between corpus size and *pretend* frequency looks quite different. In terms of absolute frequencies, for the MOT data, we find that the more transcripts there are, the more instances of *pretend* there are. Pearson's test shows that there is a high positive correlation between the two values that is highly statistically significant both when we look at the relationship in terms of age ($r = 0.89$; $p = 0.000045$) as well as Brown's stages ($r = 0.99$; $p = 0.0000056$). This is quite the opposite from the CHI data, where no such correlation is apparent. The same holds for the relationship of token frequencies and *pretend*, which for the MOT data are highly correlated with *pretend* frequencies both sorted by MLU ($r = 0.98$; $p = 0.000013$) and age ($r = 0.92$; $p = 0.0000099$); in both cases the results are highly statistically significant. So the more tokens there are, the more instances of *pretend* we find in the MOT data. This implies that the frequency with which mothers use the lexical item *pretend* is fairly consistent across the age range covered by the corpus data. Indeed, for the MOT data, both *pretend* frequency and token frequency stay relatively constant across age. This is consistent with the result of Gilkerson et al.'s (2017) study of children between 2 to 48 months of age, in which they found that whereas the frequency of child vocalisations increased with age, the number of words adults produced when interacting with their children was independent of age after early infancy. Overall, then, *pretend* does not seem to have a special developmental status in the MOT data in terms of absolute frequencies, whereas it seems to do so for the CHI data.

Regarding relative frequencies, as in the CHI data, for the MOT data sorted by age, there is no relationship between changes in average frequency for all tokens and the relative frequency of *pretend*. However, if we divide the data by Brown's stages of development, Pearson's test shows a high negative correlation between relative frequency of *pretend* and MLU. The results are statistically significant ($r = -0.72$; $p = 0.043$). This means that as children's utterances become more linguistically complex, mothers tend to use *pretend* less often relative to other lexical items. This result is interesting if we see it in the context of children becoming more active linguistic negotiators of pretend situations as their language skills grow (see also Sections 2.2.3 and 3.3).

### 5.4.2 Development of *Pretend* vs. Development of Other Lexical Items

But how does the development of the relative frequency of *pretend* compare to the development of other lexical items? To illustrate this, Fig. 5.24 shows the development of the relative frequency of lexical items that have a similar overall distribution as *pretend*. Represented here are words with an overall frequency of 200 to 500 (frequency of *pretend* in the TC+MC CHI data: 393) and their distribution across Brown's stages.

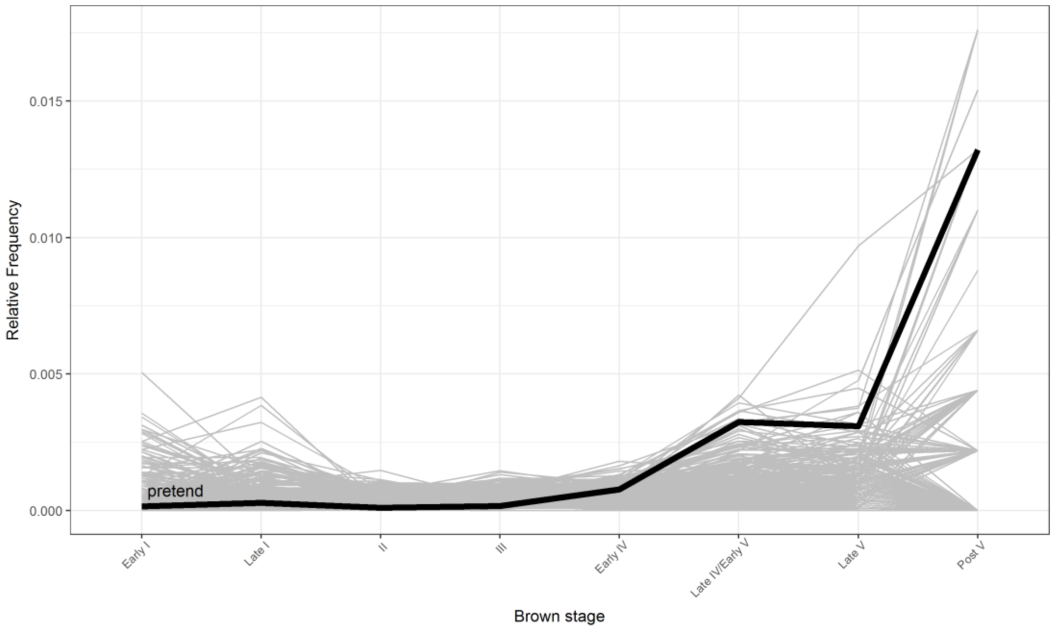


Figure 5.24: Comparison of the development of the relative frequency of *pretend* compared to the development of lexical items with a similar overall frequency sorted by Brown's stages of development

What is interesting here is that most other lexical items with a similar overall frequency start out with a higher frequency than *pretend*, but *pretend* shows a significant increase at later stages. This can also be shown statistically. As we have already seen, Pearson's test showed that the development of *pretend* across Brown's stages has a statistically significant high positive correlation with MLU. Here, we perform Kendall's rank correlation tau to investigate whether the lexical item *pretend* also shows an increase along the stages. The difference here between Pearson's and Kendall's test is that in Pearson's test, we compared the correlation between relative frequency and ordinal MLU stages. In Kendall's test, we compare the development of relative frequency with a nominal value, namely, Brown's stages of linguistic development. Kendall's rank correlation tau shows that there is a statistically significant unidirectional increase in relative frequency ($t = 0.71$; $p = 0.014$). The relative frequency of *pretend* therefore increases with linguistic development.

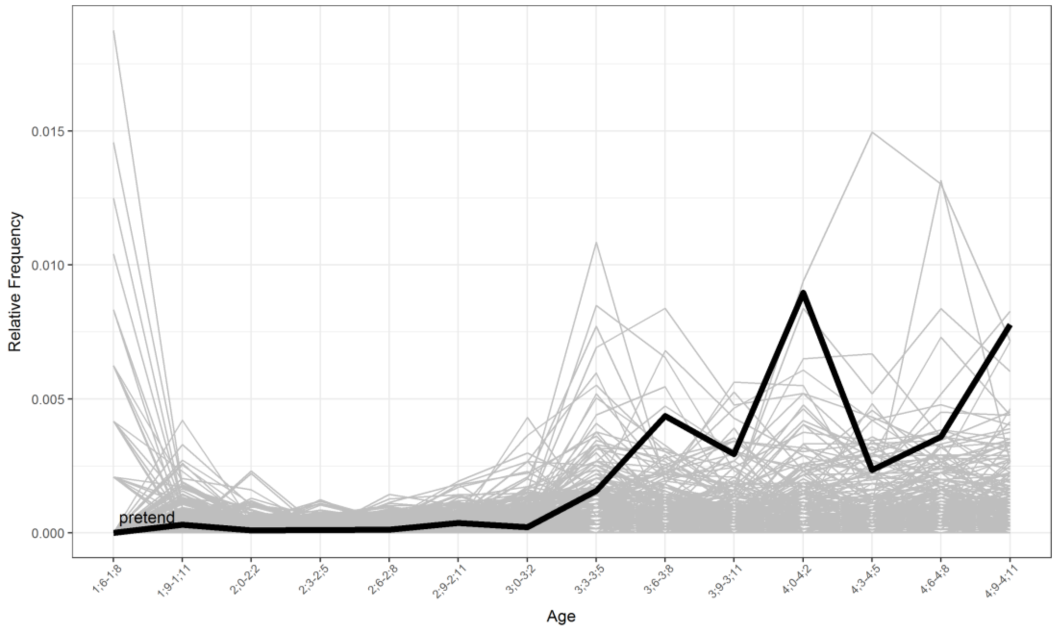


Figure 5.25: Comparison of the development of the relative frequency of *pretend* compared to the development of lexical items with a similar overall frequency sorted by age

Fig. 5.25 displays the distribution sorted by age. Here we also see that *pretend* starts out with a much lower frequency than many other lexical items but then increases, especially when it comes to the TC CHI dataset starting at age 3. Kendall's rank correlation tau shows a statistically highly significant unidirectional increase, meaning that the relative frequency of *pretend* rises with age (t = 0.74; p = 0.000077).

### 5.4.3 Overall Results

In conclusion, we can state that the frequency of *pretend* indeed increases as children grow older and as they become more sophisticated language users. This is an interesting observation regarding the role of pretend play in both cognitive development and language acquisition, and it is in line with the research on pretend play described in Chapter 3. For mothers, on the other hand, the use of *pretend* stays relatively constant, and the only pattern we observe is that with growing linguistic complexity of children's utterances, the relative frequency of mothers' *pretend* utterances decreases, which we can interpret in terms of children becoming more active contributors in pretend play situations.

## 5.5 Summary

Overall, in this chapter we have seen that the lexical item *pretend* plays a more important role in the interactions of young children and their mothers than it does in other types of discourse. We have also seen that there are both similarities as well as differences in the frequency of *pretend*, both in terms of its surface forms as well as in terms of its morphological constructions.

In terms of distributions of different *pretend* categories, Thomas' mother proved to be somewhat of an outlier, with the TC CHI, MC CHI and MC MOT data being much more similar to each other. Specifically, the TC MOT data feature a much higher frequency of progressive *pretend* constructions, which was linked to the following two functions: On the one hand, Thomas' mother uses *pretending* for narrative commenting on pretend activities, and on the other she adopts a restricted viewing frame to clarify and negotiate perspectives on an ongoing pretend activity. This view is also supported by the high frequency of questions and question tags in TC MOT utterances. Thomas, on the other hand, more frequently uses a maximal viewing frame as well as imperative speech acts and imperative constructions such as *just pretend* to instruct and negotiate pretend activities.

Whereas questions are an important discourse strategy for the negotiation of pretend activities for both MC MOT and TC MOT, we found that mothers in the MC data also use a significant amount of declarative and imperative constructions to coordinate and scaffold pretend activities. This in turn corresponds to a lower degree of imperatives in the MC CHI data, who more often explain or comment on their behaviour as compared to Thomas, who takes a more active role in negotiations of pretend play behaviours once he starts using the lexical item *pretend*. This is also evident in the fact that Thomas' mother uses less questions in the 3-5 age range, the age range in which Thomas starts developing a more active role in directing and negotiating pretence behaviour. However, questions in general play a very limited role in the CHI data overall, showing that this discourse strategy is rarely used as a scaffolding mechanism in pretend activities.

Regarding the developmental progression of using the lexical item *pretend* it was shown that there are some small trends as to when children start using the lexical item, but also significant variation. Interestingly, there was no clear relationship between children's first documented use of *pretend* and their mothers' first documented use of it. In addition, in contrast to children's usages, mothers fairly consistently used *pretend* from very early on. Mothers' frequency of using *pretend* was also quite consistent across age ranges, whereas in children the frequency of *pretend* rose both with age and the linguistic complexity of their utterances. So for the CHI data, there is a clear increase in the frequency of *pretend* as they grow older. One pattern that could be observed was that the relative frequency of *pretend* in MOT utterances decreased as the relative frequency in CHI utterances increased along with the linguistic complexity of children's utterances. One interpretation of this relationship is that mothers use less linguistic scaffolding strategies of pretence scenarios as their children grow older and become more active directors and negotiators of pretend play.

After investigating the general frequencies and development of the lexical item *pretend*, I will now return to the question if the targets of what is pretended also change during development. To do so, the changes in relative frequencies of *pretend* targets will be investigated. In the next chapter, I will therefore turn to the analysis of the targets of *pretend* utterances.

# 6. Analysis of Targets of *Pretend* Utterances

After examining the distribution of *pretend* word forms, morphological constructions, and speech act types, the next section will present a semantic analysis of *pretend* in the corpora. Specifically, this analysis will deal with the targets of *pretend* utterances, or put more simply, with the question of what kinds of entities, events and situations children and their caregivers evoke and refer to when pretending.

The chapter is divided into four main sections. In Section 6.1 and its subsections, I will present the distribution of pretend targets in the CHI dataset. In Section 6.2, I will turn to the MOT dataset. Section 6.3 will then analyse the absolute and relative frequencies of pretend targets for both the CHI and MOT data and compare them. Section 6.4, on the other hand, will offer a qualitative analysis of the targets of children's pretend utterances. First, however, I will turn to the methodology of this chapter's analysis.

As stated in Section 5.1, in total, 1,392 utterances with a lexical form of *pretend* were found. Out of these, 76 utterances were eliminated from the analysis. On the one hand, these were utterances that were coded as incomplete or incomprehensible. It is standard practice when coding utterances that only complete utterances be coded "for which the meaning is fairly clear" (Blume & Lust 2017: 188). Also eliminated from the analysis were direct repetitions of a previous utterance or retracings. Retracings, marked in the CHAT format by the symbol [//], indicate that a speaker starts to say something but then stops and changes the syntax of the utterance, while maintaining the same idea (MacWhinney 2019a: 74), as in (1).

(1) MOT*:* <we could pretend this> [//] is this the horse's field today? (john23b.cha)

This left 1,316 *pretend* utterances to be analysed. This means that for analysis, in the TC, there were 741 *pretend* utterances, and in the MC, there were 575. In the TC, 265 *pretend* utterances belonged to the CHI tier, and 476 belonged to the MOT tier. In the MC, 88 *pretend* utterances belonged to the CHI tier, and 487 utterances belonged to the MOT tier.

The utterances were first annotated for the individual targets of a pretend play situation. In a second step, they were sorted into the following abstract categories that individual pretend play targets were instantiations of: pretending an action (ACTION), pretending to be an entity, either animate or inanimate (BEING ENTITY), pretending the existence of an entity (ENTITY), pretending that an object or entity has some property (PROPERTY/OBJECT PROPERTY), pretending to possess an object (POSSESSING OBJECT/POSSESSION), pretending that something is the case and that a certain state of affairs pertains (STATE OF AFFAIRS), making a metacomment about a pretend situation (METACOMMENT), explaining a pretend play situation that is ongoing (EXPLANATION), pretending to have an experience (EXPERIENCE), and pretending to be in or to experience a particular mental state (MENTAL STATE). Table 6.1 lists all pretend target categories together with an illustrative example.

| **Pretend Targets** | **Example** |
|---|---|
| ACTION | *and I 0am [*] walking down (.) just (pre)tend I'm walking on a street* (CHI; 03-06-03.cha) |
| BEING ENTITY | *I'm [/] I'm [//] I (pre)tending be big &uh big elephant* (CHI; 03-01-02.cha) |
| ENTITY | *well let's pretend this is a horse* (MOT; john01a.cha) |
| PROPERTY/OBJECT PROPERTY | *pretend the cars are broken* (MOT; 3-06-04.cha) |
| POSSESSING OBJECT/ POSSESSION | *are you going to pretend it's your shoe?* (MOT; 04-05-04.cha) |
| STATE OF AFFAIRS | *pretend you're in a boat* (MOT, nic09b.cha) |
| METACOMMENT | *We're doing an awful lot of just pretending aren't we*? (MOT; 4-10-10.cha) |
| EXPLANATION | *just pretend.* (comment that a story is not real but pretend; CHI; 4-11-08.cha) |
| EXPERIENCE | *just pretend you saw* (CHI; 4-01-05.cha) |
| MENTAL STATE | *just pretend you didn't know* (CHI; 4-04-06.cha) |

Table 6.1*: Pretend* targets in the analysed corpora

In the next sections I will give a general overview of the development of *pretend* targets in the TC CHI and MC CHI by age and Brown's stages, before discussing these distributions in more detail. I will first present an overview of the absolute and relative frequencies of *pretend* targets and their development in the CHI dataset (6.1) and then turn to the MOT dataset (6.2). Section 6.3 then compares the CHI and MOT datasets and their various subcorpora.

## 6.1 Distribution of Pretend Targets in the CHI Dataset

To get a first overview, Fig. 6.1 shows the distribution of pretend targets for all children in the TC and MC corpora.

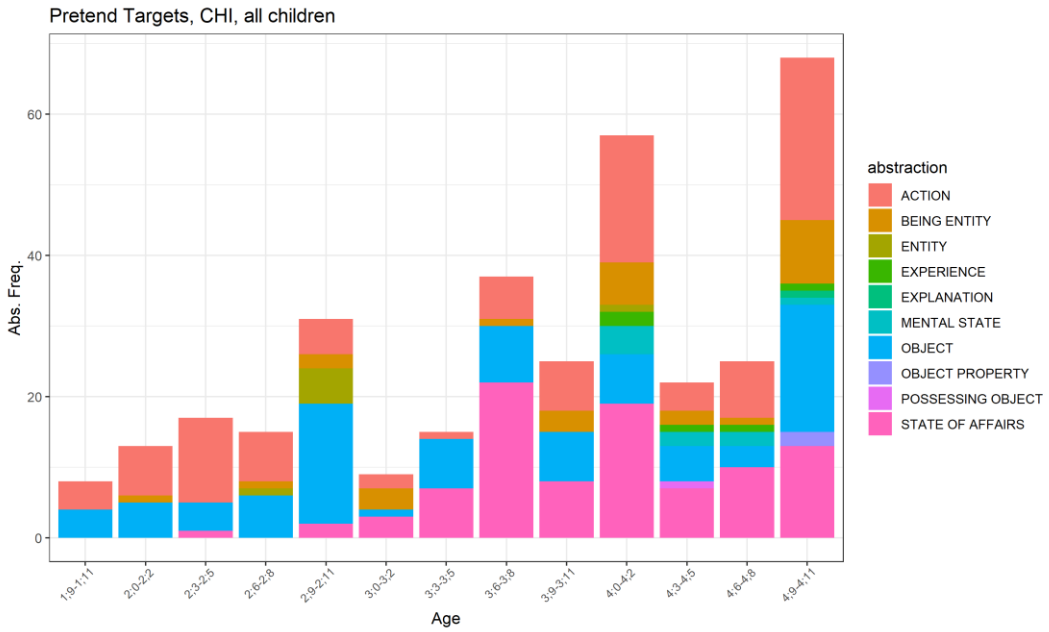


Figure 6.1: Absolute frequency of pretend targets for all children in the MC and TC data by age

What we have to keep in mind here is that this graph collapses the data for the MC for pretend targets (1;9 to 2;11) and the data for Thomas (3;0-4;11). In terms of absolute frequency, we can observe a clear pattern of increase for the MC data. Pretend targets are very infrequent in the 1;9 to 1;11 age range, but rise continuously in the 2;0-2;2 age section and the 2;3 to 2;5 section. There is a slight but not very significant drop in the 2;6 to 2;8 data, but it still rates higher than the 2;0-2;2 data. So we do see a slight developmental progression here. The frequency rises quite sharply in the 2;9-2;11 age span. We can, therefore, see a definite increase in the absolute frequency of pretend targets especially at the end of the age range covered by the MC. The data for the MC CHI subcorpus alone can be found in Fig. 6.2.

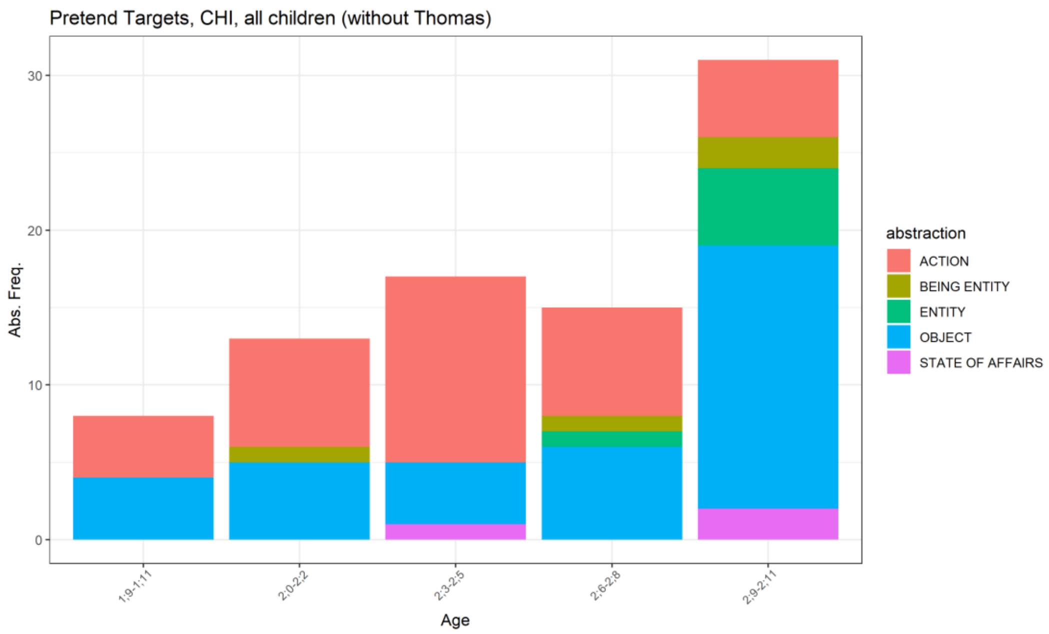


Figure 6.2: Absolute frequency of MC CHI pretend targets sorted by age

For Thomas, we see an increase in pretend targets from 3;0-3;2 to 3;3-3;5 and then a sharp increase in 3;6-3;8. But after that it drops and then fluctuates, with two spikes in absolute frequency in the 4;0-4;2 and the 4;9-4;11 age range. In addition, it is interesting to observe that by far the highest absolute frequency of pretend targets occurs in the last cross-section in the TC, 4;9-4;11.

As discussed in Section 4.3.2, we can sort the data not only by age but also by measures of linguistic complexity such as mean length of utterance. In the following chapters, the data will be sorted into the stages of development proposed by Brown (1973) (cf. Section 4.3.2). The division of the data by Brown's stages is displayed in Fig. 6.3 below.

As we can see, there are only some general patterns of development in terms of Brown's stages when it comes to the absolute frequency of pretend targets. Stage Early I has a very low level of pretend targets, which then rises sharply at Late I. For Stage II, the absolute frequency of pretend targets decreases slightly, and then rises above Stage Late I for Stage III. There is a significant increase for stage Early IV, and an even higher rise in absolute frequency for Late IV//Early V. But after that, it fluctuates again, with the frequency in Late V being significantly lower than before, but still higher than Stage III. Post V is very low. So from the outset, we cannot clearly state that the pretend targets occur more often in later stages of linguistic development.

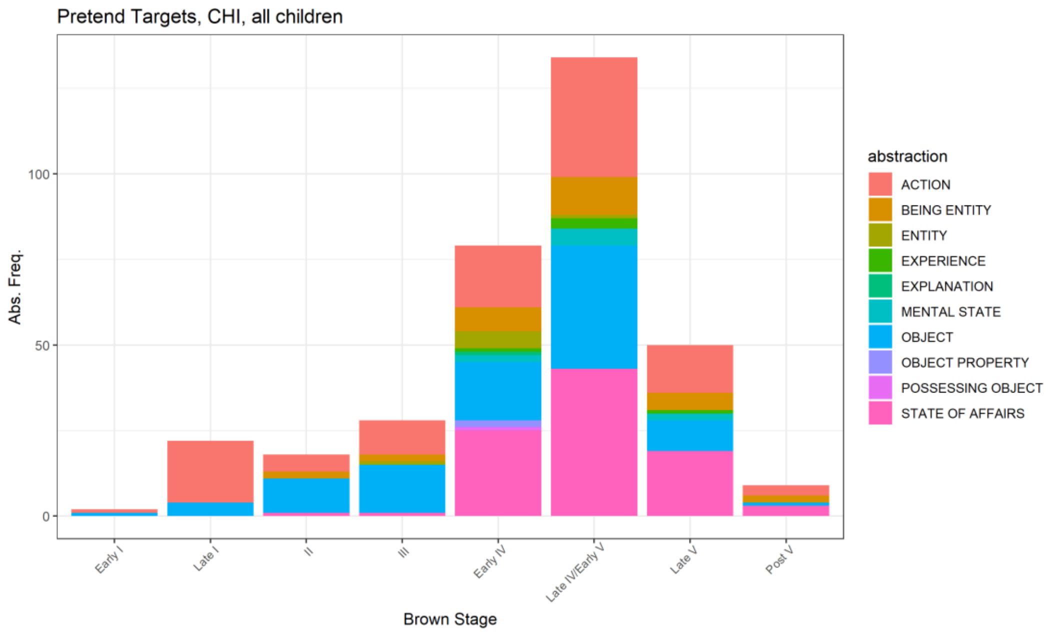


Figure 6.3: Absolute frequency of pretend targets for all children in the MC and TC data by Brown's stages of development.

### 6.1.1 Frequencies of Pretend Targets in the CHI Dataset

A general overview of the development of all pretend targets in the CHI dataset can be found in Fig. 6.4 below. At first glance, we can see that the number of pretend targets becomes more diverse with age, both in the MC data but especially in the TC data. At the beginning of the corpus data, in the age span of 1;9-1;11 there are only two pretend target categories, ACTION and OBJECT. One year later, in the last MC CHI age range, 2;9-2;11, there are 5 different pretend targets in the dataset: ACTION, OBJECT, BEING ENTITY, ENTITY, and STATE OF AFFAIRS. Pearson's test shows that for the MC data, there is a statistically significant very high positive correlation between number of different pretend targets and age ($r = 0.97$; $p = 0.006$; see Fig. 6.5). As with the MC data, there is also statistical evidence that the number of different *pretend* targets becomes more diverse as Thomas gets older. In the first age range in which Thomas starts using *pretend*, he uses it to refer to 4 different pretend target types: ACTION, BEING ENTITY, OBJECT and STATE OF AFFAIRS. Almost two years later, in the age range of 4;9-4;11 the number of pretend target types Thomas refers to has doubled to 8: ACTION, BEING ENTITY, EXPERIENCE, EXPLANATION, MENTAL STATE, OBJECT, OBJECT PROPERTY and STATE OF AFFAIRS. Pearson's test shows that there is a statistically significant high positive correlation between number of pretend targets and age (r = 0.87; p = 0.0051).

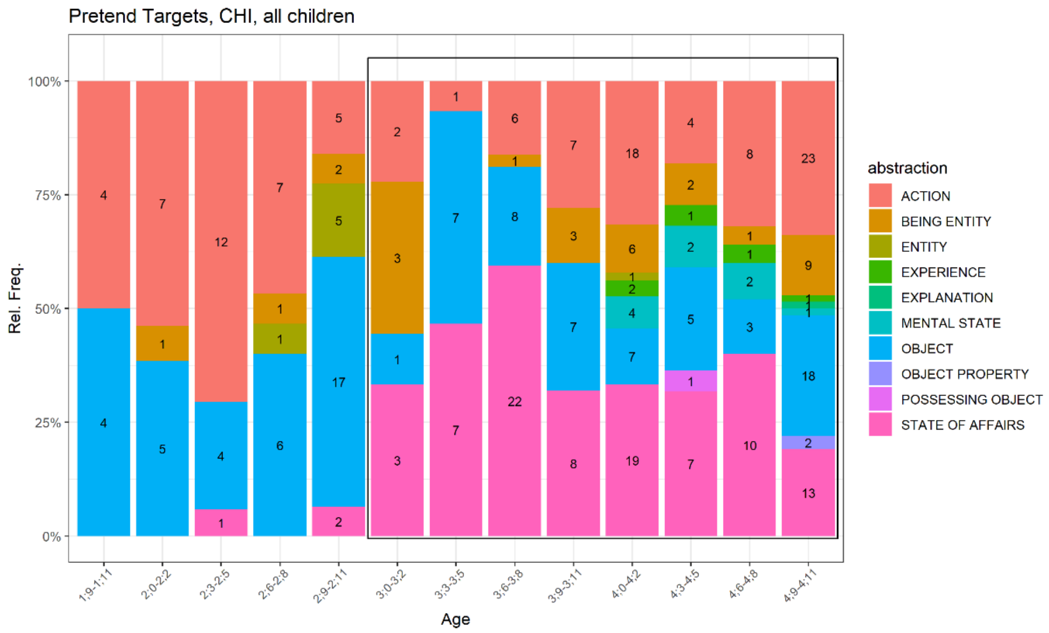


Figure 6.4: Relative frequency of pretend targets for all children in the MC and TC data by age

Overall, then, studying the distribution of pretend targets, we can state that the number of targets becomes more diverse with age. If we look at the TC and MC data together, we also get a statistically highly significant positive correlation between number of pretend targets and age (r = 0.86; p = 0.00019).

So as children grow older, they talk about more different types of pretend targets. In addition, in the MC data, ACTION and OBJECT seem to be the most frequent target categories, whereas the TC data display a much higher rate of STATE OF AFFAIRS pretend targets.

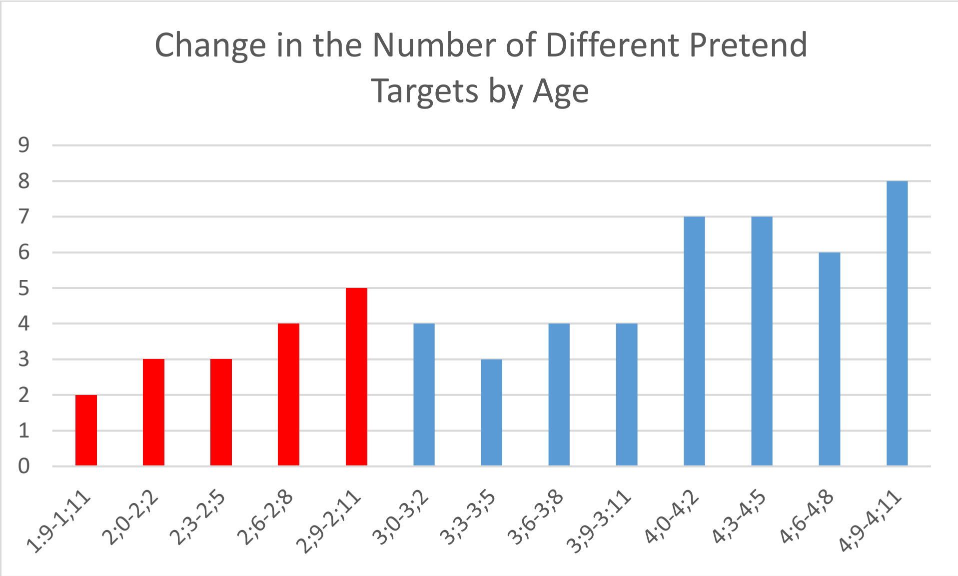


Figure 6.5: Change in the number of different pretend targets by age for the MC CHI (red) and TC CHI (blue)

Does this pattern change when we look at target frequencies sorted by Brown's stages of development? First of all, analysing the relative frequency of pretend targets according to Brown's stages of development only gives us some very general patterns (Fig. 6.6).

What we can see at first glance is that, just as for the data sorted by age, with increasing linguistic complexity of utterances, the range of pretend targets becomes more diverse. In addition, whereas the relative frequency of ACTION decreases, references to OBJECTS seem to increase. Other target categories only have a very low occurrence rate so that we only have a very limited dataset. This holds for PROPERTY, POSSESSION and EXPLANATION (only one data point), EXPERIENCE and MENTAL STATE (only two data points), and ENTITY (only three data points). There are, however, two categories where there seems to be an increase in relative frequency. First, as children's language skills develop and their utterances become more complex, they use BEING ENTITY more frequently. The pattern is even more pronounced when we analyse the development of STATE OF AFFAIRS targets in the CHI corpus. So the higher a child's MLU, the more STATE OF AFFAIRS targets she will use.

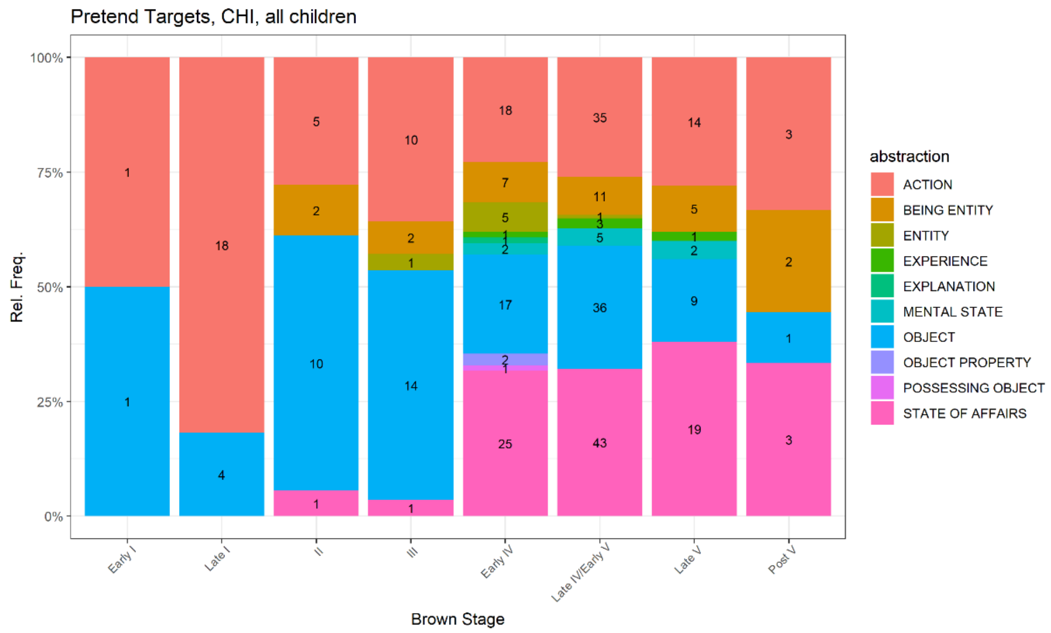


Figure 6.6: Frequencies of pretend targets for all children in the MC and TC data by Brown's stages of linguistic development

At first glance, the change in the number of different pretend targets seems not to be as clear-cut than when we look at age. Indeed, if we examine the changes in number and diversity in more detail, it becomes clear that there is no unidirectional increase, as shown in Fig. 6.7.

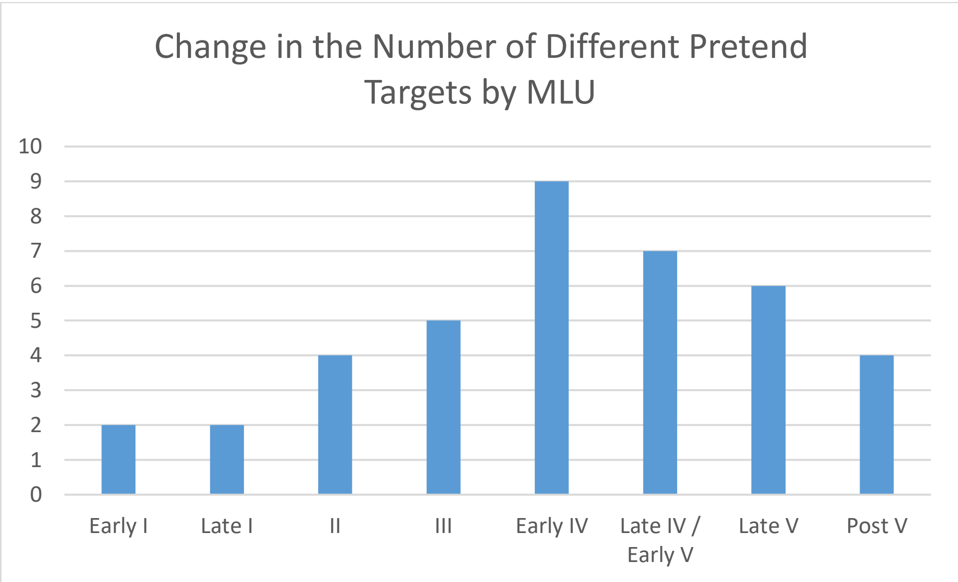


Figure 6.7: Change in the number of different pretend targets by MLU for the CHI dataset

What we can observe is a clear increase from Stage Early I to Stage Early IV. For the subsequent Brown's stages, we observe a decrease in number of different targets, but these also represent the stages for which we have the least data. What we have to keep in mind here, however, is that the MLU data conflate the MC CHI and the TC CHI data, and these might differ internally from each other to varying degrees. To investigate this possibility, let us explore the relative frequency of pretend targets in the MC and TC corpora as a whole.

### 6.1.2 Comparing the Overall Distributions of Pretend Targets in the TC CHI and MC CHI

Fig. 6.8 below illustrates the distribution of pretend targets in the MC CHI vs. TC CHI data. First of all, we see that there are differences in which pretend target categories are most frequent. In the MC, OBJECT is the most frequent pretend target with 42.9%, followed by ACTION with 41.7%. References to non-object ENTITIES (7.1%) are the third most frequent, followed by references to BEING ENTITY (4.8%) and STATE OF AFFAIRS (3.6%) as the fourth and fifth most frequent category.

The distribution in the TC is quite different. There, references to a STATE OF AFFAIRS are most frequent (33.6%). ACTION is the second most frequent category, although with a much lower frequency than in the MC (26% vs. 41.7% in the MC). OBJECT comes third with 23.8%, and BEING ENTITY fourth with 9.4%. The TC pretend targets are also more diverse than the targets in the MC.

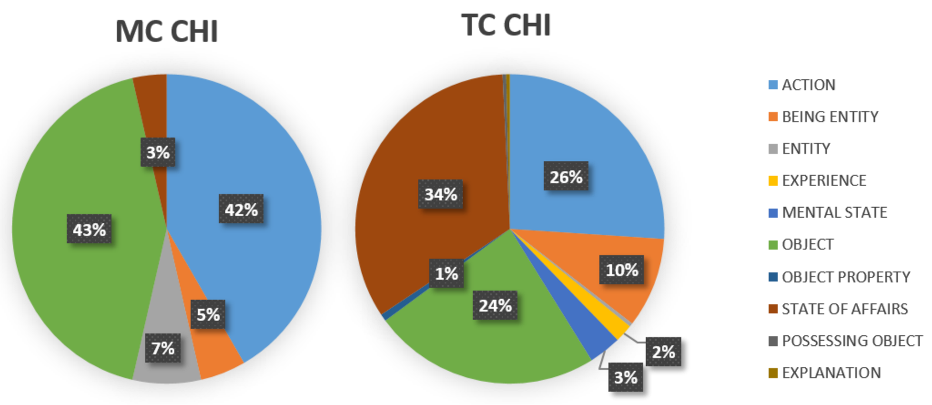


Figure 6.8: Distribution of pretend targets for the children in the MC CHI and TC CHI data

With this in mind, it is interesting that there are some pretend targets that we do not find in the MC but only in the TC. Interestingly, these categories are all related to expressing a perspective on an entity or event. First, these are references to EXPERIENCES and MENTAL STATES. These relate to expressing a perspective in the cognitive domain of the psychological world (see Section 7.3). This can likely be seen in the context of the development of theory of mind, mentalising and perspective-taking. And indeed, we do not find references to pretending experiences in the TC before Age 4;0, and references to pretending mental states before age 4;3. This is also the age span in which most children pass theory of mind tasks and are seen as having developed a complex understanding of others' perspectives (Wellman et al. 2001; see Section 2.3.2). Secondly, talking about OBJECT PROPERTIES and POSSESSING OBJECTS (although the latter only has 1 instance in the TC), as well as EXPLANATIONS also add a perspective on an entity or event in terms of its properties and attributes in the cognitive domain of the material world (cf. Radden & Dirven 2007; see Section 7.2).

These targets still occur very infrequently in the TC, making up only 1.9% (EXPERIENCE) and 3.4% (MENTAL STATES) of all pretend targets, respectively. If we analyse the distribution from their first occurrence onwards, however, their relative frequency rises. If we just consider the relative distributions of pretend targets from age 4;0 to age 4;11, we find that the frequency is slightly higher, with 5.3% for MENTAL STATES and 2.9% for EXPERIENCE, but they still do not make up for a large part of pretend targets.

We also see that the BEING ENTITY category is generally more frequent in the TC than in the MC (MC: 4.8%; TC: 9.74%). As with the MENTAL STATES and EXPERIENCE categories, BEING ENTITY rises in frequency in the TC after age 4. So if we look at its distribution in the age span from 4;0 to 4;11 we find a relative frequency of 10.5%, compared to a frequency of 6.25% for the age span of 3;00 to 3;11. This is interesting as it can be argued that pretending to be somebody or something else also requires more sophisticated theory of mind and perspective-taking skills than other forms of pretending. To pretend to be somebody/something else you metaphorically have to put yourself in somebody else's shoes and take the perspective of the entity that you pretend to be (see also Sections 2.3 and 6.4.2). Following this line of reasoning, it makes sense that, just like the frequency of MENTAL STATES and EXPERIENCE, the frequency of the BEING ENTITY pretend category increases after 4 years of age, as children's theory of mind and perspective-taking capacities have become more sophisticated and complex.

As mentioned above, another type of category that is missing in the MC data are attributions of properties to objects in the context of pretend play. These categories also hardly occur at all in the TC. OBJECT PROPERTY only has two instances in the TC, amounting to a relative frequency of 0.8%, and POSSESSING OBJECT only has one instance, amounting to a relative frequency of 0.4%. Regardless of this very low frequency, it is still noteworthy that they occur at all in the TC and not in the MC. This is especially so given that pretend play involving objects occurs much more often in the MC (41.7%) as compared to the TC (23.8%), with OBJECT being the most frequent pretend category in the MC and only the third most frequent category in the TC. In the context of the development of theory of mind and perspective-taking, this pattern is also quite interesting, as the two instances of OBJECT PROPERTY occur in the age span of 4;9-4;11 and the one instance of POSSESSING OBJECT occurs in the age span of 4;3-4;5. This means that the attribution of properties to objects – or perspectives on objects – also only appears after the emergence of theory of mind and sophisticated perspective-taking capacities. In the next section, we will turn to the MOT data.

### 6.2 Distribution of Pretend Targets in the MOT Dataset

How do the results in the CHI tier compare to those in the MOT tier? The absolute frequency of pretend targets for all mothers in the MC and TC data sorted by age can be found in Fig. 6.9 below.

Again, Fig. 6.9 collapses the data for the MC for *pretend* (1;9 to 2;11) and the data for the TC. Unlike in the CHI data, *pretend* can be found much earlier in the TC MOT tier, so that the TC MOT *pretend* data cover an age span of 2;0 to 4;11. This also explains the drop in frequency starting with age 3;0 because the data from 3;0 – 4;11 only stem from the TC. As with the CHI data, we do not see a clear pattern regarding the overall absolute frequency of *pretend* data. However, in the age span between 1;9 to 1;11 we see a relatively low frequency of *pretend*, with a sharp rise in the age span of 2;0-2;2, just like in the CHI data. In the age span of 2;3-2;8, we see another slight increase in frequency. It then decreases again and slightly increases in the time span of 2;9-2;11. Starting at 3;0-3;2 we have a lower frequency again, as this is the timeframe where we start to only have data for the

TC. In the TC+MC data we therefore first see an increase and some slight fluctuation. However, this pattern does not hold up if we only examine the MC data alone, as can be seen in Fig. 6.10.

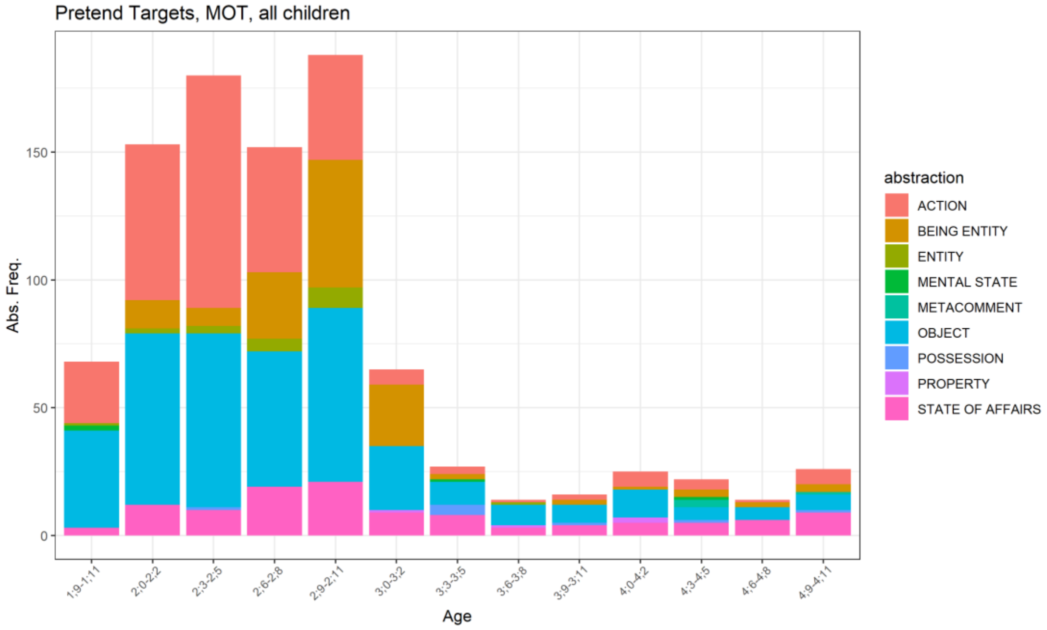


Figure 6.9: Absolute frequency of pretend targets for all mothers in the MC and TC data by age

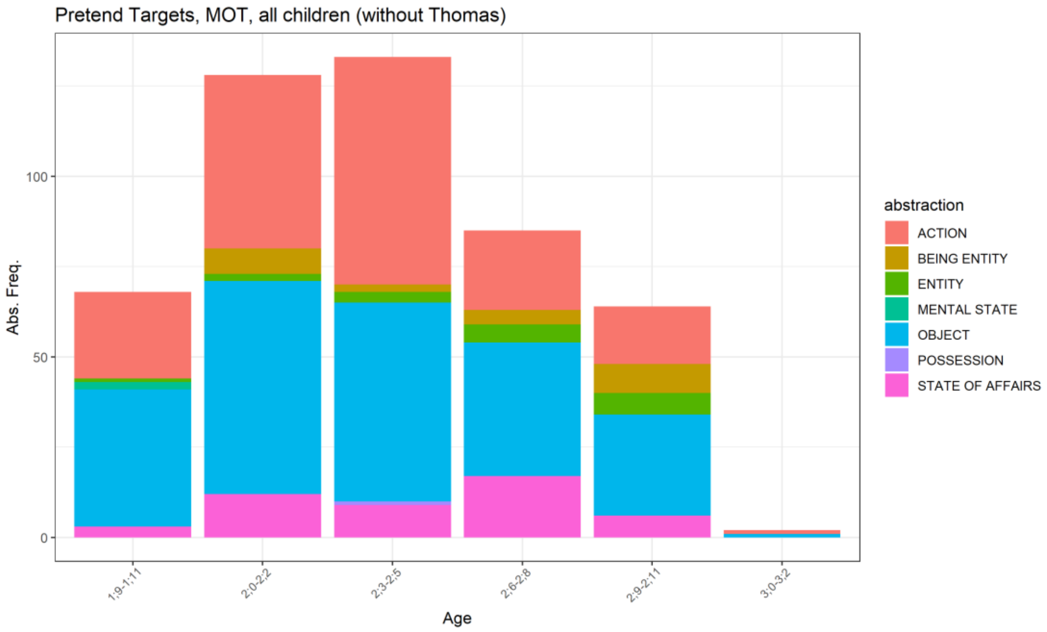


Figure 6.10: Absolute frequency of pretend targets for all mothers in the MC data by age

Therefore, this pattern of only slight fluctuations in pretend targets does not hold for the MC MOT data. In the TC MOT 2-3 data, there is some slight variation (Fig. 6.11).

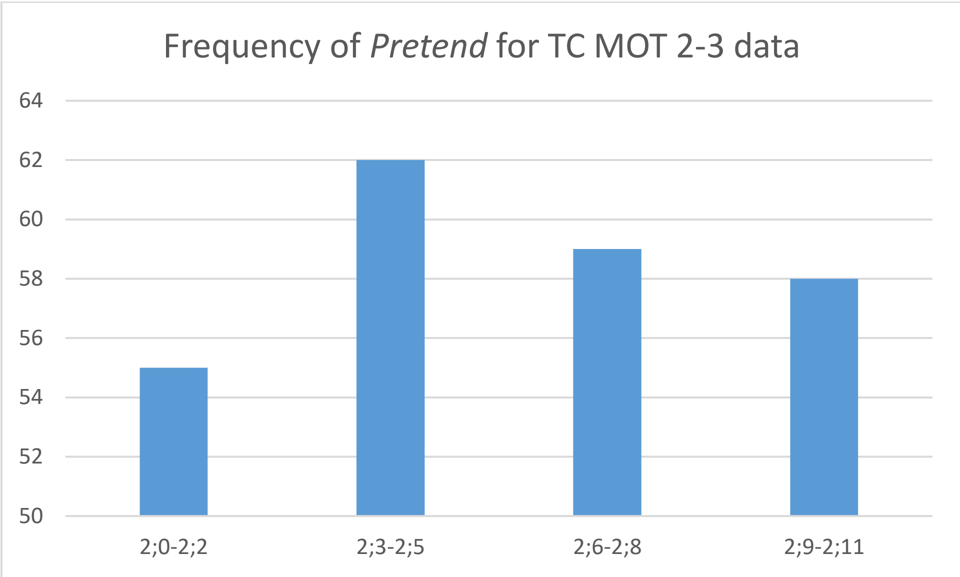


Figure 6.11: Frequency of *pretend* for the TC MOT 2-3 data

As we have seen in Fig. 6.9, the pattern does not change much after age 3;0 in that there are slight fluctuations but no clear progression or increase with age.

Dividing the data by Brown's stages of linguistic development for the MOT tier, the absolute frequencies can be found in Fig. 6.12.

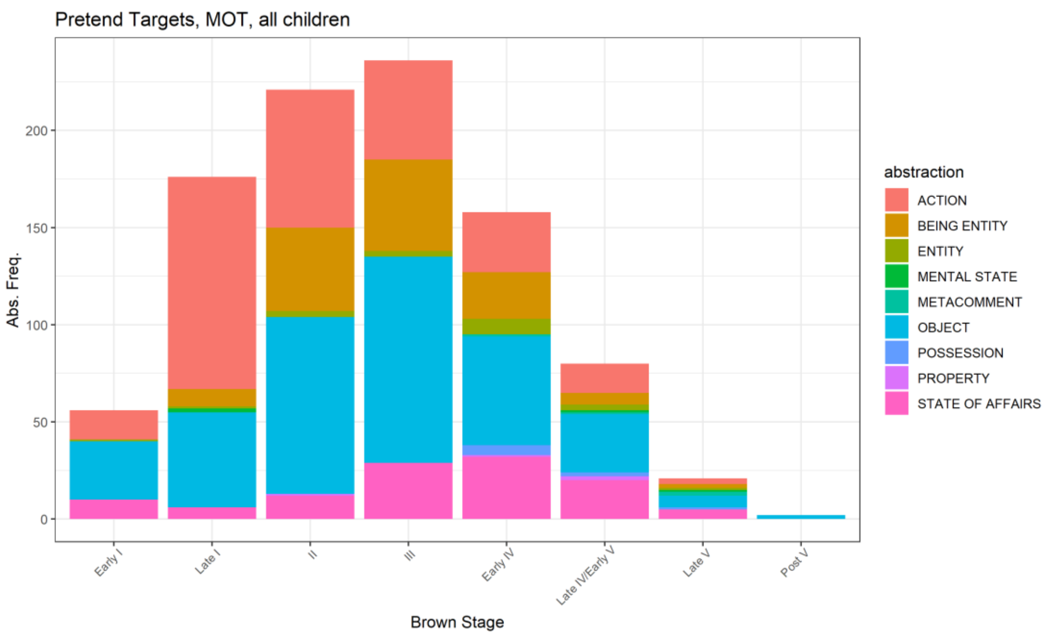


Figure 6.12: Absolute frequency of pretend targets for all mothers in the MC and TC data by Brown's stages of development

To investigate the question of how the relative distribution of pretend targets changes in the corpus, let us have a look at the relative frequency of pretend targets in the MOT data. This analysis will closely follow the one done for the CHI tier in Section 6.1. The distributions sorted by age are displayed in Fig. 6.13.

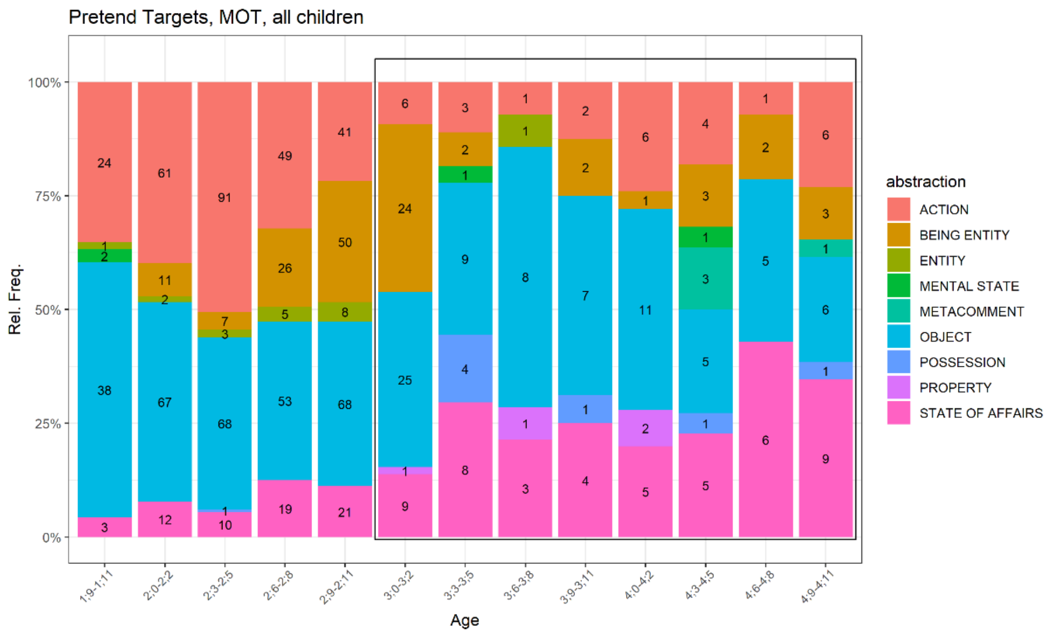


Figure 6.13: Relative frequency of pretend targets for all mothers in the MC and TC data by age

For many of the target categories, there are no clear developmental patterns. However, there are categories for which we can indeed observe statistically significant changes as children grow older. For ACTION, Pearson's test shows a moderate negative correlation that is statistically significant ($r = -0.64$ $p = 0.018$). This means that as children grow older, mothers use relatively fewer ACTION targets. This fits in with the data discussed in Section 6.1, which showed that children show tendencies to increasingly talk about pretend objects (especially in the MC CHI data) and pretend state of affairs (especially in the TC CHI data) as they grow older. It also fits in with the argument that with age children become more active in instructing and negotiating more complex pretend play scenarios that go beyond simple actions. Indeed, for the MOT data, the STATE OF AFFAIRS target category displays a high positive correlation with age that is statistically highly significant ($r = 0.89$; $p = 0.000054$). As children grow older, their mothers use more and more STATE OF AFFAIRS targets relative to other pretend target categories, just as their children do.

We have to keep in mind here, though, that these data conflate the TC MOT and the MC MOT tiers. Moreover, as Thomas' *pretend* trajectory is quite different from those in the MC data, we might expect that Thomas' mother and the mothers in the MC data also differ in their use of *pretend*. The 3;0-4;11 data also only cover the TC MOT data. If we compare the data for 1;9-2;11 and 3;0-4;11, respectively, we find that for some pretend targets developmental patterns with age actually differ quite strongly. For example, the pattern observed for the ACTION target category only holds if we compare the data for the whole age span covered by both corpora. For BEING ENTITY, if we examine the 1;9-2;11 data, mothers' references to BEING ENTITY pretend events rise in relative frequency as children become older. For the 3;0-4;11 TC MOT-only data, on the other hand, we do not find a similar pattern. Because the data for the time span from 3;0-4;11 are only for Thomas' mother, we of course cannot really speak of a general developmental pattern. However, if we look at the MOT data in the age span from 1;9-2;11, we observe that BEING ENTITY starts to rise in relative frequency, but then stagnates in the 3;0-4;11 TC MOT dataset.

Regarding the MOT data, another interesting question is to what extent the diversity of pretend targets changes more generally with age. The distribution can be found in Fig. 6.14.

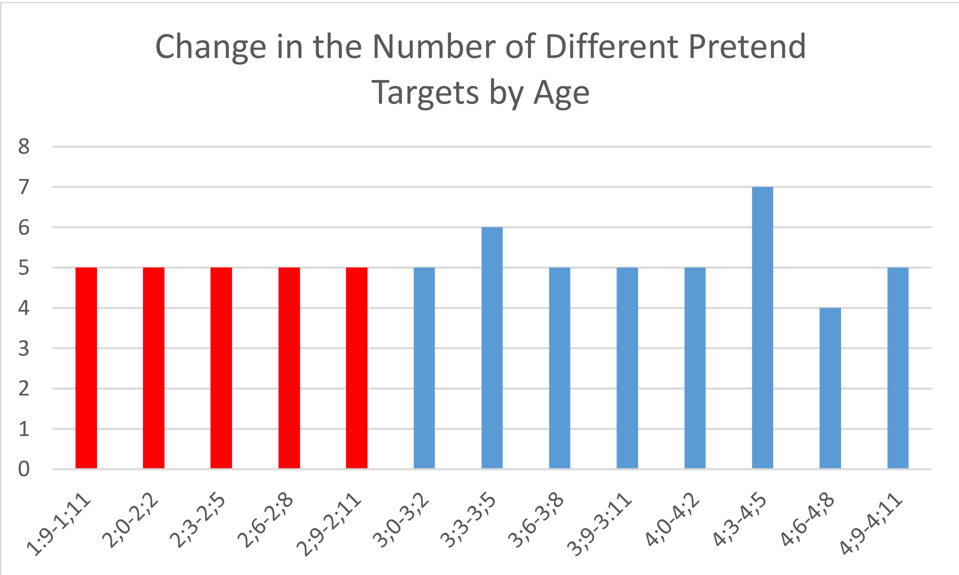


Figure 6.14: Change in the number of different pretend targets by age for the MOT dataset for MOT 1;9-2;11 (red) and TC 3;0-4;11 (blue)

As we can see, in contrast to the CHI data, for the MOT dataset there are no significant changes in the number of different pretend targets evoked with age. Apart from some slight fluctuations, mothers' number of different pretend targets stays quite constant and high.

If we turn to the data sorted by Brown's stages, we also cannot observe many clear-cut changes in the distribution of the data, as shown in Fig. 6.15.

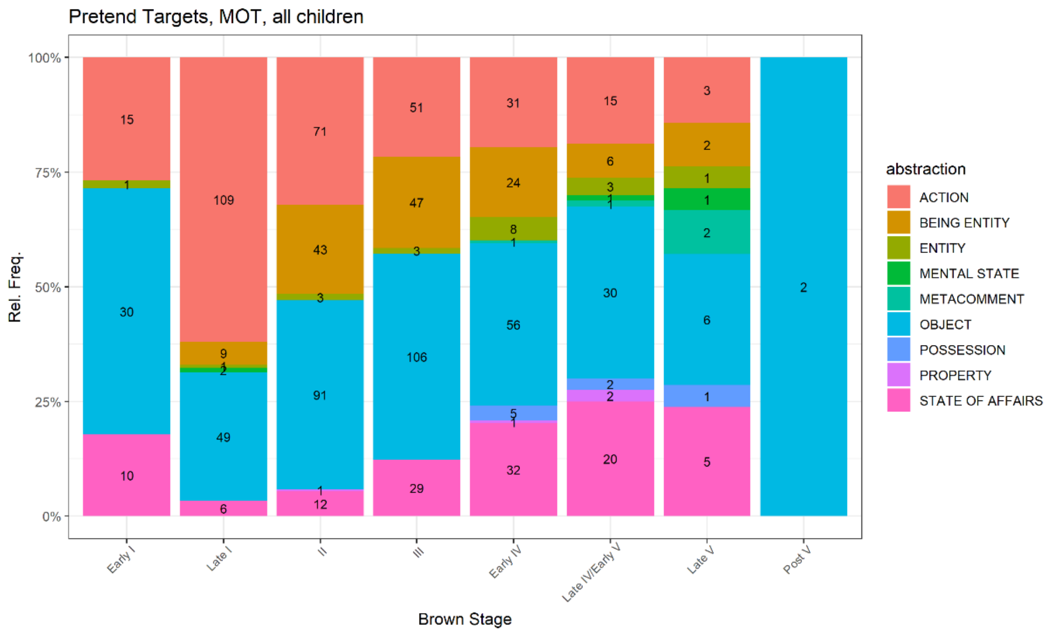


Figure 6.15: Relative frequency of pretend targets for all mothers in the MC and TC data by Brown's stages of development

The only category that has a statistically significant correlation to MLU is that of ACTION (r = -0.77, p = 0.026). To be precise, it has a high negative correlation. This means that, as also observed above, with children's utterances growing in complexity, mothers use less ACTION target utterances.

When we analyse the diversity of pretend targets by MLU, we get the distribution with Brown's stages in Fig. 6.16 below. As we can see, there is no apparent change in the number of pretend targets correlated with the progression of Brown's stages. The only fundamental difference seems to be that for stages Early I to III (median = 5.25) the number of different pretend targets seems to be generally lower than for stages Early IV to Late V (median = 8.33). For Post V, there again are not enough data points because there are only two transcripts.

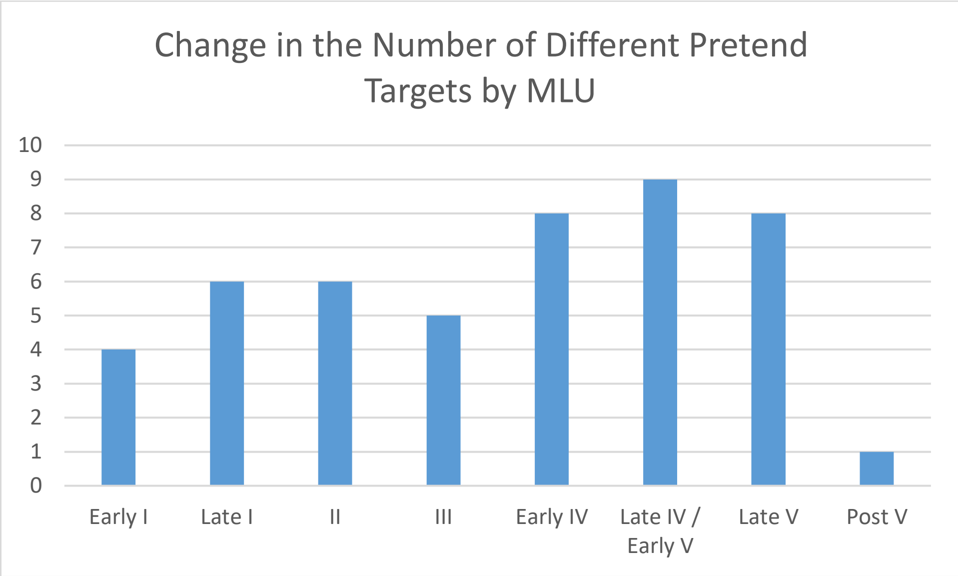

Figure 6.16: Change in the number of different pretend targets by Brown's stages for the MOT data

## 6.3 Comparing MOT and CHI and their Subcorpora

In the previous sections, we have surveyed the distribution of pretend targets in the CHI and MOT data. This section will compare these data with each other. However, it is important to note that there are also differences in the distribution of pretend targets within a given corpus for different time spans. This is why we will also investigate differences in some of the subcorpora of the TC and MC data. We will first turn to the comparison of different age spans in the MOT data (6.3.1). After that, different age spans in the MOT and CHI data will be compared to each other (6.3.2). Section 6.3.3 will compare the TC MOT 1;9-2;11 to the MC MOT data. Finally, Section 6.3.4 will compare the TC CHI and the TC MOT 3-4;11 data. Specifically, this section will present an overview of differences in the overall distribution of relative frequencies of pretend targets (6.3.4.1) with special attention being paid to the categories of ACTION (6.3.4.2), OBJECT, (6.3.4.3) and STATE OF AFFAIRS (6.3.4.4).

### 6.3.1 Comparing Different Age Spans in the MOT Data

As we have seen, the age spans of 1;9-2;11 and 3;0-4;11 can differ in their development of the distribution of pretend targets. For this reason, it also makes sense to analyse the overall relative frequency of pretend targets for these two age groups, respectively.

Fig. 6.17 divides the pretend target data into the two age groups to compare the relative frequency for the younger age group (TC MOT + MC MOT, age span 1;9-2;11) and the older age group (only TC MOT, 3;0-4;11).

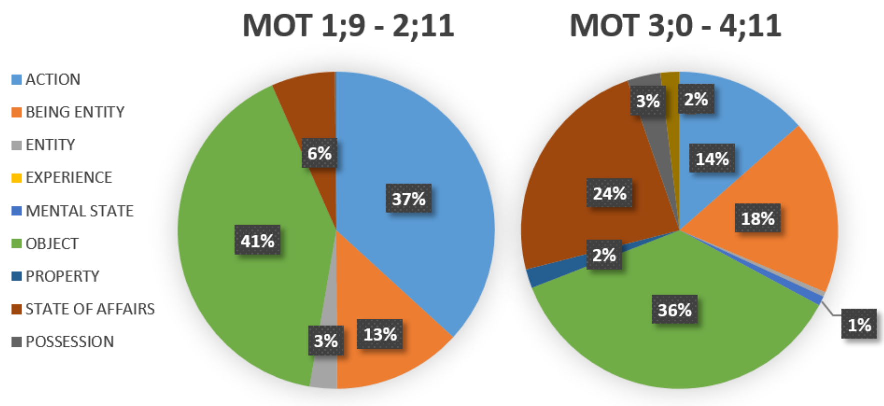


Figure 6.17: Relative frequency of pretend targets for the MOT tier for the age spans 1;9-2;11 (MC+TC) and 3;0-4;11 (TC only)

Two things stand out when comparing these two samples. First of all, there are some significant changes in the relative frequency of pretend targets. Secondly, the TC-only, 3;0-4;11 age span has a much more diverse and varied set of pretend targets. Regarding the first point, the most frequent pretend target category in the age span 1;9-2;11 is ACTION (36.2%), followed closely by OBJECT (35%). The third most frequent category is BEING ENTITY (18.4%), followed by STATE OF AFFAIRS (7.4%) and lastly by ENTITY (3%).

In the age span of 3;0-4;11, OBJECT (31.7%) is the most frequent category, followed by STATE OF AFFAIRS (23.6%), BEING ENTITY (17.8%), ACTION (13.9%) and lastly by METACOMMENT (6.3%). The remaining 6.7% are divided across the categories POSSESSION (3.4%), ENTITY (<1%), MENTAL STATE (<1%) and OBJECT PROPERTY (<1%).

There are some additional conclusions that can be drawn from these observations, apart from the observation of an overall increase in the complexity of pretend play target categories. In the MOT 3;0-4;11 data, there seem to be more negotiations of the elements and actors within a pretend play scene and what they stand for. This holds especially for negotiations about the perspectives and mental stances towards these pretend elements and actions. There also seem to be more instances of broader situational perspectives of pretend play scenes. In the MOT 1;9-2;11 data, on the other hand, mothers still predominantly comment on pretend activities as a whole and the actions and key objects involved in them.

### 6.3.2 Comparing Different Age Spans in the MOT Data and the CHI Data

In some regards, there are clear similarities between the MOT and CHI data and the two age spans. However, there are also differences, as we can see in Table 6.2.

| Pretend Target | MC CHI | MOT 1;9-2;11 | TC CHI | MOT 3;0-4;11 |
|---|---|---|---|---|
| ACTION | 41.7% (2) | 35.8% (2) | 25.7% (2) | 13.5% (4) |
| BEING ENTITY | 4.8% (4) | 12.8% (3) | 9.3% (4) | 17.9% (3) |
| ENTITY | 7.1% (3) | 2.7% (5) | <1% | <1% |
| EXPERIENCE | | | 1.9% (6) | |
| MENTAL STATE | | <1% | 3.3% (5) | <1% |
| OBJECT | 42.9% (1) | 39.6% (1) | 23.4% (3) | 36.2% (1) |
| OBJECT PROPERTY | | | <1% | 1.9% |
| STATE OF AFFAIRS | 3.6% (5) | 8.7% (4) | 33.1% (1) | 23.7% (2) |
| POSSESSING OBJECT | | | <1% | 3.4% (5) |
| METACOMMENT | | | | 1.9% |
| EXPLANATION | | | <1% | |

Table 6.2: Relative frequencies and rankings of pretend targets for MC CHI, 1;9-2;11 MOT, TC CHI, and 3;0 – 4;11 (TC MOT only). The numbers in brackets list the rank in frequency (1-6)

Regarding frequency rankings, we already see some differences between the corpora. If we compare the MC CHI and the MOT 1;9-2;11 data, we find that OBJECT references both occur quite frequently. In fact, they are the most frequent category in both datasets, although the frequency is higher in the MC CHI data (MC CHI: 42.9% vs. MOT 1;9-2;11: 39.6%). ACTION occurs at higher frequency in the MC CHI data than in the MOT 1;9-2;11 data (MC CHI: 41.7% vs. MOT 1;9-2;11:

35.8%). It is the second most frequent pretend target in both datasets. BEING ENTITY is ranked third in terms of frequency in the MOT 1;9-2;11 data with 12.8%, but only fourth in the MC CHI data with 4.8%. Although its overall percentage is not that high, ENTITY occurs much more frequently in the MC CHI data than in the MOT data (MC CHI: 7.1% vs. MOT 1;9-2;11: 2.7%). This makes the category the third and fifth most frequent targets, respectively. STATE OF AFFAIRS, on the other hand, has a much lower frequency in the MC CHI data than in the MOT data (MC CHI: 3,6% vs. MOT 1;9-2;11: 8.7%). In the MC CHI it is the fifth most often occurring target – or rather, the least frequent one –, and in the MOT 1;9-2;11 it is the fourth most frequent.

In terms of construal, we see that the children in the MC construe OBJECTS as integral parts of pretend play situations more often than mothers in the MOT data as well as Thomas in the TC CHI data. This makes sense in the context of the discussion in Section 5.1.2, in which it was established that children start out with object-based pretend activities (cf. Smith 2005; Smolucha & Smolucha 1998: 45; Sachet & Mottweiller 2013).

One other interesting contrast is the sharp difference in the frequency of BEING ENTITY in the MC CHI and MOT 1;9-2;11 data. One possibility is that this could relate to the internal structure of the MOT data. To test this, let us contrast the BEING ENTITY data for the age span of 1;9-2;11 in the MC and TC data. Concerning this category, we find that the number of occurrences in the MC MOT is 7, whereas for the TC MOT data, there are 95 instances in the age span from 1;9-2;11. In terms of percentages, this means that for the TC MOT data, BEING ENTITY has a relative frequency of 27.9%, whereas it only has a relative frequency of 4.1% in the MC MOT data. However, if we compare the MC MOT-only data to the MC CHI data for the category BEING ENTITY, we find that they occur roughly with the same frequency (MC CHI: 4.1%, MC MOT: 4.6%). This means that the strong difference in frequency between the MC CHI data and the MOT 1;9-2;11 data is due to the higher frequency of BEING ENTITY in the TC MOT 1;9-2;11 data.

Overall, we find that the MC CHI data are in some respects much more similar to the MC MOT data than the MC MOT data are to the TC MOT 1;9-2;11 data (Fig. 6.18).

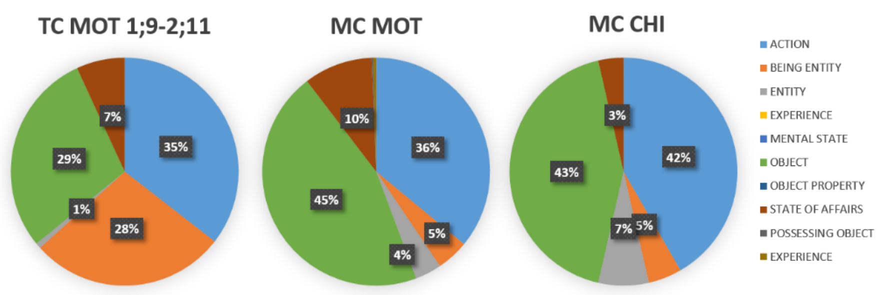


Figure 6.18: Relative frequency of pretend targets for the TC MOT 1;9-2;11, MC MOT and MC CHI datasets

As we can see, MC CHI and MC MOT are similar to each other in the frequency of OBJECT, BEING ENTITY, and ENTITY. However, in terms of ACTION, the MC children tend to use this category more often than the MC mothers, whose frequency of ACTION targets is much closer to that of TC MOT 1;9-2;11. The relative frequency of STATE OF AFFAIRS, on the other hand, is higher in the MC MOT data than in the MC CHI data.

To some degree and in some aspects, the MC dataset supports a relationship between child-directed speech and children's utterances. This is not necessarily a surprising result, but it is still interesting to note that the frequency of some pretend targets seems to be discourse-driven and related to the cooperative construal of pretend situations as opposed to a more general developmental time course. However, as noted, children in the MC do use more ACTION targets, whereas mothers in the MC use more STATE OF AFFAIRS targets.

With the TC MOT 1;9-2;11 data, we cannot make a similar comparison as there are no occurrences of *pretend* in the TC CHI data before age 3;00,25 (*I pretend this be one*; 3-00-25.cha).

### 6.3.3 Comparing TC MOT 1;9-2;11 and MC MOT Data

This section will compare the TC MOT 1;9-2;11 data with the MC MOT data. We have already seen that the BEING ENTITY schema occurs at a much higher frequency in the TC MOT 1;9-2;11 data than in the MC MOT data. This of course also indicates that pretending to be something or someone plays a more prominent role in pretend play situations between Thomas and his mother than in pretend play situations in the MC data. In both the TC MOT 1;9-2;11 and the MC MOT data, the ACTION category occurs with a similar frequency (TC MOT: 35.5% vs. MC MOT: 36%). This makes it the most frequent category for the TC MOT 1;9-2;11 data, but only the second most frequent category in the MC MOT. The first-ranked category in the MC MOT is OBJECT with almost half of all pretend utterances (45.3%). OBJECT, in turn, is the second most frequent category in the TC MOT 1;9-2;11 data. However, it has a a much lower overall frequency (29%) in the TC MOT 1;9-2;11 data compared to the MC MOT data. Following closely behind, the third most frequent category in the TC MOT 1;9-2;11 is BEING ENTITY (27.8%), which, as mentioned above, comes fourth in the MC MOT data. However, with 4.6% it only occurs with $^{1}/_{6}$th of the frequency of the TC MOT 1;9-2;11 data. The STATE OF AFFAIRS category occurs at a more similar frequency in both corpora. It has a relative frequency of 6.9% in the TC MOT 1;9-2;11 data, making it the fourth most frequent category, and a relative frequency of 9.8% in the MC MOT data, making it the third most frequent category. Finally, ENTITY occurs at a percentage below 1% in the TC MOT 1;9-2;11 data, whereas it has a relative frequency of 3.7% in the MC MOT data.

As mentioned, we cannot compare the TC MOT 1;9-2;11 data to Thomas' utterances for the same time span. We also cannot compare the MC CHI *pretend* utterances to TC CHI data for the same time span, because Thomas only starts using *pretend* after the MC CHI sample range of 2 to 3 years. However, we can compare the TC CHI data and TC MOT 3;0 – 4;11 data to see if there are relationships between their linguistic construals of pretend situations and to what extent they differ.

### 6.3.4 Comparing TC CHI and TC MOT 3-4;11

Comparing these two datasets, two things are notable at first sight. First, we find that the TC CHI data have more instances of *pretend* than the TC MOT 3-4;11 data (TC CHI: 265; TC MOT: 207). This means that in the time span after he started using *pretend*, Thomas talks more about pretend play situations than his mother. This is in stark contrast to the MC CHI vs. MC MOT data, where there are many more MOT tier utterances than CHI tier utterances (MC MOT: 434 vs. MC CHI: 84). This pattern not only holds for the accumulated MC data, but also for each child-mother pair in the individual sub-corpora.

The second observation is that the range of pretend categories for TC MOT 3-4;11 and TC CHI is much more diverse in both datasets than in the MC MOT, the MC CHI and also the TC MOT 1;9-2;11 data.

As already discussed in Section 6.1.2, the TC data contain categories not found in the MC data which are of particular interest in the context of children's developing sociocognitive and mentalising capacities. So the fact that we do not find these categories in the MC CHI data indicates a developmental progression regarding both the cognitive capacity and motivation for theory of mind. In addition, it is interesting to note that METACOMMENTS and EXPLANATIONS adopt a viewpoint of a situation that is outside the situation. In the framework of Cognitive Grammar, these METACOMMENTS and EXPLANATIONS can be said to exhibit a high degree of perspective-taking. This is the case because these utterances involve a viewing arrangement that not only consists of what is being conceptualised/pretended, but also the subject of conceptualisation. That is, utterances like these make the conceptualisers/pretenders part of the conceptualisation, thus adopting what Langacker (1987: 128-31) terms an objective construal of a conceptualisation (cf. Pleyer & Schneider 2014: 45).

Examples of pretend metacomments in the TC can be found in examples (2) to (5) below:

(2) MOT: we're doing an awful lot of just pretending aren't we
(4-10-10.cha)

(3) CHI: she's pretending did you know .
(4-10-08.cha)

(4) MOT: well do you know what I think your favorite saying is ?
CHI: no .
MOT: <just pretend> [/] <just pretend> [/] just pretend .
MOT: just pretend .
(4-04-05.cha)

(5) MOT: you're not very good at pretending , are you ? (Becky06b.cha)

As mentioned above, regardless of these general patterns that differentiate the TC data from the MC data, there are also other differences between the TC MOT 3-4;11 and TC CHI datasets when we explore their relative distribution.

**6.3.4.1 Overall Distribution of Relative Frequencies of Pretend Targets for the TC MOT 3-4;11 and the TC CHI Data**

Fig. 6.19 gives an overview of the differences in the relative frequency of pretend targets.

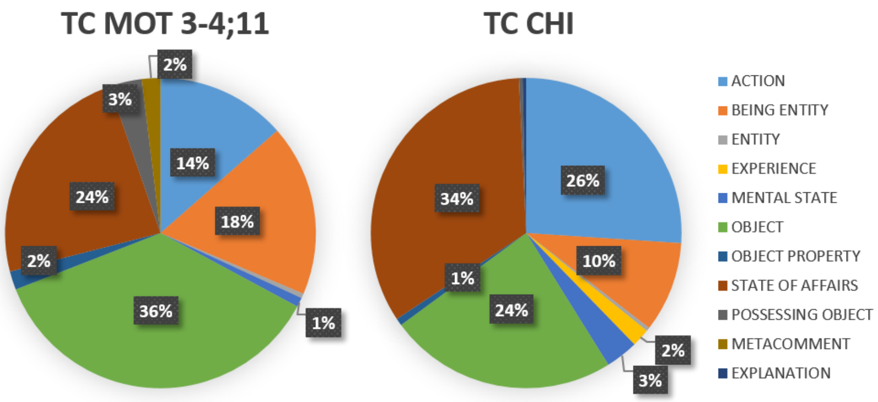


Figure 6.19: Relative frequency of pretend targets for the TC MOT 3-4;11 and the TC CHI data

In the TC CHI data, STATE OF AFFAIRS is the most frequent category with 33.6%. In the TC MOT 3-4;11 data, it is the second most frequent category, albeit at 23.7%, it occurs at a much lower rate. ACTION is the second most frequent category in the TC CHI data with 26%. In the TC MOT 3-4;11 data, ACTION only occurs about half as often, with 13.5%. OBJECT is the most frequent category in the TC MOT 3-4;11 sample with 36.2% and only the third most frequent in the TC CHI sample with 23.8%. The third most frequent category in the TC MOT 3-4;11 data is BEING ENTITY with 17.9%. In the TC CHI data, it is the fourth most frequent pretend target category with 9.4%. The rate of BEING ENTITY in the TC MOT 3-4;11 and the TC CHI data is therefore distinctly higher than in the MC MOT and MC CHI data. As pretending to be someone/something else, as mentioned above, requires increasing perspective-taking and theory of mind capacities, it is to be expected that this kind of pretend play will occur later in development.

The other pretend targets occur at a much less frequent rate, but there are still some interesting observations to be made about them. EXPERIENCE, for example, only occurs in the TC CHI data, and MENTAL STATE also has more instances in the TC CHI data (TC CHI: 9; TC MOT: 2). Regarding EXPERIENCE, 4 of 5 cases are about seeing (e.g., *just pretend you saw*; 04-10-05.cha; *just pretend you didn't see a till*; 04-01-04.cha) and one is about "noticing," i.e. becoming consciously aware of something (*now just pretend you notice Thomas was* [running to a train]; 04-04-05.cha). MENTAL STATES, on the other hand, revolve around conceptual situations such as wanting and remembering as well as complex mental states such as knowing and not knowing (*now just pretend you know I was asleep*; 04-01-01.cha; *just pretend you didn't know*; 04-04-06.cha). Knowing and not knowing as pretend targets are of special interest here. This is because children as young as 18 months can grasp wanting or not wanting something (Repacholi & Gopnik 1997), but the concepts of knowing and not knowing are much more challenging for children as they require the attribution of complex mental states (Bartsch & Wellmann 1995; see Section 2.3.2).

#### 6.3.4.2 ACTION

One specific domain where the TC MOT 3-4;11 and the TC CHI data differ quite strongly is that of ACTION. The ACTION data are similar to the MC data regarding the fact that in the MC, too, children used the ACTION pretend target category more often than their mothers. This fits with the general developmental pattern that much of early and subsequent pretend play can be seen as the extension of action schemas in a pretend play frame (Piaget 1962: 96; Rakoczy 2006: 114; see Section 3.1.2). And not only does Thomas talk about pretend actions more often than his mother, he generally takes a more active role than her in coordinating and instructing pretend play situations that involve actions. 82.4% of his utterances with the pretend category ACTION are imperatives directed at his mother, e.g., *Mummy, just pretend you say help [/] help* (03-10-02.cha) or *just pretend the train was waiting* (4-11-08.cha). In this time span, there are only three instances where Thomas' mother uses utterances with a direct imperative intention. In all three cases, she does not initiate pretend play but instead uses language to coordinate it.

The first two examples of Thomas' mother using imperatives are in the context of talking about an electric plug lying on the ground:

(6) CHI: can I pretend to tread on it ?
CHI: pretending .
MOT: oh , well only pretend .
(04-00-07.cha)

A few lines later, we have the second imperative pretend construction in the same context:

(7) CHI: I will pretend .
CHI: over here .
CHI: <la la la la la> [=! sings] .
MOT: you just pretend .
(04-00-07.cha)[52]

In using the construction *we could pretend that* (4-10-10.cha), the last example, (8), does not contain a direct imperative, but it serves to coordinate and negotiate a pretend play situation. Here, Thomas, aged 4;10.10, and his mother decide to play the *theater game* (4-10-10.cha) where people going to a theatre have to hand in their tickets. It is worthwhile to discuss this exchange in its entirety, as it exemplifies how child and mother negotiate and coordinate a pretend play situation in this context. Thomas is cutting up toy tickets with scissors, and he and his mother are talking about what game they want to play next, using the tickets. But before that, Thomas' mother wants to talk about the other children in Thomas' class, and we can see how they negotiate conversational goals in the form of pretend play.

(8) CHI: <would you> [<] like to come to the Monsters_Inc show ?
MOT: I'd love to come to the Monsters_Inc show but I'd like to know Ayisha's surname first please .
CHI: don't know .
MOT: what other little girls are there in your class ?
CHI: aw I want to play the theater game .
MOT: alright then well I'll tell you what .
CHI: mm .
MOT: if we're playing the theater game does this mean that everyone who comes to the theater has to hand a ticket in ?
CHI: &um .
CHI: yes .

[52] Descriptions in the format "[=! text]" indicate paralinguistic material (MacWhinney 2019a: 71).

CHI: I'll give you a ticket .
MOT: what [>] ?
CHI: and [<] .
CHI: and [>] then I cut it .
MOT: what [<] .
CHI: no .
MOT: oh I see you [>] snip it you punch it do you ?
CHI: xxx [<] .
CHI: yeah .
CHI: xxx .
MOT: well what I was think was we could pretend that everybody who takes a ticket is somebody from your class and you could call out their names
CHI: yeah .
MOT: how about that ?
(04-10-10.cha)[53]

In this conversational exchange, we see how Thomas' mother offers a cooperative solution to both interactants' conversational goals in that she combines Thomas' goal of playing the theatre game with her own goal of talking about the other children in Thomas' class. She does this by construing the pretend play action in a way that includes aspects from both parties' interests. After this exchange, Thomas and his mother then go on to coordinate the game and their respective roles in it.

As this case shows, pretend play is one of the loci of cooperative negotiation and creating a joint perspective for action. However, as we have discussed above, when we consider the whole corpus, we find that Thomas' mother follows his requests for action and tries to interpret them much more often than instructing pretend play herself. Out of the 28 TC MOT 3-4;11 ACTION utterances, more than ¼ (8) are questions. For the TC MOT 1;9-2;11 data, both the percentage and absolute frequency of questions are even higher, at 44.7% or 94 instances. And although Thomas himself does not use the word *pretend* in this time span, his mother does not use imperatives much more frequently (5.3% or 5 instances). As with the previous examples, these utterances can again be seen as coordinative imperatives with less illocutionary force than direct instructions, e.g., *well I think what you've got_to do is look at these pictures and pretend it's a jigsaw* (02-08-29.cha); *you could just pretend to bang* (02-09-11.cha); *well just pretend the tin's open and pretend to take*

[53] The markers "[>]" (overlap follows) and "[<]" (overlap precedes) indicate conversational overlap. For example, in (8) the preceding utterance *MOT: what [>]?* overlaps with the following utterance *CHI: and [<].*

*some out* (02-10-28.cha). The results for the ACTION category therefore mirror the distribution of imperatives and questions in pretend speech acts in the TC in general. Thomas himself generally uses more imperative speech acts, while his mother uses more questions and declarative speech acts (see Section 5.2.5). The distribution of speech act types in the ACTION category therefore support the following observations: In the TC, one important feature of maternal utterances regarding pretend play is the scaffolding of developing pretend play situations, whereas Thomas' utterances – and actions, regardless of whether they are accompanied by pretence-related utterances or not – are more instrumental in constructing pretend play situations.

#### 6.3.4.3 OBJECT

As seen above, the TC MOT 3;0-4;11 data exhibit a higher frequency of the OBJECT pretend target domain than the CHI data. The higher rate of the pretend target category OBJECT is likely due to the fact that there are many cases where it is not entirely clear what kind of object Thomas is pretending something is. In these cases, his mother is often either asking questions about what he is pretending or is commenting on Thomas' pretence to assure and negotiate a shared perspective on an entity. There are many cases where Thomas is explicitly negotiating a shared perspective on an entity (e.g., *just (pre)tend it's honey*; 3-04-01.cha; *well just pretend these were bills*; 4-04-06; *I'm pretending it's a train*; 4-08-08.cha; *just (pre)tend it was real money*, 04-10-06.cha). But even if Thomas introduces a pretend object, sometimes explicitly using *pretend* as a marker, Thomas' mother has to ensure mutual understanding within a pretend play situation. This can be illustrated in examples (9) and (10):

| | | |
|---|---|---|
| (9) | CHI: | I'm eating honey . |
| | MOT: | pardon ? |
| | CHI: | I'm eating honey . [+ SR] |
| | MOT: | you're eating honey ? |
| | CHI: | yeah . |
| | CHI: | (pre)tend this is honey . |
| | MOT: | no . |
| | MOT: | it's marmalade . |
| | CHI: | just (pre)tend it's honey . |

MOT: oh you’re pretending it’s honey ?
MOT: why ?
MOT: are you pretending you’re Winnie_the_Pooh ?
CHI: mhm.
(03-04-01.cha)[54]

(10) CHI: &uh this box is your Smarties over there .
CHI: there’s one there .
MOT: you’re pretending that’s my Smarties, are you ?
MOT: the fridge magnets?
(03-06-00.cha)

Especially when Thomas engages in pretend play without explicit linguistic pretence marking, this often leads to follow-up questions or comments on the nature of an entity in a particular pretend play situation, as in (11):

(11) MOT: this is a curly cable , isn’t it ?
MOT: it stretches .
MOT: can you see ?
MOT: is it like a hosepipe ?
[…]
MOT: no <bring it back to me Thomas , please> [<] .
CHI: I’m just putting out the fire .
CHI: psst@o .
CHI: and hose are here .
MOT: I thought you would turn it into a hosepipe because it’s a bit like a curly cable „ isn’t it ?
CHI: xxx turn it into a curly cable .[+ PI]
CHI: then here it is . .
CHI: big lectric@c plug .
CHI: pfft@o .
CHI: shall the gas go to you ?
MOT: are you pretending it’s a gas pipe now ?
MOT: come on .
MOT: <I think you didn’t> [//] you need to stop playing with it now.
(4-00-07.cha)[55]

As we can see in this excerpt, Thomas uses the cable first as a hose to put out a fire, which he announces without a pretence-indicating verb (*I’m just putting out the fire*), but with accompanying onomatopoeia of the sound made by water coming

[54] The symbol [+ SR] marks self-repetition.
[55] “@o” is used to mark onomatopoeia; “[+ PI]” is used to partially intelligible utterances; “@c” marks a child-invented form.

out a hose (*psst@o*). He then changes the pretend function of the object. Again this is not marked by a pretence-indicating verb, but by onomatopoeia, this time of gas going through a pipe (*pfft@o*) and a direct question within the pretend play frame (*shall the gas go to you?*). He thus extends an action schema to a pretend context, with the schema then being interpreted and linguistically negotiated by his mother. In cases like these, where Thomas' pretence intention regarding an object is not always explicitly marked, Thomas' mother uses comments or questions like *are you pretending it's a gas pipe now?* as devices that coordinate and establish shared perspectives. Generally, pretend play is often accompanied by onomatopoeia and sound symbolism both by children and caregivers (e.g. Farver 1992; Lillard & Witherington 2004; Nakamichi 2015; Creaghe et al. 2020). Thomas therefore does use some cues consistent with pretence activity. However, his mother still explicitly marks the activity as a shared pretence perspective and linguistically negotiates what kind of pretend activity is taking place.

Overall, these examples illustrate one reason why there is a higher frequency of the OBJECT pretend target category in the TC MOT 3-4;11 data.

#### 6.3.4.4 STATE OF AFFAIRS

STATE OF AFFAIRS is more frequent in the TC CHI data than in the TC MOT 3-4;11 data. However, it is still the second most frequent category for the TC MOT 3-4;11 data. Let us look at an example:

| | | |
|---|---|---|
| (12) | MOT: | I am being a nice lady , Thomas . |
| | MOT: | because if I give you too many strawberries and you have a poorly tummy you'd be crying and saying oh Mummy not a nice lady. |
| | MOT: | she gave me all those strawberries and my tummy hurts now. |
| | CHI: | my tummy hurts now , Mummy . |
| | CHI: | 0 [=! makes a noise] . |
| | MOT: | did you enjoy your breakfast ? |
| | CHI: | Mummy , 0i [*] 0am [*] just telling 0you [*] about lots_of strawberries in my tummy . |
| | CHI: | 0 [=! makes a noise] . |
| | CHI: | I'm poorly . |
| | MOT: | you're pretending you've got lots_of strawberries in your tummy and you're poorly now , are you ? |
| | (03-05-03.cha) | |

In this example, Thomas again employs an action schema based on a pretend state of affairs without explicitly marking it as pretend. He instead initiates the pretend play situation by enacting a hypothetical state of affairs introduced to the common ground by his mother with an if-clause (*because if I give you too many strawberries….*). He performs a sociodramatic role-play pretend act by making noises as if hurting and through verbalisation (*my tummy hurts now, Mummy*). What is especially interesting about his verbalisation is that it makes use of the process of resonance activation and interactive alignment (e.g., Pickering & Garrod 2004; Brône & Zima 2014; Du Bois 2014) by repeating part of his mother's counterfactual utterance. When this does not succeed he explicitly appeals to the conversationally introduced common ground of a counterfactual situation (*Mummy , 0i [*] 0am [*] just telling 0you [*] about lots_of strawberries in my tummy*). Here, Thomas engages in metacommunication, negotiating a shared perspective on the pretend play event he is enacting. After this metacomment, he goes back and repeats his role-play enactment, again through noises and verbalisation. Again, in his pretend enactment Thomas shows resonance activation and alignment by lexically aligning his utterance with his mother's word choice in a previous utterance (MOT: *…you have a poorly tummy…*; CHI: *I'm poorly*). Whereas Thomas uses enactment and role-play to initiate the pretend play situation his mother uses a STATE OF AFFAIRS pretend utterance to establish and make explicit the pretend play situation once she has understood Thomas' pretend action schema, connecting her utterance to his through resonance activation and alignment (*you're pretending you've got lots_of strawberries in your tummy and you're poorly now , are you ?*).

### 6.4 Pretend Targets, Perspectivation and Cognitive Construal

This section will analyse in more detail two pretend target domains in the corpus that are of special interest from the viewpoint of perspectivation, perspective-taking and construal. One is that of STATE OF AFFAIRS, which is closely related to aspects of cognitive construal. In particular, it is based on the cognitive capacity for conceptual blending. In Section 6.4.1, I illustrate the larger context of pretend utterances with the target category STATE OF AFFAIRS within a longer stretch of conversation using the conceptual blending framework. For this, transcript 03-09-

03.cha will be analysed in in more detail. In Section 6.4.2, I inspect another particularly frequent pretend target category that makes use of very complex capacities of perspective-taking, namely that of pretending to be someone or something else, a category I have termed BEING ENTITY.

### 6.4.1 Qualitative Analysis of STATE OF AFFAIRS Pretend Situations

In this transcript, Thomas and his mother are having breakfast, and they have conflicting interactional goals. Thomas wants to play whereas his mother wants him to eat breakfast. What examining this longer stretch of conversation does is show how Thomas and his mother are trying to negotiate perspectives on their interaction, one based on action in the real world (eating breakfast), and the other adopting a perspective in which eating breakfast is part of a pretend play situation (being a fireman). Both of them try to establish a dominant perspective on the situation and subsequently establish a cooperative, coordinated perspective that encompasses both interactants' goals. Pretend utterances like the one in this transcript, therefore, have to be seen in this larger context of negotiating and establishing perspectives.

Relatively at the beginning of the transcript, Thomas announces that he would like to play with his mother later.

| | | |
|---|---|---|
| (13) | CHI: | play together later . |
| | MOT: | you and Purdie ? |
| | CHI: | no . |
| | CHI: | me and me and you . |
| | […] | |
| | MOT: | well let's have our breakfast first then we can play . |
| | CHI: | no . |
| | (03-09-03.cha) | |

Thomas then takes his toy fire engine and puts it on the table, instructing his mother on what she should do. In this way, he tries to initiate a play situation.

| | | |
|---|---|---|
| (14) | CHI: | and Mummy, you have_to say "oh dear, what (h)as happened here"? |
| | CHI: | haven't you ? |
| | MOT: | Thomas , are you going to go and sit in your chair please ? |
| | CHI: | and you could hear the sounds and you think it's 0an [*] ambulance. |
| | CHI: | nee_naw@o . |

| | |
|---|---|
| CHI: | nee_naw@o . |
| […] | |
| MOT: | well I'm going to get breakfast ready now . |
| MOT: | would you like some cornflakes or Rick_Krispies ? |
| CHI: | excuse me . |
| CHI: | I'm too busy putting the fire out . |
| (03-09-03.cha) | |

Here, we can clearly see Thomas applying an action schema and trying to get his mother to coordinate and participate in the pretend play situation. He is adopting the role of a fireman and using sociodramatic play to establish a certain perspective on the situation, which he wants his mother to adopt. He also uses a gerund construction in *I'm too busy putting the fire out*. This conceptualises Thomas as being engaged in a specific activity. While the cognitive functions of gerunds are highly complex (see, e.g. Kleinke 2002; Fonteyn 2019 for discussion), one important feature of the gerund construction used by Thomas is that it construes the entirety of the specific activity he is engaged in as a combination of processual and nominalised aspects, which leads to a reification of the event (cf. Langacker 1991: 31ff., see also Kleinke 2002). Kyratzis (2009) has shown that children often use 'perspective statements' featuring progressive and gerund constructions like this in negotiations and conflicts over interactants' goals. For example, one of the examples Kyratzis (2009: 45-48) discusses is 29-month-old Marcus, who wants to prevent other children from taking his tools by saying *It's my tools. That's for working. That for working. It's bang, bang*. In these cases, the gerund serves a generic reference function with a prototypically atemporal schematic meaning (Fonteyn 2019: 78-84). A similar strategy is used by Thomas here, as he portrays himself in an involved perspective in the nominalised, reified action, with the implication that he is therefore unable to align with his mother's interactional goals. This also involves his onomatopoetic rendition of the sound of an ambulance (*nee_naw@o*). In this segment, Thomas' mother keeps her focus on the real-world situation, using indirect requests (*Thomas , are you going to go and sit in your chair please?*), declarative statements regarding her actions using the progressive (*well I'm going to get breakfast ready* *now*) and questions related to real-world action schemas (*would you like some cornflakes or Rick_Krispies* ? [56]).

Both interactants then try to establish their perspective as the dominant perspective to guide future action:

| | | |
|---|---|---|
| (15) | CHI: | I'm just doing [*] a game . |
| | MOT: | Thomas , I've asked you a question . |
| | MOT: | would you like cornflakes or Rick_Krispies ? |
| | CHI: | no thank you . |
| | MOT: | no thank you ? |
| | CHI: | no . |
| | MOT: | just a jam sandwich ? |
| | CHI: | yeah . |
| | MOT: | and when your food comes you've got_to move the fire engine . |
| | CHI: | okay . |
| | MOT: | alright ? |
| | (03-09-03.cha) | |

Here, Thomas adopts a meta-perspective on the ongoing situation, classifying it as a game. In the terms of Cognitive Grammar, Thomas adopts a restricted viewing frame, using a progressive construction to stress the dynamic, ongoing nature of the pretend play action he is actively involved in (*I'm just doing [*] a game*) (cf. Cook-Gumpertz & Kyratzis 2001; Kyratzis 2009). In addition, his metacomment on the situation involves the lexical item *game*, which serves as a meta-classification of the situation. He therefore tries to establish the dominant perspective of *game* as an action-guiding concept. His mother, however, stays on the real-life level and also addresses the situation with a metacomment regarding their ongoing interaction (*Thomas, I've asked you a question*) and then repeats her question (*would you like cornflakes or Rick_Krispies ?*) to achieve her conversational goals. By repeating her question, Thomas' mother succeeds in getting her conversational goal across and Thomas steps out of the pretend play frame and answers her question (*no thank you*). Following this, they negotiate and ensure mutual understanding through back and forth feedback.

[56] In the recording, Thomas' mother actually says *Rice_Krispies*, so this seems to be a transcription error.

(16) CHI: and they say "oh dear , what (h)as happened here" ?
CHI: nee_naw@o .
CHI: nee_naw@o .
CHI: 0 [=! hissing noise] .
MOT: is it an ambulance ?
CHI: it was a fire engine .
(03-09-03.cha)

Thomas then steps back into the pretend play frame and continues playing with his fire truck, commenting on the pretend action and again enacting it with onomatopoeia. His mother, after successfully getting Thomas to share her real-life perspective to communicate about breakfast, now accepts Thomas' pretend play action as a valid perspective. She demonstrates this through a metaquestion about objects in the pretend play situation. Thomas then continues to verbally elaborate on the progress of the pretend play situation and enacts it with onomatopoeia, for example, hissing to demonstrate fire. His mother follows up with questions for clarification. Through this, she helps Thomas develop the unfolding pretend play situation. Thomas then tries to draw his mother into the pretend play situation through directives and imperative statements directing and establishing joint attention (*Mummy, look what's happening .... Mum*). With his attempts of drawing her into the pretend situation, he also metaphorically acts as a stage director, using imperative constructions requesting the performance of an action schema to get his mother to participate in the pretence actively instead of only on a meta-level (*Mummy say "don't forget your hose"*). After pretend playing with the fire truck first goes into a different direction, Thomas again reminds his mother to tell the Fireman that he forgot his hose.

(17) MOT: I suppose he needs to know before he goes to fight the next fire (be)cause he can't fight a fire without a hose , can he ?
MOT: hopefully he (h)as got his mobile phone with him and I can ring him up .
CHI: and he did .
MOT: 0 [=! ringing noises] .
CHI: hello ?
MOT: hello ?
MOT: is that Fireman_Sam ?
CHI: yes .
MOT: Fireman_Sam , I'm terribly sorry but you left your hose pipe there and it's just lying in the road .

MOT: I thought you would need to know before you had to fight anymore fires .
(03-09-03.cha)

Here again we see that this pretend play situation simultaneously exists in two dimensions, and that both interlocutors can step out of the pretend play frame to negotiate the situation on a meta-level. We see this especially on the level of pronouns. At first, Thomas' mother talks about Fireman_Sam using the third person singular pronoun "he" (*I suppose he needs to know before he goes to fight the next fire (be)cause he can't fight a fire without a hose , can he ? […] hopefully he (h)as got his mobile phone with him and I can ring him up*).

In this segment of the interaction, which is in a way outside of the pretend play frame, Thomas adopts the same metaperspective in his answer (*and he did*). Mother and child then switch back into the enactment/role-play pretend frame. Thomas' mother uses onomatopoetic ringing noises and then within the pretend play frame calls Thomas/Fireman Sam, who answers within the BEING ENTITY role as Fireman Sam. This is also indicated by the switch from third person singular pronoun forms to the second person singular pronoun *you* (*Fireman_Sam , I'm terribly sorry but you left your hose pipe there and it's just lying in the road .[…] I thought you would need to know before you had to fight anymore fires*).

Both agree within the pretend play frame that Fireman Sam will come back to collect the hose. Thomas' mother then goes back to integrate her as of yet not fully satisfied interactional goal into the pretend play frame. That is, she wants Thomas to continue eating breakfast and tries to achieve this by blending it into the pretend frame.

(18) MOT: are you going to come back and collect it ?
CHI: yeah .
MOT: well I'll make you a jam sandwich and you can have that while you're coming .
CHI: right .
(03-09-03.cha)

Negotiations of pretend play situations are clearly very complex endeavours as both children and caregivers try to establish and integrate different perspectives on the situation. Cognitively, these processes of dynamic meaning construal can be captured quite well by blending theory (e.g., Fauconnier & Turner 2002). This will be the focus of the next section.

### 6.4.1.1 Pretend Play and Conceptual Blending

Negotiations of pretend play situations can be described in terms of conceptual integration/conceptual blending of mental spaces (Fauconnier & Turner 2002). In blending theory, mental spaces are small conceptual packets. They are constructed dynamically, 'online' in interaction and cognitive processing. Each mental space contains a multitude of conceptual elements. Their structure derives from contextual and linguistic cues made salient in interactive scenarios. In addition, they draw on cognitive models and frames, and other stable representations of conceptual knowledge stored in long-term memory (cf. Pleyer 2012a: 292-293).

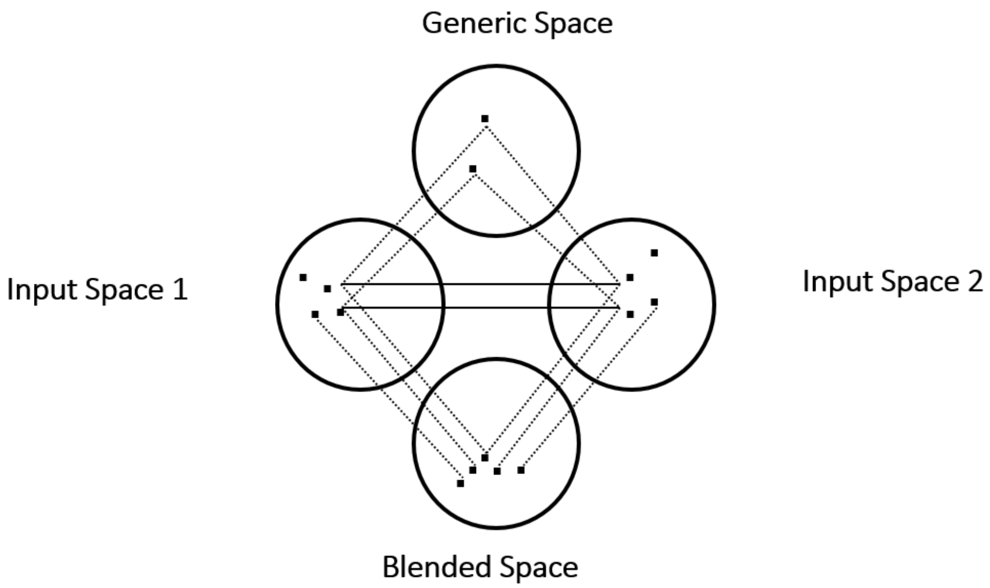


Figure 6.20: A mental space/conceptual integration network

In blending theory, this is called the generic space. For example, the lexical item *buy* functions as a space builder that sets up a mental space involving conceptual roles such as BUYER, SELLER, GOODS, etc. These conceptual roles are drawn from the commercial event frame that is stored in long-term memory (cf. Pleyer 2017b: 184-186). In an unfolding discourse, mental spaces are dynamically set up, modified, and connected to each other. Importantly, different mental spaces can be conceptually integrated yielding a new, blended space that contains conceptual elements from both input spaces that function as its source (Fig. 6.20).

Blended spaces can also contain new meaning elements that arise out of the blend. For example, the utterance *my doctor is a butcher* represents a blend of two different mental spaces, a doctor mental space and a butcher mental space. These become integrated, and the blended space possesses features from both spaces, a doctor acting like a butcher, and a new element, namely that if a doctor acts like a butcher they are a bad doctor (cf. Kövecses 2010: 313-315).

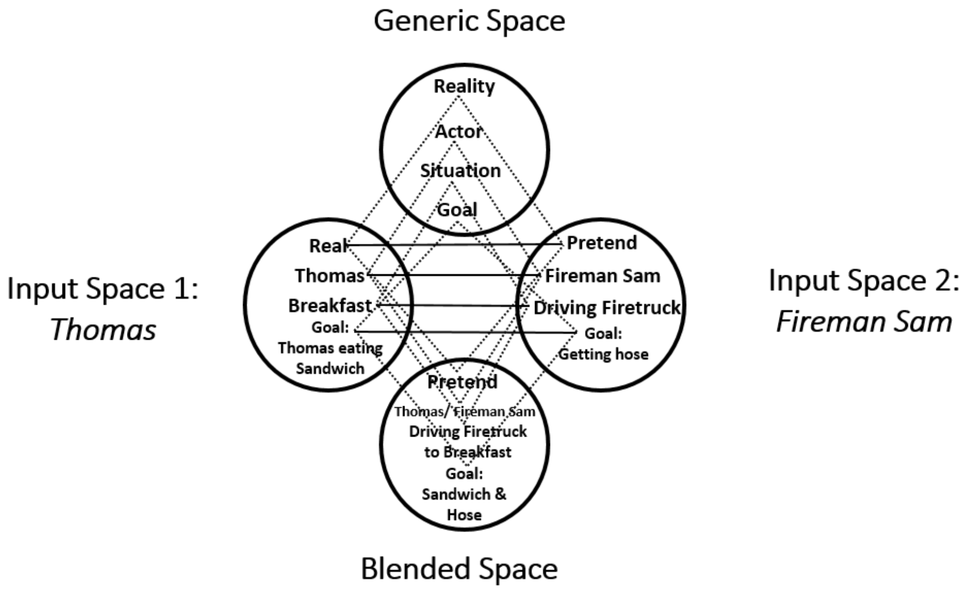


Figure 6.21: Blended space for the utterance *well I'll make you a jam sandwich and you can have that while you're coming*

In the blended space created by Thomas' mother through the utterance *well I'll make you a jam sandwich and you can have that while you're coming*, we have two input spaces: the real-world mental space in which Thomas is supposed to eat a jam sandwich for breakfast, and the pretend play mental space in which Fireman Sam is going to collect the hose he forgot. Her utterance can be seen as an updating of previous blended spaces, in which there is one input space of Thomas acting, and another input space of Fireman Sam's actions in a pretend scenario. In this blended space, features from both input spaces are conceptually integrated, yielding a blended space in which Thomas is pretending to be Fireman Sam through his actions. In the blended space for *well I'll make you a jam sandwich and you can have* *that while you're coming* it is Thomas pretending to be Fireman Sam who is supposed to be eating the sandwich. Fig. 6.21. represents the so-called conceptual integration network for this blend:

As we can see in Fig. 6.21, both input spaces draw from stored frame knowledge and derive roles such as the REALITY frame, ACTOR/AGENT, a SITUATION frame, and a GOAL frame from the generic space. In input space 1, these roles are filled with the values of *real* for the REALITY frame, *Thomas* for the ACTOR/AGENT slot, *breakfast* for the SITUATION frame and *Thomas eating sandwich* as the GOAL frame. In input space 2, on the other hand, the REALITY frame slot is filled with the value *pretend*, the ACTOR/AGENT slot with the value *Fireman Sam*, the SITUATION frame with the value *driving a firetruck*, and the GOAL frame has the value *getting a hose*. In the blended space, the REALITY frame takes over the pretend value from input space 2. The ACTOR/AGENT slot draws from both input spaces, yielding Thomas being Fireman Sam. The SITUATION frame also combines values from both input spaces, yielding the combined situation of Thomas/Fireman Sam driving his fire truck to the breakfast location. Finally, the GOAL frame also draws on both input spaces, resulting in the combined goal of Thomas/Fireman Sam driving to get his hose and also eat a sandwich. As this analysis shows, conceptual integration networks can be dynamically set up to blend and negotiate different perspectives and goal-driven scenarios to yield a unified, integrated blended space representation that can be introduced into the discourse as an action-guiding perspective.

As discourse unfolds, perspectives are negotiated, changed and can also be reintroduced. For example, as the interaction in transcript 03-09-03.cha progresses, Thomas/Fireman Sam arrives at his destination and retrieves his hose. However, his mother tells him

(19) MOT: you raced along so quickly (.) that I haven’t made the sandwich yet .
(03-09-03.cha)

Instead of waiting for the sandwich, Thomas/Fireman Sam decides to put out another fire:

(20) MOT: so there is another fire somewhere ,, is there ?

CHI: yeah .
[…]
MOT: well you go and do the fire and don't worry about the sandwich .
MOT: my little boy Thomas will eat the sandwich instead, Fireman_Sam .
(03-09-03.cha)

Here we see that Thomas' and his mother's interactional goals clash again. Within the pretend frame, Thomas wants to continue to have Fireman Sam put fires out, whereas his mother wants Fireman Sam to eat a sandwich. In order to satisfy her higher-order interactional goal, Thomas eating a sandwich, she introduces this goal into the pretend play frame: *my little boy Thomas will eat the sandwich instead, Fireman_Sam*. In terms of conceptual integration, *my little boy Thomas* becomes part of the pretend play frame. Thomas eating a sandwich was first changed into the blend of Fireman Sam eating a sandwich, but in order to satisfy this interactional goal, Thomas' mother uses a new construal in which Thomas himself becomes part of the blended space. In interaction, blended spaces therefore can serve as input spaces to new blended spaces that reflect the unfolding discourse and the negotiation of discourse goals (Ehmer 2011).

#### 6.4.1.2 Pretend Play and the Negotiation of Blended Perspectives in Interaction

As my analysis in terms of conceptual blending has shown, Thomas and his mother are negotiating and trying to establish as dominant their contrasting perspectives using the process of conceptual blending. What is important is that this is a dynamic, unfolding process, which is made evident when we follow the course of the interaction in the transcript. As shown above, Thomas' mother tries to introduce a blend that achieves her interactional goal of having Thomas eat his sandwich. However, the interaction takes a turn that prevents Thomas' mother from achieving her interactional goal:

(21) CHI: Mummy , 0do [*] you know where the fire is ?
CHI: on your sandwich .
MOT: is it ?
CHI: look .
CHI: oh .

| | |
|---|---|
| CHI: | xxx . |
| CHI: | nee_naw@o . |
| CHI: | 0 [=! hissing] . |
| CHI: | it's [*] got all [*] water on it . |
| MOT: | oh . |
| MOT: | on the sandwich ? |
| CHI: | yeah . |
| MOT: | oh dear . |
| MOT: | that's not very good ,, is it ? |
| CHI: | you (h)ad better dry it off , Mummy . |
| MOT: | do you think Daddy would like a sandwich ? |
| CHI: | not all wet one . |

(03-09-03,cha)

Thomas steps out of the pretend play frame here, signalled by addressing his mother as *Mummy* and asks a metalevel question about the location of the fire. The question here is a rhetorical question, used to coordinate and ensure joint attention toward the location of the fire and the establishment of a shared perspective on the situation. Thomas then puts the fire on the sandwich out, enacting this with the use of onomatopoetic hissing to symbolise the sound of the hose. He then makes another metacomment *it's [*] got all [*] water on it.* Regarding conceptual integration, he creates a new blended space in which the sandwich is the location of a fire that has been put out and is therefore wet. After his mother responds, and therefore validates the shared perspective and the blended space introduced by Thomas, he tries to draw his mother back into the pretend frame and enlist her as an actor in it through directives: *you (h)ad better dry it off, Mummy*. Thomas' mother then tries to step out of the pretend frame and back into the real world frame and change the topic: *do you think Daddy would like a sandwich?* However, with his reply *not all wet one*, Thomas insists on his pretend play construal of the sandwich being wet. Thomas' mother still wants him to eat the sandwich, but Thomas insists on his construal, in the process adopting the role of Fireman Sam again:

| | | |
|---|---|---|
| (22) | CHI: | I can't eat that one (be)cause it's all soggy . |
| | MOT: | there you are . |
| | CHI: | from my hose . |
| | MOT: | there you are . |
| | CHI: | ha . |
| | CHI: | no that isn't . |

CHI: what's this ?
CHI: xxx .
CHI: don't want it .
CHI: I 0will [*] go back home .
MOT: okay .
MOT: bye bye , Fireman_Sam .
MOT: you go without anything .
CHI: I 0will [*] be on the fire station (be)cause there's lots_of room for me .
(03-09-03,cha)

That this is Fireman Sam speaking is indicated by Thomas' use of pronouns: *my hose, I 0will [*] go back home, I 0will [*] be on the fire* station. Thomas' mother first tries to give Thomas the sandwich (*there you are*), but Thomas refuses and, as Fireman Sam, says he will go home. This is acknowledged by his mother by saying goodbye to Fireman Sam: *okay*. *bye bye, Fireman_Sam* . She still comments on the fact that Fireman Sam does not take the sandwich with him (*you go without anything*). But Thomas does not reply to this. And with this, the Fireman Sam pretend episode is over. However, Thomas' mother still has not achieved her interactional goal, as Thomas first asks for other things to eat and still refuses to eat his sandwich.

(23) MOT: you asked for a jam sandwich , Thomas .
MOT: I've made it .
CHI: 0i [*] don't want to .
MOT: Thomas .
MOT: you were only pretending to wet it .
MOT: don't be silly .
MOT: it's perfectly dry .
(03-09-03.cha)

Here, Thomas insists on the pretend play perspective that the sandwich is wet. Thomas' mother uses another metacomment and the verb *pretend* to contrast the pretend situation with the real situation. In terms of mental spaces, *you were only pretending to…* functions as a space builder that sets up a mental space marked as pretend. Wetting the sandwich is hereby explicitly relegated to a pretend mental space, contrasting it with the reality mental space that Thomas' mother wants to establish and where the sandwich is *perfectly dry*.

Thomas finally accepts his mother's perspective and stops trying to establish his pretend reading of the sandwich as wet:

(24) CHI: no .
CHI: I don't want to .
CHI: 0i [*] don't like jam .
(03-09-03.cha)

Here, Thomas has returned to the reality space and answers with reference to his own desires and wants. Eventually, Thomas settles on eating cereal so that Thomas' mother's interactional goal is satisfied.

After Thomas eats his breakfast, he continues with pretend play, which he also announces as a way to end the breakfast scenario he is currently involved in:

(25) MOT: you think you would like some more cornflakes ?
CHI: hm ?
CHI: no (be)cause I 0will [*] go and see my Mummy in a minute .
MOT: pardon ?
CHI: I [*] go to see my Mummy in a minute .
MOT: you [*] go to see your Mummy in a minute .
MOT: you're pretending you're still in Spain ?
CHI: 0 [=! makes noises] .
MOT: are you missing Mummy in Spain ?
CHI: I remembered I (h)ad better go .
CHI: hello , Mummy .
MOT: hello .
MOT: oh , Thomas .
MOT: did you have a nice holiday , sweetheart ?
(03-09-03.cha)

In this segment, Thomas' mother again uses the lexical item *pretend* as well as the pretend category STATE OF AFFAIRS. She asks a question to establish a shared perspective with Thomas. As these examples above show, pretend play and negotiations around it to a large part seem to consist of assuring mutual understanding and creating and negotiating shared perspectives on pretend play through the process of conceptual blending.

### 6.4.2 Analysis of Targets of BEING ENTITY

The previous section has offered a cognitive account of pretend play situations featuring STATE OF AFFAIRS pretend targets. This section analyses another pretend target category that is of particular interest from a sociocognitive point of view, namely BEING ENTITY. The BEING ENTITY category is the one that is most clearly associated with perspective-taking skills, as it deals with children or caregivers adopting a particular role, pretending to be somebody or something else in a pretend play interaction.

First, we will examine the distribution of BEING ENTITY targets in the different corpora. Here we will first investigate the CHI corpora, and then the MOT corpora. But before that, we will survey the general categories that BEING ENTITY pretend play falls into.

One fundamental distinction is whether what someone pretends to be is conceptualised as having a REAL correspondence in the world or if the entity whose existence is pretended is FICTIONAL. This is a kind of overarching category that does not relate to the other analytic categories directly. Nevertheless, children's understanding of fictionality and the development of their concept of fiction, fantasy and imagination is a much-researched field in cognitive development (e.g., Taylor 2013; Sharon & Woolley 2004; Woolley & Ghossainy 2013), which is why this distinction is of high interest in the context of cognitive development and perspective-taking.

Consequently, we will first look at the REAL vs. FICTIONAL category in the corpora, before moving on to the other categories that instances of BEING ENTITY can be sorted into, namely ANIMATE vs. INANIMATE and their subcategories.

#### 6.4.2.1 REAL vs. FICTIONAL

As has been noted often in the research literature (e.g., Bunce & Harris 2008), from the pretend occurrences alone it is often difficult to judge whether children indeed categorise an entity as being fictional or if they do not, in fact, make this distinction. For example, if a child pretends to be Santa Claus (Goldstein & Woolley 2016), does it make sense to see this as an instance of pretending to be a FICTIONAL character? As experimental work has shown, children do in fact often believe that Santa Claus, the Tooth Fairy, and other fictional beings are real (Sharon & Woolley 2004; Shtulman & Yoo 2015). This is especially the case when their parents promote the reality of such cultural fictional characters (Goldstein & Woolley 2016). For this analysis, pretend targets were coded as FICTIONAL when children pretended to be someone that they likely were only acquainted with through some narrative medium such as stories, books, audiovisual media or via toys. For example, pretending to be a fireman as a general role was coded as belonging to the category of REAL, whereas pretending to be Fireman Sam from the animated children's programme of the same name was coded as FICTIONAL. Of course, from the corpus data alone we cannot draw conclusions whether Thomas conceptualises characters such as Fireman Sam as FICTIONAL or not, so that the coding is based on adult conceptualisations of the categories, which is an important caveat.

In total, there are 132 instances of REAL pretend entities and 24 instances of FICTIONAL entities in the corpora. For REAL, there are 25 instances in the CHI data (MC CHI: 3 vs. TC CHI: 22), and 107 instances in the MOT data (MC MOT: 17 vs. TC MOT: 90). For FICTIONAL, there are 3 instances in the CHI data (MC CHI: 0 vs. TC CHI: 3), and 21 instances in the MOT data (MC MOT: 2 TC MOT: 19). Overall, then, children and mothers pretend to be REAL entities much more often than they pretend to be FICTIONAL entities. This is also illustrated in Fig. 6.22 below.

As we can see, references to REAL entities outweigh references to FICTIONAL entities by far. In addition, the distributions are quite similar for all corpora, with the exception of the MC CHI corpus. This corpus, however, also only has 3 instances of BEING ENTITY in the first place. The percentages of TC CHI and MC MOT are quite similar (REAL = TC CHI: 88%; MC MOT: 89.47%; FICTIONAL = TC CHI: 12%; MC MOT 10.71%). The relative frequency of FICTIONAL BEING ENTITY instances, on the other hand, is slightly higher in the TC MOT data (REAL = 82.57%; FICTIONAL = 17.43%). FICTIONAL entities therefore clearly play a role in children's and mothers' pretend play behaviour, but pretending about REAL entities is far more frequent.

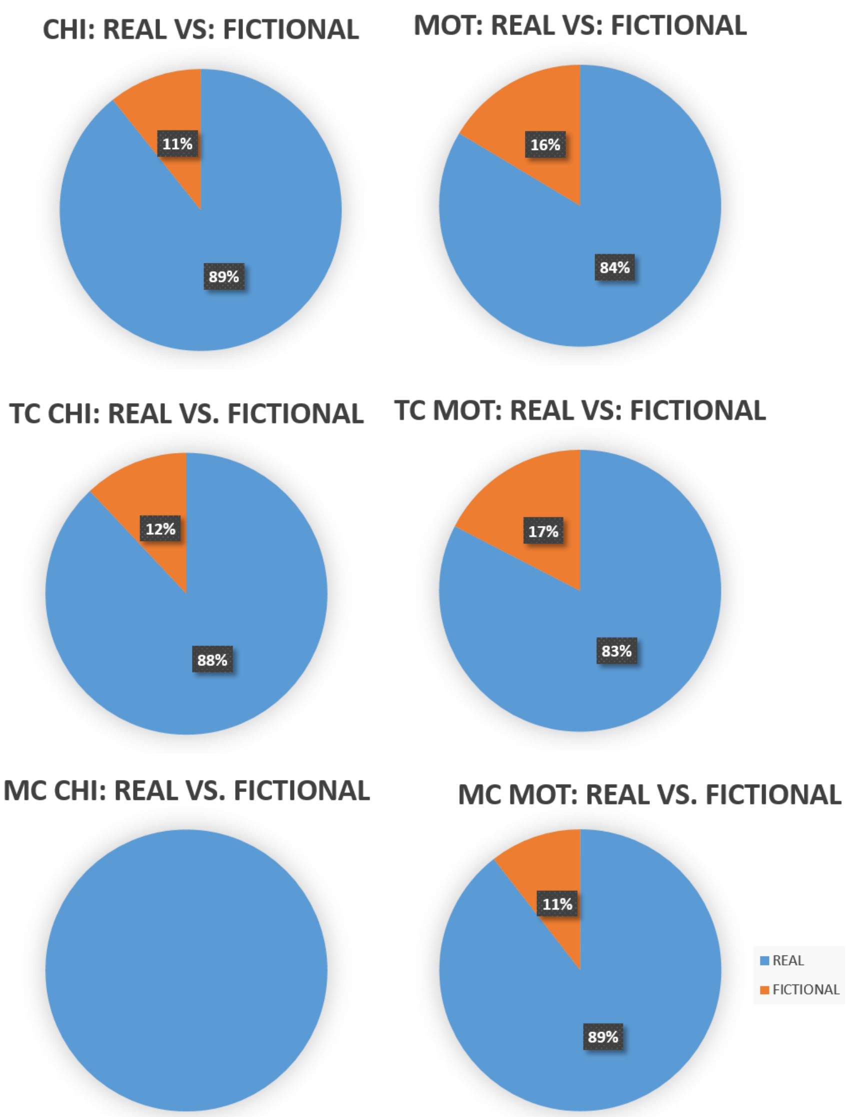


Figure 6.22: Relative distribution of REAL vs. FICTIONAL pretend entities in the BEING ENTITY frame for CHI, TC CHI, MC CHI, MOT, TC MOT, and MC MOT

We will now turn to the finer-grained categories that BEING ENTITY behaviours can be sorted into.

#### 6.4.2.2 ANIMATE vs. INANIMATE

Whereas the distinction between FICTIONAL and REAL cuts across categories and can apply to all instances of BEING ENTITY, the next categories to be introduced are transitive and stand in hyponymic and hyperonymic relations to each other. This means that whereas ANIMALS and HUMANS can be either FICTIONAL or REAL, they are directly related to their hyperonymic category ANIMATE. This also automatically implies that they do not belong to the category of

INANIMATE (cf. Cruse 1986: 112-156; Cruse 2011: 127-148). Infants exhibit an awareness of the animate-inanimate distinction from very early on (Rakison & Poulin-Dubois 2001; Opfer & Gelman 2011: 219). According to Mandler (1992, 2004), they do so by categorizing perceptual data into prototypically structured image schemas such as self-motion, animate-motion, and caused-motion. These image schemas then serve as the conceptual primitives from which concepts such as inanimate, animate, and agency are built (cf. Sloutsky 2015: 493). Children's knowledge of this distinction then gets richer throughout development (Opfer & Gelman 2011: 220-226) and as they acquire language they build up increasingly complex taxonomies of sense relations that employ this distinction (cf., e.g., Clark 2018). The distinction between ANIMATE and INANIMATE is the first distinction that can be found in the corpora. Overall, there are 122 instances of ANIMATE (CHI: 23; MOT: 99) and 34 instances of INANIMATE (CHI: 5; MOT: 29). This shows, somewhat unsurprisingly, that children pretend to be animate entities much more frequently than they pretend being an inanimate entity. The distributions of these categories will be discussed in more detail below.

#### 6.4.2.2.1 ANIMATE: HUMAN vs. ANIMAL

In the ANIMATE category, instances of BEING ENTITY either fall into the HUMAN or ANIMAL category. Just as with the category of ANIMATE, pre-linguistic infants already seem to be able to distinguish between humans and non-humans, indicating that they have abstracted a perceptually schematised sortal concept of HUMAN (Bonatti et al. 2002; Medin et al. 2015: 352; cf. Carey 2009: 276-277). Infants also begin to develop the conceptual domain of ANIMAL in their first year of life based on perceptually analysing and categorising the behaviours of entities into image schemas (Mandler 1992: 590-591; Mandler 2004: 84-89). At 9 months of age, they already react and behave differently towards humans and animals, respectively (Ricard & Allard 1993; cf. Siegler et al. 2014: 273-278).

In fact, words such as *dog*, *woofwoof*, *kitty*, *cat* and *duck* appear to be among children's first spoken words (Tardif et al. 2008). During the preschool years, children's concept of ANIMAL becomes more complex as their folk biological knowledge increases (Herrmann et al. 2010, 2012). For example, 8-month-olds already expect entities categorised as animals to have filled insides and not be hollow (Setoh et al. 2013). What the cognitive domains of ANIMAL and HUMAN have in common is that they have agency and goals and exhibit perceptual and attentional states (Carey 2009: 158-162; Opfer & Gelman 2011).

However, the question how children's concept of HUMAN is different from ANIMAL is less clear and has been the subject of intense debate (e.g., Carey 1985; Medin & Waxman 2007; Herrmann et al. 2012). English speakers seem to operate with two different concepts of ANIMAL, namely ANIMAL$_{\text{inclusive}}$ and ANIMAL$_{\text{contrastive}}$. The latter concept does not include humans, and is found in sentences like *don't eat like an animal* (Medin et al. 2015; Leddon et al. 2012). Children mostly seem to operate with the concept ANIMAL$_{\text{contrastive}}$. For example, both 3- and 5-year-old children respond negatively when they are explicitly asked if humans are animals (Leddon et al. 2012).

This conceptualisation seems to be dependent on culture and socialisation, as young children's conceptualisations of ANIMAL seem to differ depending on whether they live in urban communities, rural communities, non-Western communities, and also on factors such as their experience with picture books featuring anthropomorphic animals (Herrmann et al. 2010; Medin et al. 2010; Waxman et al. 2014). In the corpora, there are 80 instances of HUMAN (CHI: 15; MOT: 65) and 41 instances of ANIMAL (CHI: 8; MOT: 33). Children therefore pretend to be a human being about twice as often as they pretend to be an animal. In the HUMAN category, there are 46 instances of PERSON/GENERAL (CHI: 11; MOT: 35) and 34 instances of PERSON/SPECIFIC (CHI: 4; MOT: 30). This means that children more often adopt general roles than that they pretend being a specific individual.

#### 6.4.2.2.2 INANIMATE: OBJECT and VEHICLE

In the INANIMATE domain, infants also learn quite early to distinguish between global kinds of categories such as objects and vehicles based on image schema representations. They show evidence of distinguishing these categories from 7-9 months on, based on image schemas such as self-propelled motion and other perceptual factors (Mandler & McDonough 1993; Mandler 2004; however, see Carey

2009: 274-275). In the INANIMATE category, there are 19 instances of OBJECT (CHI: 3; MOT: 16) and 16 instances of VEHICLE (CHI: 2; MOT: 14). Children therefore show roughly the same frequency of pretending to be an object and pretending to be a vehicle. The distinction between OBJECT and VEHICLE was made because of the high salience of the VEHICLE concept in the corpus, indicated by its relatively high frequency. Just as the other distinctions, these conceptual distinctions therefore offer insights into the cognitive organisation of pretend play in terms of the frequently occurring conceptual targets of pretend interactions. Overall, in the vein of a developmental Cognitive Linguistics approach, these finer distinctions can help us gain more insight into the conceptual distinctions that underlie children's pretend play interactions. These distributions, sorted into the CHI and MOT tier, can be found in Fig. 6.23.

In the next section, we will focus on the results for the individual corpora.

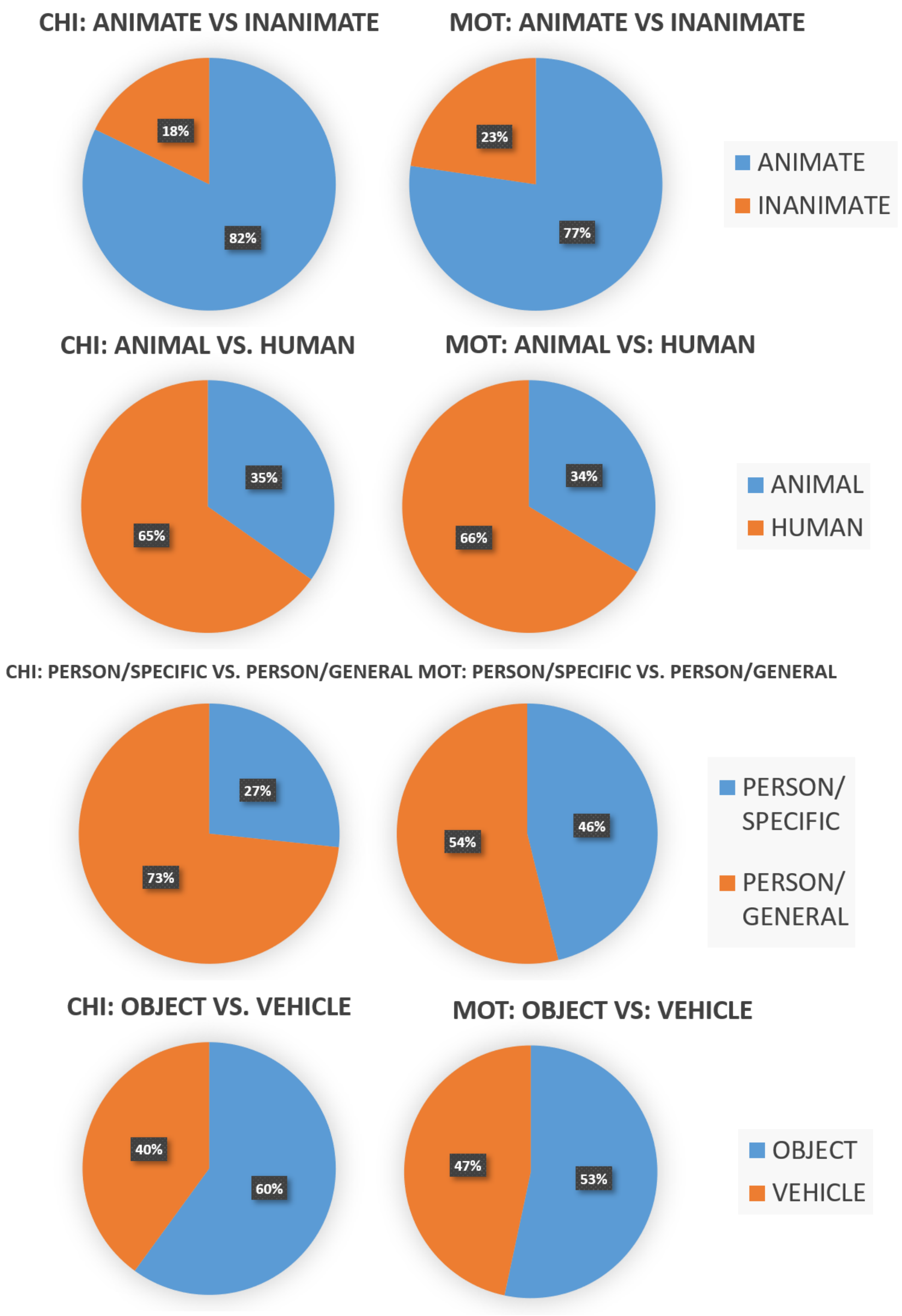


Figure 6.23: Distribution of ANIMATE and INANIMATE pretend domains and their subcategories

#### 6.4.2.3 BEING ENTITY in the CHI Dataset

For the MC CHI, as mentioned, we do not have many instances of BEING ENTITY (3 to be precise). They all fall in the category ANIMATE, HUMAN, and then PERSON/GENERAL (*prince* (2); *workman*). For the TC CHI, we have many more instances of BEING ENTITY (25). 20 fall into the category of ANIMATE and 5 fall into the category of INANIMATE. Out of the 5 instances of the INANIMATE category, 3 belong to the OBJECT category (*machine*, *sewage*, *statue*) and 2 to the VEHICLE category (*train*, *truck*). Out of the 20 instances of the category ANIMATE, 8 fall into the category of ANIMAL (*elephant*, *butterfly*, *cat* (3), *bird* (3)) and 12 into the category of HUMAN. In the HUMAN category, 4 were PERSON/SPECIFIC (*Percy, Woody, Wendy, Holly*) and 8 fall into the category PERSON/GENERAL (*baby, delivery guard, mummy, guard, nice lady, post man, shopkeeper, bee keeper*).

#### 6.4.2.4 BEING ENTITY in the MOT Dataset

The MOT data are much richer and therefore offer a much more complex view of children's pretend behaviour and the way it is negotiated by mothers and children. In the MC MOT data, we have 13 instances of the ANIMATE category and 6 instances of the INANIMATE category. In the INANIMATE category, there are 2 instances of OBJECT (*doll*, *play+dough*) and 4 instances of VEHICLE (*train*, *motorbike* (2), *truck*). In the ANIMATE category, there are 3 instances of ANIMAL (*penguin, cat, dog*) and 10 instances of HUMAN. Out of these 10, 4 are instances of PERSON/SPECIFIC (*santa* (2), *grandma* (2)) and 6 are instances of PERSON/GENERAL (*mummy*, *prince* (2), *doctor* (2), *workman*).

For the TC MOT data, we have 109 instances of BEING ENTITY in total, 86 of which belong to the ANIMATE category, and 23 of which belong to the INANIMATE category. In the INANIMATE category, there are 14 instances of OBJECT (*noo_noo*, *telephone* (2), *firework* (2), *fire*, *gate*, *hosepipe*, *lottery machine*, *sewage*, *shop till*, *skip*, *cloud*) and 10 instances of VEHICLE (*dustbin lorry*, *aeroplane* (2), *ambulance*, *digging machine, submarine*, *train* (4)). In the ANIMATE category, there are 30 instances of ANIMAL (*dog* (2), *cat* (10) *kangaroo*, *Winnie_the_Pooh*, *butterfly* (2), *bee*, *crab*, *crocodile*, *duck*, *elephant* (3), *horse* (2), *lion*, *snake*, *fly*) and 55 instances of HUMAN. Out of these 55, 26 are instances of PERSON/SPECIFIC (*Postman_Pat* (4), *Aunty_Mabel*, *Isabell*, *Aunt_Patricia*, *Dorothy*, *Missus_Goggins*, *Bob_the_Builder* (2), *Bella from the tweenies*, *Fireman_Sam* (2), *Grandma* (4), *Granddad*, *Little Red Riding Hood*, *Michael the butcher*, *Holly*, *James' driver*, *Julian the music teacher*). 29 are instances of PERSON/GENERAL (*doctor* (2), *dustbin_man* (4), *fireman* (2), *policeman*, *ambulance driver*, *baby* (2), *clown*, *boy*, *builder*, *fruit man*, *lorry driver*, *magician*, *passenger*, *popstar*, *shoe shop man*, *somebody*, *taxi driver*, *woodcutter*, *man*, *cab driver*, *person shooting*, *tesco driver*).

Fig. 6.24 below displays the different distributions of ANIMATE vs. INANIMATE, HUMAN VS. ANIMAL; HUMAN/SPECIFIC VS. HUMAN/GENERAL and OBJECT VS. VEHICLE for TC MOT, MC MOT, and TC CHI:

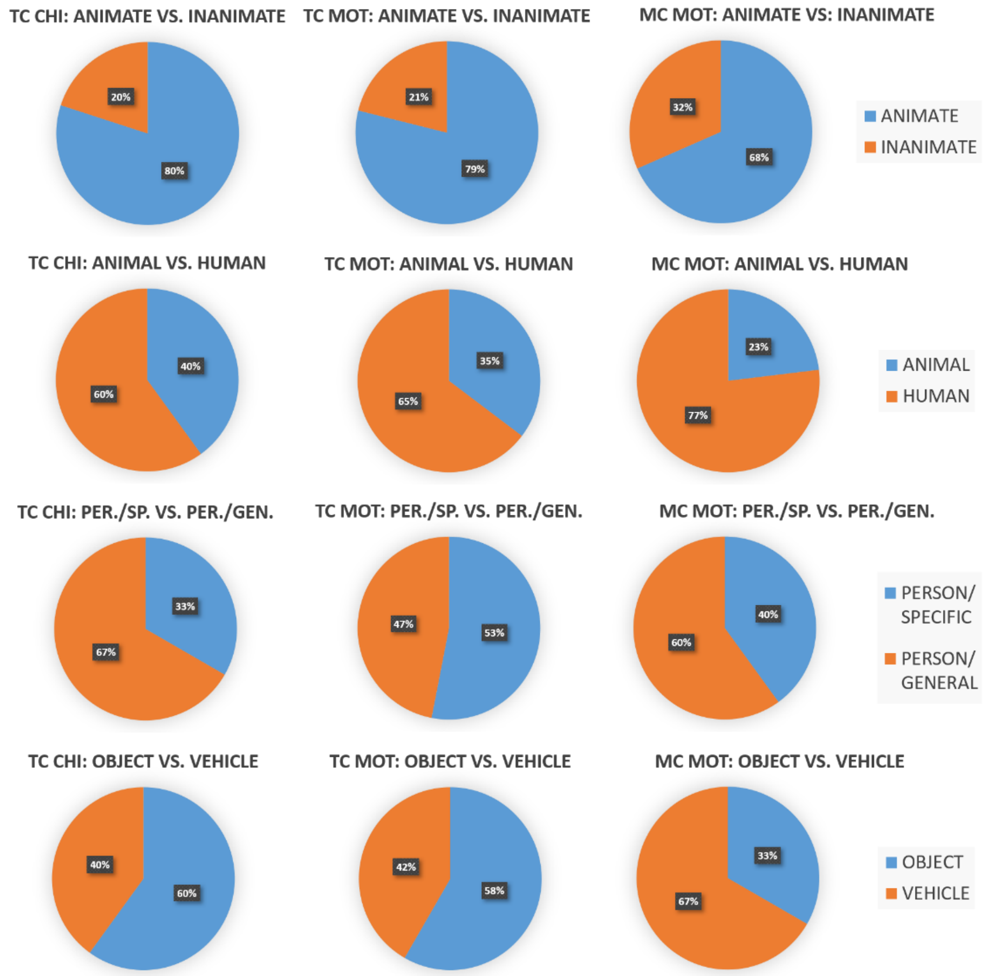


Figure 6.24: Distributions of ANIMATE vs. INANIMATE, HUMAN vs. ANIMAL, HUMAN/SPECIFIC vs. HUMAN/GENERAL and OBJECT vs. VEHICLE for TC MOT, MC MOT, and TC CHI

In the previous sections, we have investigated the distribution of BEING ENTITY in the corpora as a whole, showing the conceptual distinctions underlying role-play scenarios in pretend play interactions. In the following section, we will turn to the question of development.

#### 6.4.2.5 Development of BEING ENTITY in the CHI Dataset

Is there a developmental sequence, progression, or change in the frequency and use of BEING ENTITY categories? We will have a look at the development of the frequency of BEING ENTITY categories by age and by Brown's stages of development. What we have to keep in mind here, however, is that with 156 instances of BEING ENTITY in total, and far less for the individual corpora, the conclusions we can truly draw from these data are very limited. Because of this, we will pool the CHI and MOT data, respectively, and discuss the TC CHI and MC CHI data on the one hand, and the TC MOT and MC MOT data on the other hand, together.

The distribution by age for the CHI data are represented in Fig. 6.25.

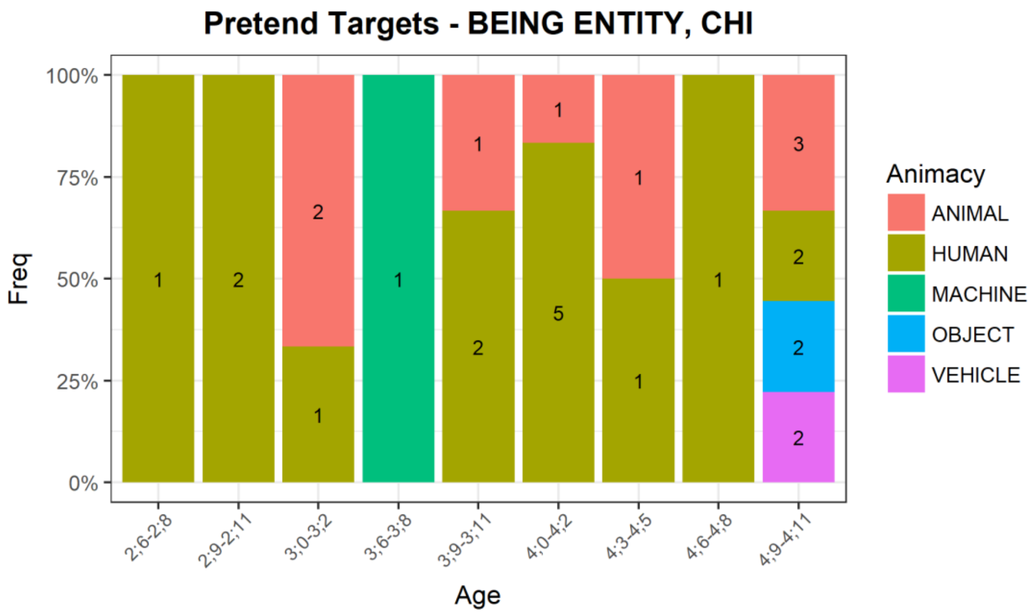


Figure 6.25: Distribution of BEING ENTITY pretend targets for the CHI data by age

With so few instances of the category, we can only explore some very general trends. If we consider the changes in overall frequency of BEING ENTITY by age, we can see that the number of instances of BEING ENTITY rises with age. The development of the frequency of BEING ENTITY is therefore very similar to the development of *pretend* more generally (see Section 6.1). Regarding relative frequency, there are no changes specific to BEING ENTITY, but instead, it follows the general *pretend* pattern.

As mentioned above, most instances of BEING ENITY belong to the ANIMATE category so that for INANIMATE we only have 5 instances. However, it is interesting to observe that 4 of the 5 INANIMATE instances occur in the age span of 4;9-4;11, suggesting that explicit reference to pretending to be something inanimate might be a later development. In addition, there is some slight indication that there is an overall increase in the variety of types of BEING ENTITY.

We will now turn towards relationships between Brown's stages of development and instances of BEING ENTITY. First of all, as we can see in Fig. 6.26, there are no occurrences of BEING ENTITY before Stage II. One further observation is that VEHICLE, MACHINE and OBJECT occur later than ANIMAL and HUMAN (VEHICLE: Stage Early IV, OBJECT: Stage Late IV/Early V, MACHINE: Stage Late V). This is consistent with the CHI data sorted by age, where it was also found that references to INANIMATE objects appear after references to ANIMATE objects. Apart from them occurring at later stages in linguistic development, we cannot make any claims about the development of the subcategories of INANIMATE (MACHINE, OBJECT, VEHICLE), as there are so few instances of them.

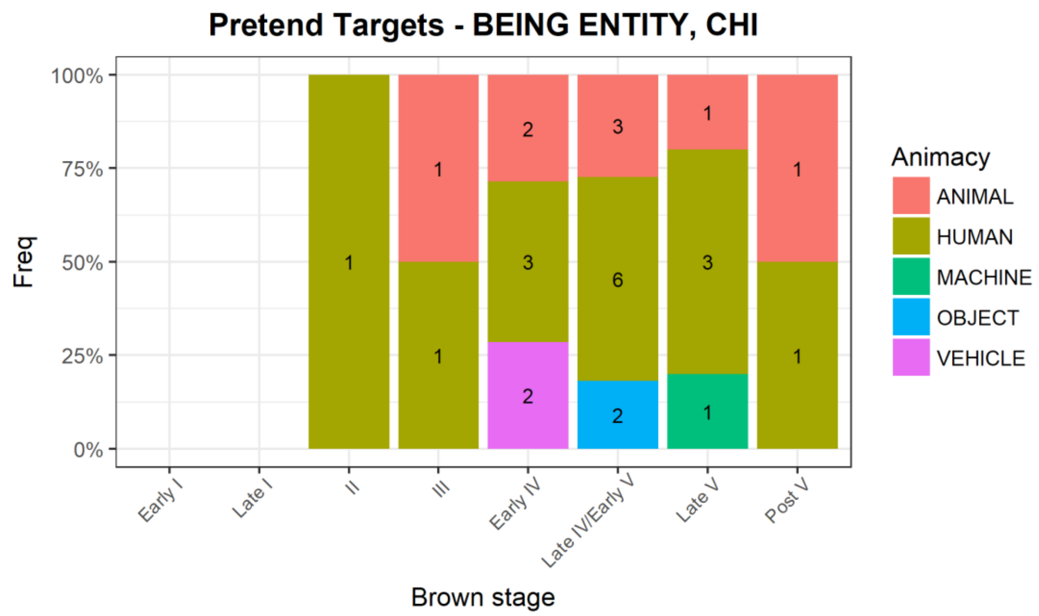

Figure 6.26: Distribution of BEING ENTITY pretend targets for the CHI data by Brown's stages

### 6.4.2.6 Development of BEING ENTITY in the MOT Dataset

In this section we will turn to the distribution of BEING ENTITY for the MOT tier. As with the CHI dataset, I will first investigate the development of BEING ENTITY by age and then by Brown's stages.

As opposed to the CHI data, the number of instances of BEING ENTITY does not rise with age. In fact, for the MOT tier, BEING ENTITY behaves in the same way as *pretend* more generally. The relative and absolute frequency of BEING ENTITY does indeed rise from age 1;9-3;2, but after that, both measures drop significantly. We can therefore observe a clear difference between the MOT 1;9-2;11 data and the TC MOT-only 3;0-4;11 data.

As observed above, the ANIMATE category is much more frequent than the INANIMATE category. If we look at the time span from 1;9-2;11 the frequency of ANIMATE in mothers' child-directed utterances rises as children grow older. The converse does not hold for the TC MOT-only time span from 3;0 to 4;11. Again, however, ANIMATE does not behave differently than *pretend* generally does in the corpus.

Summing up, regarding the development of the ANIMATE category in the MOT dataset, we can conclude that in the time span from 1;9 to 2;11, ANIMATE rises in frequency. After age 2;11, ANIMATE declines sharply, but it does so because we have fewer instances of *pretend* more generally.

With INANIMATE, again there are not enough instances to draw firm conclusions (MOT: 30). One interesting finding here is that mothers' references to INANIMATE BEING ENTITY occurrences seem to follow a different pattern than children's references. Whereas children hardly make references to INANIMATE BEING ENTITY occurrences, and if so, not before age 3;6-3;8, in the MOT data we do find references to INANIMATE BEING ENTITY at age 2;0 and the highest occurrence around age 2;9-2;11.

For the subcategories of ANIMATE, HUMAN and ANIMAL, we observe that while the HUMAN category stays relatively constant, the ANIMAL category rises in frequency as children grow older. At least it does so until age 3;2, after which the frequency sharply declines, which is likely due to the drop in frequency of *pretend* more generally. As opposed to the CHI data, the variety of types of BEING ENTITY does not increase with age in the MOT data. The distribution of BEING ENTITY pretend targets for the MOT dataset sorted by age can be found in Fig. 6.27 below.

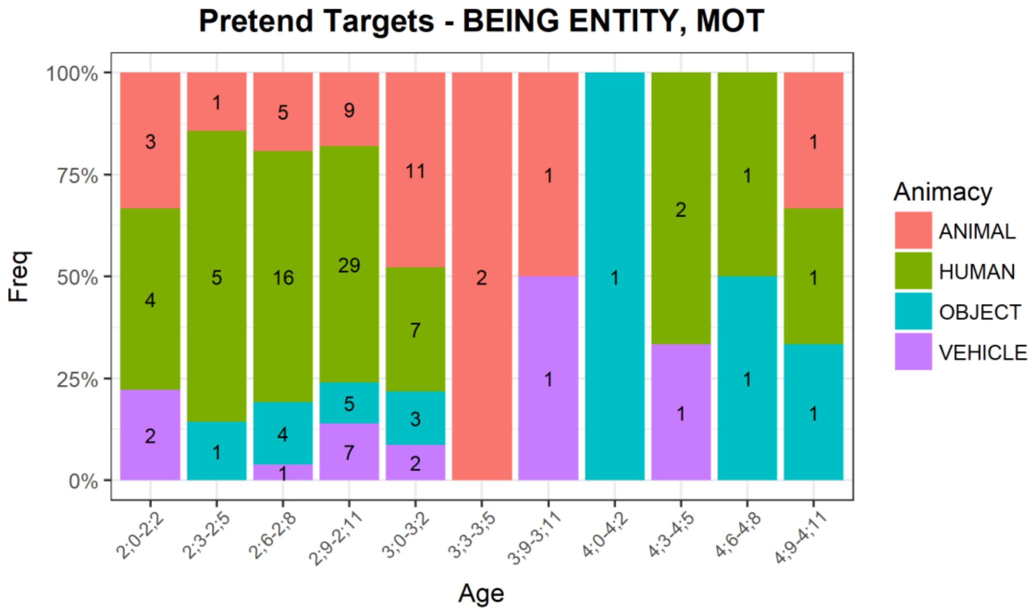


Figure 6.27: Distribution of BEING ENTITY pretend targets for the MOT data by age.

Let us now turn towards the relationships between instances of BEING ENTITY and Brown's stages of development.

In contrast to the CHI data, we already have some instances of BEING ENTITY at Stage II. The frequency of BEING ENTITY by linguistic stage peaks around Stage III and then drops dramatically. As with the CHI data, this pattern conforms to the general pattern of *pretend* by MLU. So, the higher the general frequency of *pretend*, the higher the frequency of BEING ENTITY.

As opposed to the CHI data, there is no developmental progression in when a BEING ENTITY category appears in mothers' speech. VEHICLE, MACHINE, ANIMAL and HUMAN are all present from Stage II onwards. In fact, apart from Early I and Post V, where we do not have any instances of BEING ENTITY at all, Late V is the only stage where we cannot observe all four BEING ENTITY categories in the corpus data. The overall distribution of BEING ENTITY by MLU can be found in Fig. 6.28.

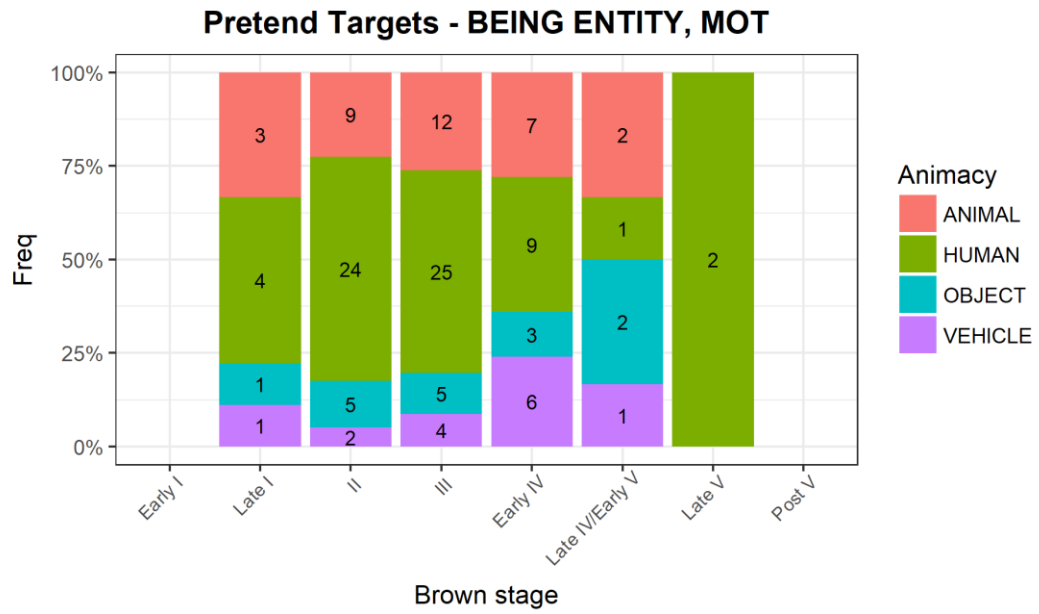

Figure 6.28: Distribution of BEING ENTITY pretend targets for the MOT data by Brown's stages

## 6.5 Summary

This chapter took a cognitive-semantic view of the conceptual targets evoked and referred to in children's and mothers' *pretend* utterances. I first looked at the overall distribution of pretend targets in the CHI dataset before turning to the MOT data. The most significant result for the CHI data was that as children grow older, the number of different *pretend* target categories becomes more diverse, indicating that children's *pretend* utterances become more conceptually complex. This pattern was not as pronounced if we looked only at children's linguistic development, although here as well we could see an increase of *pretend* targets from very early stages to later stages, with the number of different target categories peaking at Brown's stage Early IV.

In addition, when comparing the MC CHI data, ranging roughly from ages 2 to 3, and the TC CHI data, ranging roughly from ages 3 to 5, we also find that Thomas uses a higher number of different *pretend* targets than the younger children in the MC data. What is especially interesting here is that there are categories that are only used by Thomas. These include categories which are associated with perspective-taking abilities and perspectival statements on a situation, objects, and events. Moreover, the MC and TC data differ with regard to which *pretend* target categories are most frequent. The younger children seem to refer more often to more narrowly defined target categories tied to their immediate environment, such as ACTION and OBJECT. Thomas, on the other hand, more frequently takes a broader perspective on pretend play, most frequently referring to STATE OF AFFAIRS. Thomas, it can be said, therefore exhibits more complex, holistic *pretend* utterances instead of predominantly focussing on specific aspects or actions within a pretend scenario.

Interestingly, for MOT utterances the number of different *pretend* categories referred to does not significantly change with development. This holds true both for age and linguistic complexity. However, as in the CHI data, references to ACTIONS also become less frequent in the MOT data as children grow older and as their language becomes more complex. Both the CHI and MOT data therefore suggest that the focus on specific objects and simple actions decreases as children grow older and gives way to more complex conceptualisations of pretend scenarios.

I then compared different subsections of the MOT and CHI data, which showed a number of similarities but also differences in terms of the frequencies of *pretend* target categories. For example, it was found that when comparing MOT data from 2 to 3 years of age (MC MOT and TC MOT) with the TC-MOT-only data from 3 to 5 years, the latter data show an increase in the number of different *pretend* targets. This means that while there was no clear increase in the different number of *pretend* targets when taking a more fine-grained look at the data binned into three-month sections or stages of linguistic development, the results look different if we take a broader look at longer age sections. In addition, the TC MOT 3 to 5 data also show that just as with the CHI *pretend* target categories, references to pretend activities involving perspective-taking and complex pretence perspectivation seem to be more frequent for the older age range.

One other marked difference was that the MC CHI data have a higher frequency of focussing on OBJECTS as focal elements of pretend scenarios, indicating differences in the way they perspectivise pretend play. BEING ENTITY, on the other hand, is a category that is more frequent in the TC MOT and TC CHI data than in the MC data. Overall, the distribution for MC MOT and MC CHI can be said to be relatively similar, whereas the TC MOT and TC CHI data showed more differences both from each other and from the MC data.

One aspect that was especially interesting was that whereas in the MOT data, mothers used *pretend* much more frequently than their children, the same does not hold for the TC data. Here, from the time Thomas started using *pretend* at age 3, he uses the lexical item more frequently than his mother during the same time span. This is evidence that Thomas takes on a more active role in negotiating and talking about pretend scenarios as he grows older, especially compared to the data for the younger children in the MC CHI dataset.

When comparing the TC CHI and TC MOT 3-5 data in more detail, key differences were observed in the domains of ACTION, OBJECT, and STATE OF AFFAIRS. Specifically, Thomas uses more *pretend* utterances that instruct his mother to perform or share in particular pretend ACTIONS, and overall takes a more active, instructing role than his mother does. Thomas' mother, on the other hand, more often uses *pretend* utterances focussing on OBJECTS in order to ensure a shared perspective on an object in a pretend scenario. Lastly, STATE OF AFFAIRS is the most frequent pretend target category used by Thomas, but is also used relatively frequently by his mother. Thomas most often uses this pretend category to evoke or refer to a general pretend scenario he wants to enact, whereas his mother most often uses references to STATE OF AFFAIRS to clarify the overall perspective on the pretend situation as a whole.

I then analysed the STATE OF AFFAIRS and BEING ENTITY target categories in more detail from a qualitative perspective. Specifically, I discussed specific examples of Thomas and his mother negotiating perspectives on pretend STATES OF AFFAIRS and showed that these negotiations can be captured in a conceptual blending framework. For the BEING ENTITY category, I took a closer look at the underlying conceptual distinctions of role-play behaviours, such as REAL vs. FICTIONAL and ANIMATE vs. INANIMATE, and their development.

Overall, this chapter has shed light on the concepts that are evoked in children's pretend interactions with their mothers, offering a window into children's social, cognitive, semantic, conceptual, and linguistic development as well as into the interactional practices that characterise their pretend play. In the next section, I will analyse these developments in another framework within Cognitive Linguistics, namely that of event schemas.

## 7. Pretend Play and Event Schemas

In this section, we will analyse *pretend* utterances of mothers and children in the corpora by the event schemas they are associated with. Event schemas are a way to conceptualise the patterns into which we sort types of events and situations (cf. Dirven & Verspoor 2004: 78). That is, they present a conceptual architecture for which aspects of an event are evoked and focussed on in a particular utterance. When referring to an event or situation, we select those elements and roles with the highest saliency in the current context. Each utterance, and therefore also each *pretend* utterance, construes events and situations in particular ways, directing attention to specific elements within the conceptualisation. This, of course, is one of the most central features of construal and perspectivation in general (see Section 2.1).

In a Cognitive-Linguistic framework, humans are seen as categorising events and situations by evoking certain conceptual schemas. Event schemas are "complex concepts essential for the cognitive processing of events" (Kleinke 2010: 3358). These conceptual schemas, which differ regarding which participants and aspects they focus on, are called event schemas (Dirven & Verspoor 2004: 69). Event schemas represent a small set of basic configurations of roles within a conceptualised situation or event. That is, they define the configurations and relationship of different participants or roles. As Radden and Dirven (2007: 267) put it, event schemas "characterise the conceptual core of situations." The theory of event schemas and their semantic roles presented here can be seen as one Cognitive-Linguistic approach to the research area of semantic roles and thematic relations in language and their underlying conceptual and cognitive prototypes. Starting with Fillmore's (e.g., 1968) seminal work, and Gruber (1965) and Jackendoff's (e.g., 1972) foundational contributions, research in this area has produced a vast amount of theorising and analysis both in Cognitive Linguistics and other theoretical frameworks (e.g., Dowty 1991; Pustejovsky 1991; Konerding 1993; Busse 2012; Ziem 2014; Saeed 2016: 149-188).

Event schemas can be seen as a particular type of frame knowledge (cf. Ziem 2014: 23-25; Busse 2012: 543-546), which is why they are also sometimes referred to as event frames (Kleinke 2010: 3357). Event schemas are also closely related to idealised cognitive models (Lakoff 1987) or mental models (Johnson-Laird 1980).

Event schemas and frames more generally refer to ways in which humans structure events and actions that are stored in long-term memory and laid down in entrenched neural pathways (cf. Hanson & Hanson 2017: 235-237).

The process of acquiring event schemas in ontogeny is based on the general human ability for embodied categorization (MacWhinney 2015b: 320; Sloutsky 2015; Hanson & Hanson 2017: 235-237). As such it represents one part of the more general acquisition of semantics (cf. Löbach 2000; Clark 2017, 2018) and conceptual development (Carey 2009; Sloutsky 2015). Children first identify perceptual units that make up an event and then categorise combinations of perceptual units into hierarchically structured event schemas (Zacks & Tversky 2001; Hard et al. 2006). This means that this type of knowledge is acquired via abstraction and schematisation when perceiving and talking about events and situations (cf. Mandler 2004; Ziem 2014: 19-23; MacWhinney 2015b: 320, 327; Sloutsky 2015).

Regarding event categorisation, the brain is sensitive to the natural statistics of entrenched events and builds up prototypically structured, schematic, embodied event representations during processing (cf. MacWhinney 2015b: 320, 327; Hanson & Hanson 2017: 235-237; Thomas et al. 2018). Event schemas therefore represent "the stereotypical design and structure of events" (Kleinke 2010: 3357).

In the terminology of Cognitive Grammar, event schemas differ in which participants they conceptualise as saliently standing out as 'figure' against the 'ground,' therefore providing a particular 'windowing of attention' on a situation (Kleinke 2010: 3357; cf. Langacker 1987: 120-122; Dirven 1999: 285; Talmy 2000: 259; Dirven & Verspoor 2004: 77-86). These different types of event schemas will be described in the next section.

## 7.1 Types of Event Schemas

Radden and Dirven (2007: 272) posit that there is a small set of types of events that we represent cognitively. They partition event schemas into three different "worlds of experience," which refer to basic distinctions in human categorisation. Event schemas can be classified as belonging to either the *material world*, the *psychological world*, or the *force-dynamic world*.

The material world refers to our conceptualisation of "the structured world of entities as they exist, change or undergo processes. The material world also includes humans who do not take an active part in shaping it" (Radden & Dirven 2007: 272).

The psychological world refers to our conceptualisation of "the internal world of people's sensations, emotions, perceptions and thoughts. It is the world as experienced and conceptualised by sentient humans" (Radden & Dirven 2007: 272). It is therefore related to our capacities for theory of mind, mentalising, and perspective-taking.

The third category is the force-dynamic world. It relates to our conceptualisation of "the external world of action, force, and cause and their effects. In this world, human agents figure prominently as the instigators of events" (Radden & Dirven 2007: 272).

In line with the Cognitive-Linguistic view of concepts and categorisation, these three worlds of experience should be seen as being prototypically structured. That is, in many ways these worlds can be seen as overlapping and not clear-cut. These worlds of experience therefore can be conceptualised akin to idealised cognitive models or frames (cf. Lakoff 1987; Ungerer & Schmid 2006: 207-217; Ziem 2014). This means that they also relate to the way our embodied cognitive system processes and categorises information. So on a cognitive reading, this classification scheme relates to some form of conceptual organisation, boiling down to neurological structuring and activity, of how we categorise and interpret events. However, on a more careful interpretation, it can also be treated mainly "as a framework that allows us to structure the inventory of event schemas" (Radden & Dirven 2007: 272). Analysing pretend play in terms of event schemas represents a complementary approach to the analysis of pretend targets in Chapter 6. As will become clear in terms of the analytical categories, there are some overlaps between categories. For example, the pretend target categories of POSSESSION, MENTAL STATES, and EXPERIENCE have correspondences in particular event schema subschemas. However, the analysis in terms of event schemas in this chapter relates categories to an existing Cognitive-Linguistic framework, thereby offering an additional, complementary system of categorisation. Taken together, the approach taken in Chapter

6 and in this chapter explicate the acquisition of perspectivation in pretend play in compatible ways that highlight different aspects of the general phenomenon at hand. In particular, analysing event schemas allows us to observe more general, coarse-grained trends and tendencies in the data, as event schemas represent a more schematic, higher-order level of categorisation than the pretend targets analysed in Chapter 6.

The three worlds of experience of the material world, the psychological world and the force-dynamic world contain a number of subschemas. Subschemas of the material world event schema are the following: occurrence schemas, spatial schemas, and the possession schema. Occurrence schemas describe the processes (OS: P) or states (OS:S) that an entity is in, as in *just pretend it was open* (4-01-02.cha) for the OS:S. As in this example, states are prototypically expressed with the copulative construction consisting of a subject (*it*), a copular verb (*was*), and a complement (*open*). Processes (OS:P) refer to events such as *it's pretend snowing yet* (becky28b.cha).[57] The subschema relevant to the spatial schema is the location schema (SS: LS), which describes the location of an entity, as in *pretend I was at crab hospital* (3-11-03.cha).[58] Lastly, there is also the possession schema (POSS), which construes the relationship between possessor and the entity that is possessed, as in *who's pretending they've got a sweetie?* (3-04-01.cha).

In the psychological world, there are two subschemas. The emotion schema (EMS) frames emotional processes or states experienced by a human sentient being, as in *no, but just pretend you are very sad* (4-00-07.cha). The perception/cognition schema (PERCOG), on the other hand, "describes an experiencer's perceptual or mental awareness of a thing" (Radden & Dirven 2007: 299), as in *Mummy, just pretend you've forgotten your [>] little boy* (3-08-02.cha).

The force-dynamic world is characterised by four subschemas. First, there is the action schema (AS), in which an agent acts upon an entity, generating energy that the entity is affected by. The self-motion schema (SMS) describes self-initiated motion by an agent, such as *I'm going to pretend you arrived at Burger_King* (04-

[57] In other publications, the OS:S is also referred to as the "being schema" and the OS:P as the "happening schema" (Dirven & Verspoor 2004: 79).
[58] The motion schema represents another subschema of the location schema, but as it plays no role in the analysis it will be excluded here.

10-05.cha). The caused-motion schema (CMS) characterises "events in which an energetic force brings about the motion of a thing to or from a location" (Radden & Dirven 2007: 299), for example in *She sneezed the foam off the cappuccino* (cf. Hilpert 2014: 47). Such schemas can also be applied metaphorically, as in *my hammer then I 0will [*] bang the rain away and the clouds away then I 0will [*] (pre)tend it just sunshine* (CHI, 03-04-03.cha). Interestingly, in this specific example, the caused motion meaning "X causes Y to move (from/to) Z" cannot be attributed to the main verb *bang* or a simple compositional meaning. Instead, the semantic caused motion interpretation is licenced by the English caused motion construction [Subj [V Obj $\text{Oblique}_{\text{path}}$]] (Goldberg 2019: 35, cf. Goldberg 1995: 152). Lastly, there is the transfer schema (TS), which describes the passing of an entity from an agent to a recipient, as in *perhaps you could pretend to give one to Rhona's cat* (MOT, john10b.cha). Overall, utterances can be associated with event schemas either through compositional expressions, constructions, or, through pragmatic inference depending on the conversational context.

These subschemas will be described in more detail in their respective sections. Section 7.2 will present the overall distribution of *pretend* utterances sorted into event schemas. Section 7.3 will present the distributions of *pretend* event schemas in the material world. Section 7.4 will turn to the distributions of *pretend* utterances in the domain of the psychological world. Lastly, in Section 7.5, we will investigate the distributions of *pretend* in the force-dynamic world.

Let us now turn to the distribution of *pretend* according to which of the three worlds of experience they belong to.

### 7.2 Distributions of *Pretend* by Event Schemas

This section will first present an overview of the distribution of the relative frequency of coarse-grained event schema types. The relations of interest here are to what extent the distribution of event schemas differs between the CHI and the MOT tier. If we compare the overall frequency in the CHI and MOT dataset, we find the following distribution: In the CHI data, the *pretend* utterances evoking the material world event schema are most frequent, with 58.8%. The force-dynamic world is the second most frequent, with 32.8%. The psychological world is least frequent with

8.4%. For the MOT data, we have the same ordering. The material world event schema is most frequent with 66.3%, the force-dynamic world is second most frequent with 33.3%, and the psychological world is least frequent with <1%. As we can see here, the most significant difference is the fact that the psychological world plays a more prominent role in CHI utterances than in the MOT utterances. The frequencies of the force-dynamic world are very similar, but concerning the material world, the MOT data contain a higher frequency of the material world event schema than the CHI data. However, we find that the data for the TC and the MC differ quite significantly, so that we need to consider these relations as well.

### 7.2.1 Comparing CHI and MOT Data

This section will first discuss the CHI data, then portray the MOT data, and then compare the two. First, concerning the CHI data, I will compare the TC CHI and the MC CHI data. First of all, we still find that the material world event schema is the most frequent in both datasets, and the force-dynamic world is the second most frequent. The material world frequencies are very similar for both TC CHI and MC CHI (TC CHI: 59.3% and MC CHI: 57.3%).

The force-dynamic world frequencies, however, differ quite strongly. Although they still are the second most frequent category in both datasets, force-dynamic event schemas occur much more frequently in the MC CHI than in the TC CHI data (TC CHI: 29.5% and MC CHI: 42.7%).

The most striking difference can be found for the psychological world. Whereas *pretend* utterances in the psychological world account for 11.2% of event schemas in the TC CHI dataset, there are no *pretend* utterances of that kind in the MC CHI at all. This means that the frequency of psychological world event schemas is due to the frequency in the TC CHI data alone. As the MC CHI data range from 2-3 years, and Thomas only starts using *pretend* from age three onwards, these results are likely due to the development of increased perspective-taking and mentalising capacities discussed in Sections 2.3 and 3.1. As Bartsch and Wellman (1995) have found in their corpus study, children start using mental state language such as *want* and *mad* from 24 months of age onwards. Mental state language referring to beliefs and thoughts such as *think* and *know* only appears around three years of age (cf. Wellman 2011: 172; see also Shatz et al. 1983).

However, as Diessel and Tomasello (2001) have shown in their corpus analysis of finite complement clauses in English, 3-year-old children often use verbs such as *think* in quite formulaic constructions "that do not require a conceptualization of mental states or perspectives (e.g., 'I think it's raining' just means, for them, 'Maybe it's raining')" (Tomasello 2018: 8495; cf. Tomasello 2007: 1138; Tomasello 2019: 68-69). Only around four years of age do children start to understand complement constructions using mental state language as expressing and contrasting particular perspectives on the world (Diessel & Tomasello 2001; see also Lohmann & Tomasello 2003; Perner et al. 2003, 2005; cf. Section 2.3.2).

When analysing psychological uses of *pretend* we therefore have to bear in mind the discussion of children's *pretend* understanding in Section 3.1.7. There it was argued that on a critical view, *pretend* might first be understood as referring to actions and not to an expression of a cognitive perspective on a pretend play situation involving mental states. Mentalistic understanding generally is not found before ages 3 to 4 (cf. Kavanaugh 2011: 297; Lillard 2015: 434). Interestingly, in the corpus data first occurrences of *pretend* utterances evoking the psychological world cannot be found before age 3;6 in the TC CHI data. In fact, the majority of instances of event schemas in the psychological world occur after age 4, the age theory of mind is generally seen as being fully developed (Wellman et al. 2001; Wellman 2011).

If we compare the TC MOT and the MC MOT data we get the following distribution: In the TC MOT data, the material world pretend schema is the most frequent with 70.8%, and the force-dynamic world is the second most frequent with 27.6%. *Pretend* utterances evoking the psychological world occur with a frequency of <1%. In the MC MOT dataset, the material world event schema is also the most frequent, but with 60.6% it occurs less often than in the TC MOT data. The second most frequent category, just as in the TC MOT data, is the force-dynamic world, but it occurs with a higher frequency at 38.5%. Unlike in the MC CHI data, there are some instances of *pretend* utterances evoking the psychological world, but they also account for <1% of event schema utterances. Overall, we can attest that in the

MC MOT data the force-dynamic world occurs more frequently than in the TC MOT data, whereas in the TC MOT data the material world has a higher frequency than in the MC MOT data.

Finally, let us turn to a comparison of the MOT and CHI data. If we compare the TC MOT and TC CHI data, we find that they are similar when it comes to utterances evoking the force-dynamic world (TC CHI: 29,5% vs. TC MOT: 27.6%). However, the frequencies of the material world event schema utterances differ quite strongly (TC CHI: 59.3% vs. TC MOT: 70.8%). Thomas' mother thus talks more about pretend scenarios in the material world than Thomas himself does. Comparing the MC CHI and the MC MOT data, we find that these two datasets are more similar to each other than is the case with the TC data. For both MC CHI and MC MOT, the distributions for the material world (MC CHI: 57.3% vs. MC MOT: 60.6%), and the force-dynamic world are relatively similar (MC CHI: 42.7% vs. MC MOT: 38.5%). The key difference, as discussed above, is that there are some instances of the psychological world event schema in the MC MOT data, but none in the MC CHI data.

In line with the observations on *pretend* target categories in Chapter 6, the distribution of event schemas seems to indicate that mothers and children predominantly talk about the pretend identity of material entities. This makes sense if we consider that what an object stands for might be more in need of clarifying negotiation than actions, which have a higher degree of iconicity. For instance, in utterances such as *shall we pretend this is a buggy?* (MOT, anne14a.cha) the object that stands for the buggy is not immediately recognisable as being a buggy. However, once an object has been assigned a pretend identity such as being a *buggy*, subsequent pretend actions such as putting a baby into the buggy are less in need of being referred to explicitly using *pretend*, because the affordances of the pretend scenario have already been identified. In such cases, introducing objects as pretend entities already explicitly introduces the pretend scenario and opens up a pretend frame. We can therefore say that identifying objects as pretend seems to be the most frequent strategy to establish a pretend perspective. However, clarifying pretend actions also takes up a significant portion of pretend interactions. As we saw in Chapters 5 and 6, this often happens in contexts where children are explaining what they are doing, or where mothers are trying to understand what their children are pretending. In addition, especially for the TC CHI data, utterances associated with the force-dynamic world are often also reflections of Thomas actively instructing pretend play.

The distributions for all six datasets can be found in Fig 7.1.

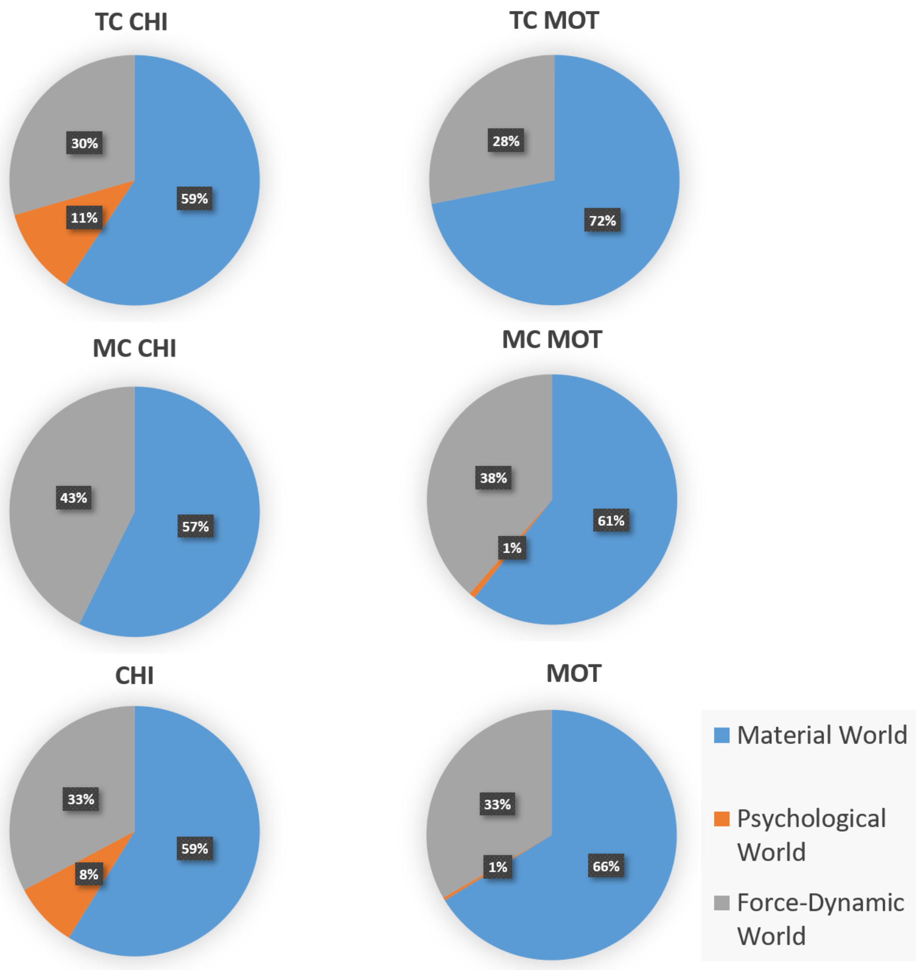


Figure 7.1: Comparison of the relative distributions of material world, psychological world, and force-dynamic world event schemas for TC CHI, TC MOT, MC CHI, MC MOT, CHI and MOT

### 7.2.2 Development of Event Schemas

So far, we have analysed the overall relative frequencies to be found in the various datasets. The question we are going to address next is if and how the distributions of the three world of experience event schemas change over time and with linguistic development. I will first analyse the overall distribution and the development of pretend event schemas by age, and then present the overall distribution of event schemas in terms of stages of linguistic development.

First, let us analyse developmental patterns by age for the CHI dataset, represented in Fig. 7.2 and Fig. 7.4. The overall pattern for the CHI data is the same as for the development of *pretend* in the corpus more generally. That is, as children grow older, there are more instances of event schemas. The most interesting question is whether the relative frequencies of the individual worlds of experience change over time. When considering the corpus data as a whole, the data seem to fluctuate so that no clear patterns are apparent. One interesting observation, however, is that when we look at the TC data alone, the relative frequency of material event schemas decreases over time. Indeed, we find a statistically significant high negative correlation between the relative frequency of material world event schemas and age for the TC CHI data ($r = -0.72$, $p = 0.045$). This means that as Thomas grows older, he uses less *pretend* utterances that evoke the material world event schema relative to other schemas. Conversely, for the TC data, both the force dynamic and psychological world event schemas begin to make up higher percentages of *pretend* utterances. As mentioned above, for the event schemas in the psychological world, the most interesting observation is the timeframe in which they appear, which correlates with the general timeframe of the emergence of more sophisticated mentalising skills. We have to note, though, that regarding the psychological world, we only have a very small set of utterances ($n = 30$) in the whole corpus, which makes it difficult to make statements about their fine-grained development. Fig. 7.2 represents the distribution of the relative frequencies of the different worlds of experience in the *pretend* CHI data.

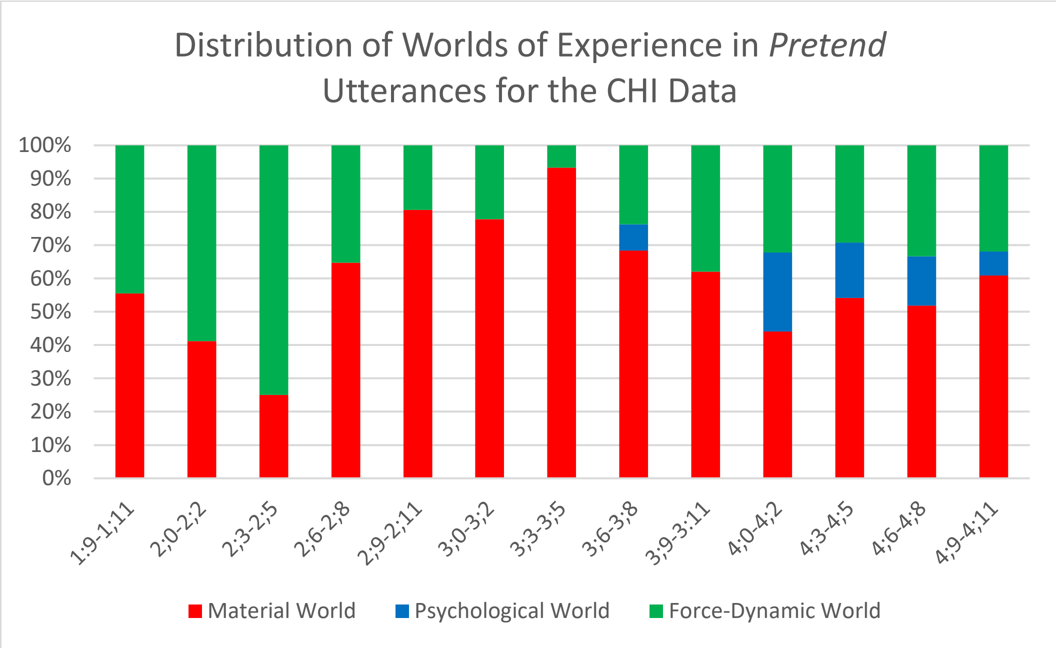


Figure 7.2: Distribution of relative frequencies of worlds of experiences in *pretend* utterances for the CHI data

When we analyse the MOT data, as represented in Fig. 7.3 and Fig. 7.5, the absolute frequencies again behave in a way similar to the MOT *pretend* data overall.

This is why it is again more fruitful to consider the relative frequencies of event schemas. However, as with the CHI data, the relative frequencies seem to fluctuate with age in the MOT data so that no clear patterns are discernible. Instances of psychological world event schemas have a tendency to occur later in development, but just as with the CHI data, we have to keep in mind that the total number of *pretend* utterances evoking the psychological world is very small (n = 10). Fig. 7.2. and Fig. 7.3. show the data for the overall relative frequencies of the three types of event schemas for the CHI and MOT data, respectively. Fig. 7.4 and Fig. 7.5 do the same but contain both coarse-grained and fine-grained event schema categorisations. As always, it has to be noted that for the CHI data, the data from 1;9-2;11 only represent utterances from the MC CHI dataset, and the 3;0-4;11 data only represent utterances from the TC CHI dataset. The more fine-grained distinctions will be discussed in later sections, but one thing that we can take from this development is that as was also shown in Chapter 6, Thomas generally seems to adopt a more 'mentalistic' and 'holistic' way of talking about pretend scenarios. That is, instead of focussing on clarifying specific material entities involved in pretence, he more frequently takes a broader perspective on the pretend situation as a whole, highlighting their psychological dimension as well as a more dynamic perspective that more often concentrates on actions.

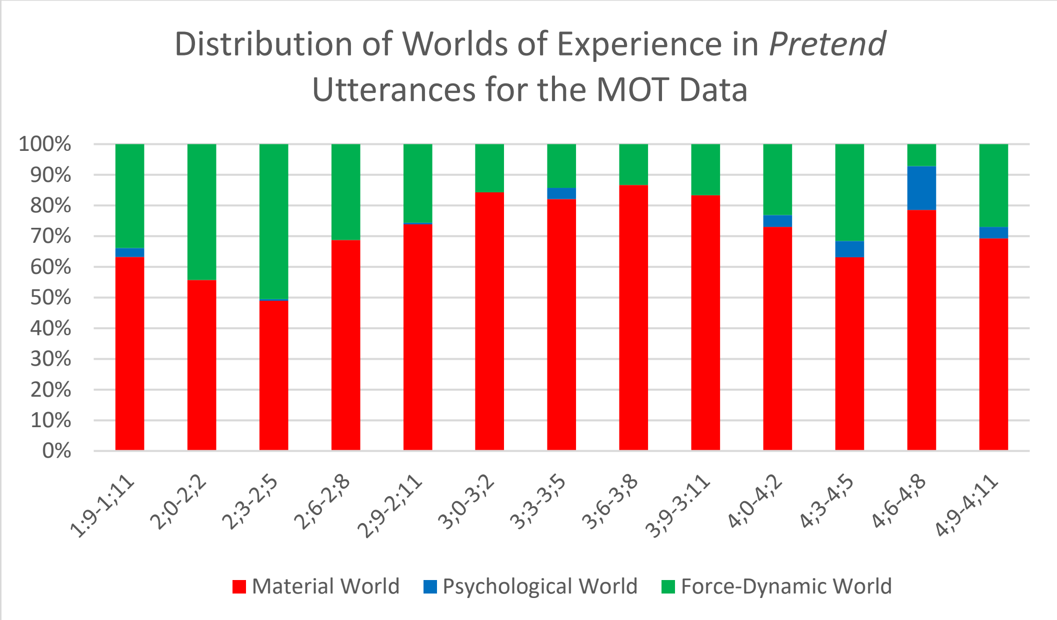


Figure 7.3: Distribution of worlds of experience in *pretend* utterances for the MOT data

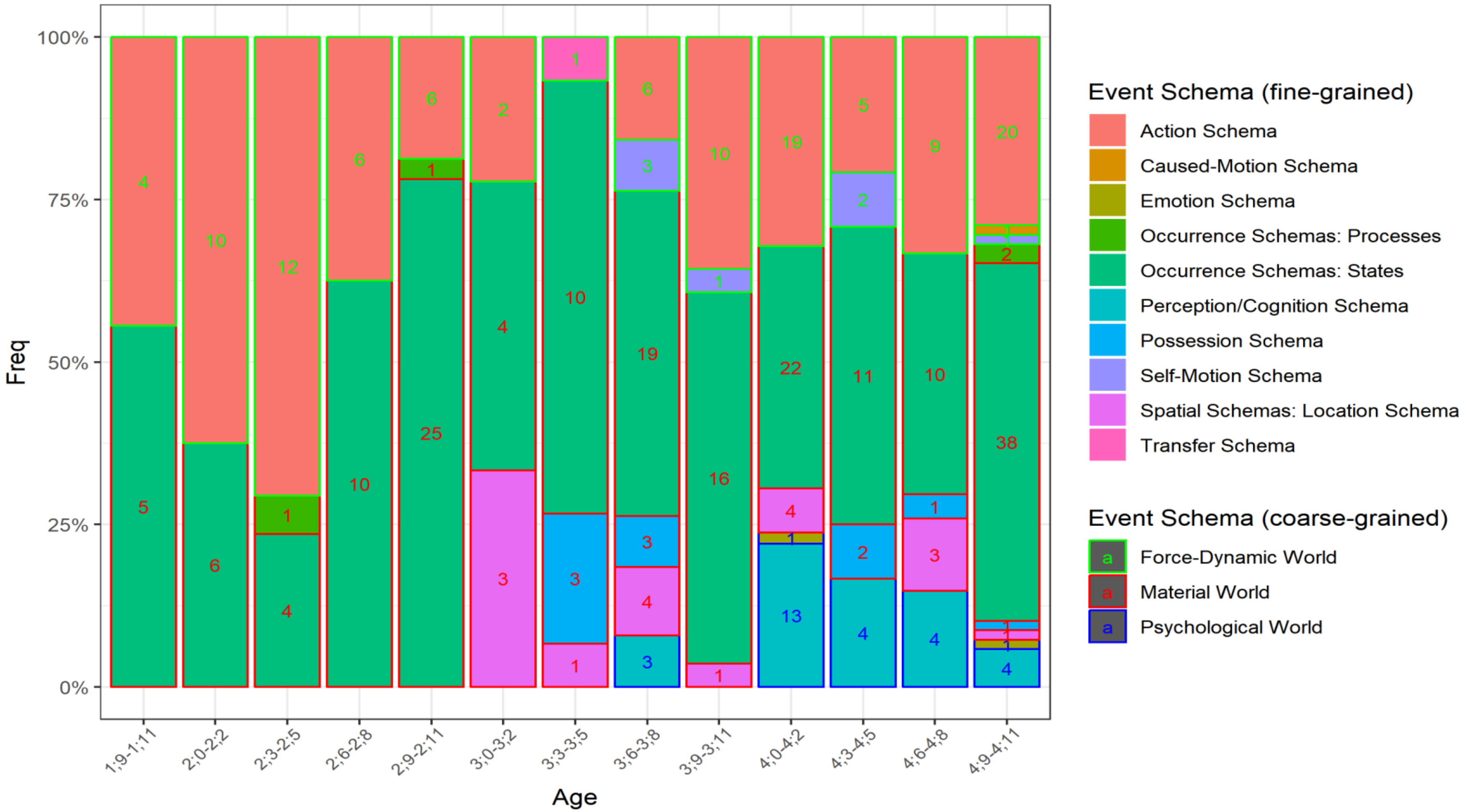


Figure 7.4: Event schemas (coarse-grained and fine-grained) by age for the CHI data

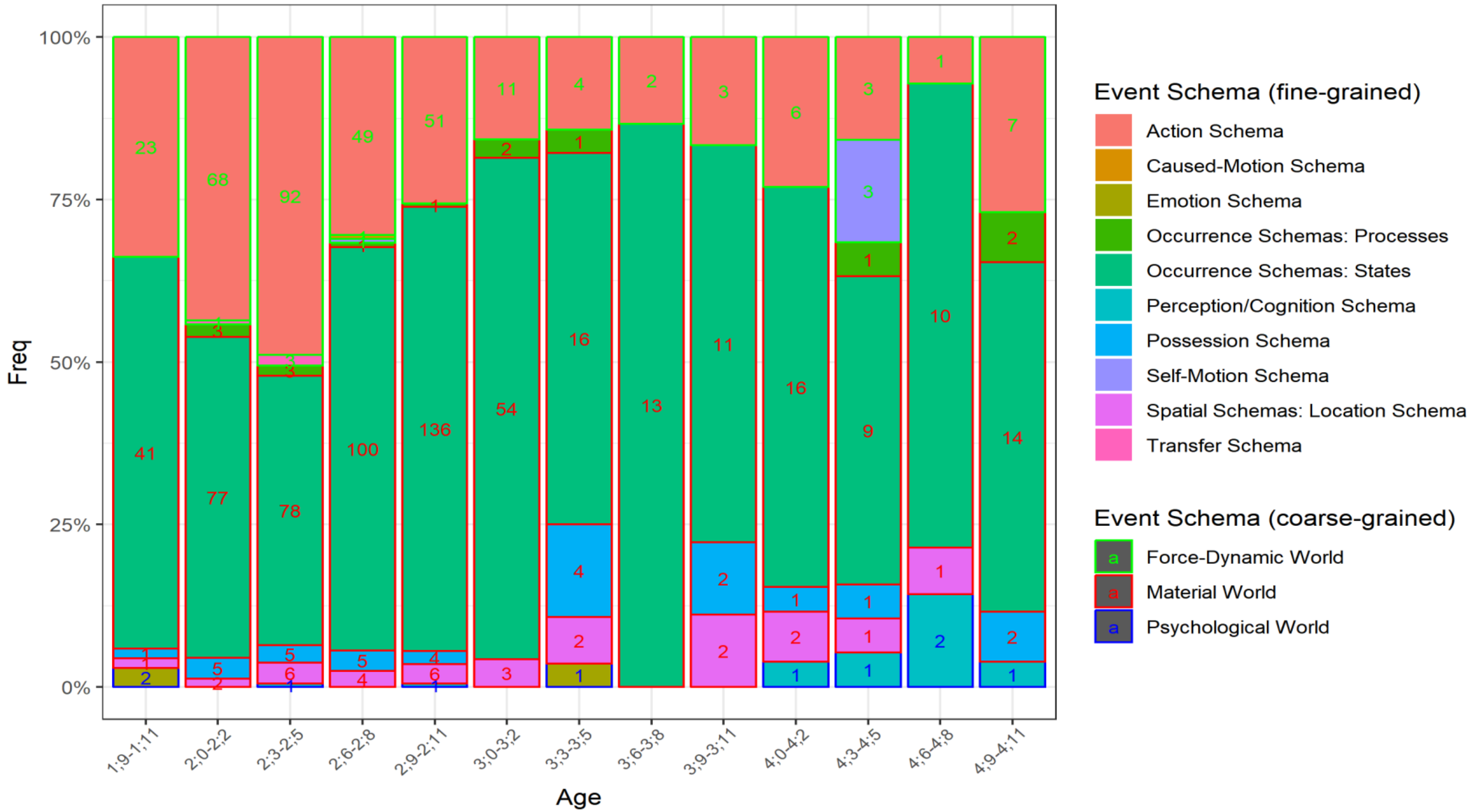


Figure 7.5: Event schemas (coarse-grained and fine-grained) by age for the MOT dataset

Next, we will discuss correlations of event schema types with linguistic development. Let us turn to the CHI data first. If we examine the development of the relative frequencies of worlds of experiences by Brown's stages, there are also no apparent patterns. Again, the one indicative trend that we can observe is that psychological world schemas seem to occur later on in linguistic development. The development of relative frequencies can be found in Fig. 7.6 (coarse-grained) and Fig. 7.8 (coarse-grained and fine-grained).

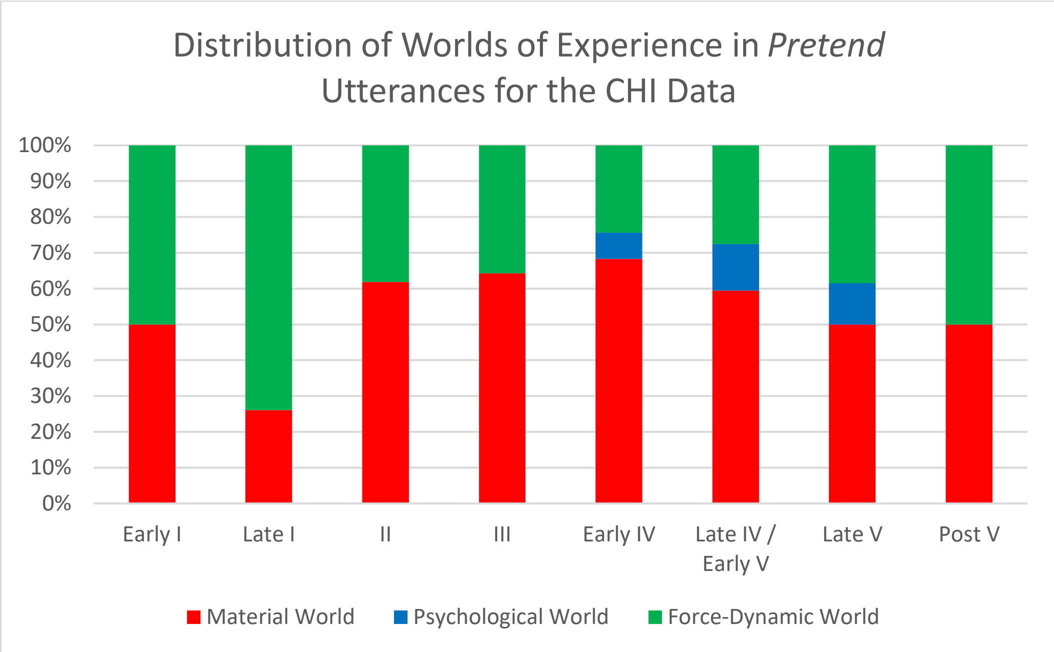


Figure 7.6: Distribution of worlds of experience in *pretend* utterances for the CHI data

For the MOT data, in terms of relative frequencies, we do find one developmental pattern (Fig. 7.7 and Fig. 7.9). With increasing complexity of their children's utterances, mothers use relatively more material world event schemas in their *pretend* utterances, and less force-dynamic world event schemas. For material event schemas, Pearson's test shows a statistically significant high positive correlation with linguistic complexity ($r = 0.87$; $p = 0.0055$). Conversely, for the force-dynamic world, we find the opposite pattern. For this event schema, there is a statistically significant very high negative correlation with linguistic complexity ($r = -0.91$; $p = 0.002$). For the psychological world, the frequency is too low to draw any conclusions.

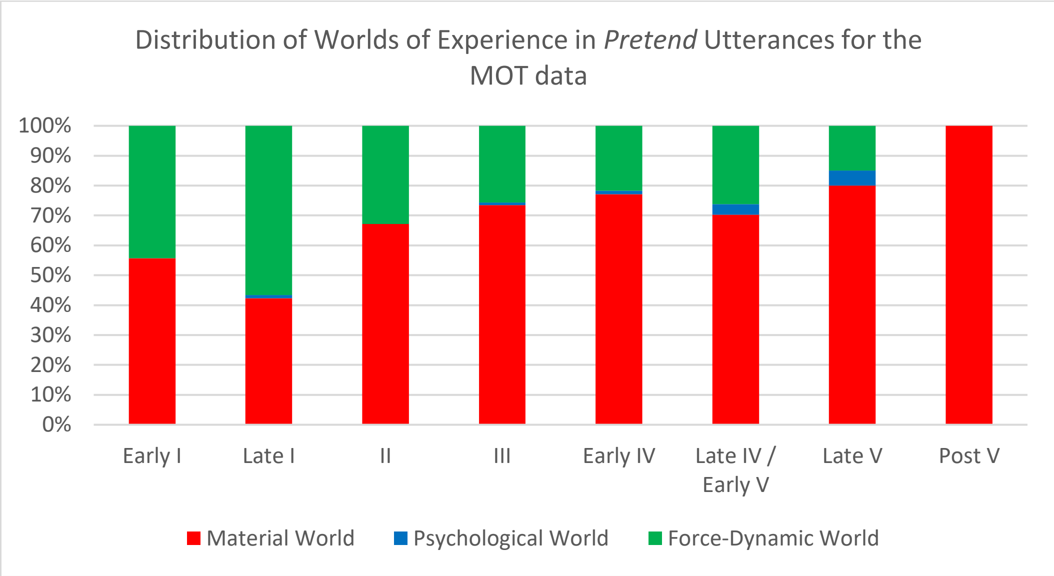


Figure 7.7: Distribution of worlds of experience in *pretend* utterances for the MOT data

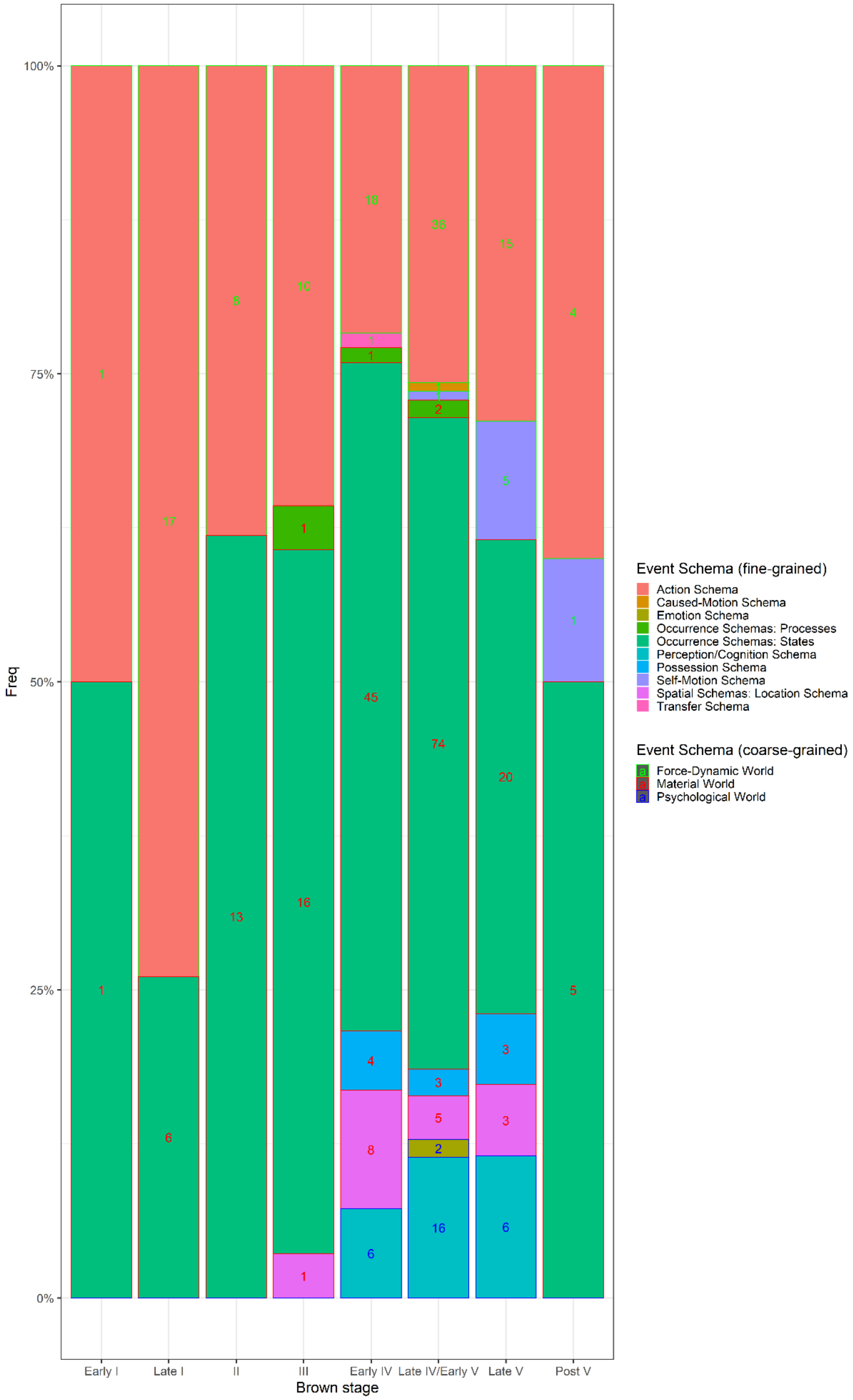


Figure 7.8: Event schemas by Brown's stages for the CHI dataset

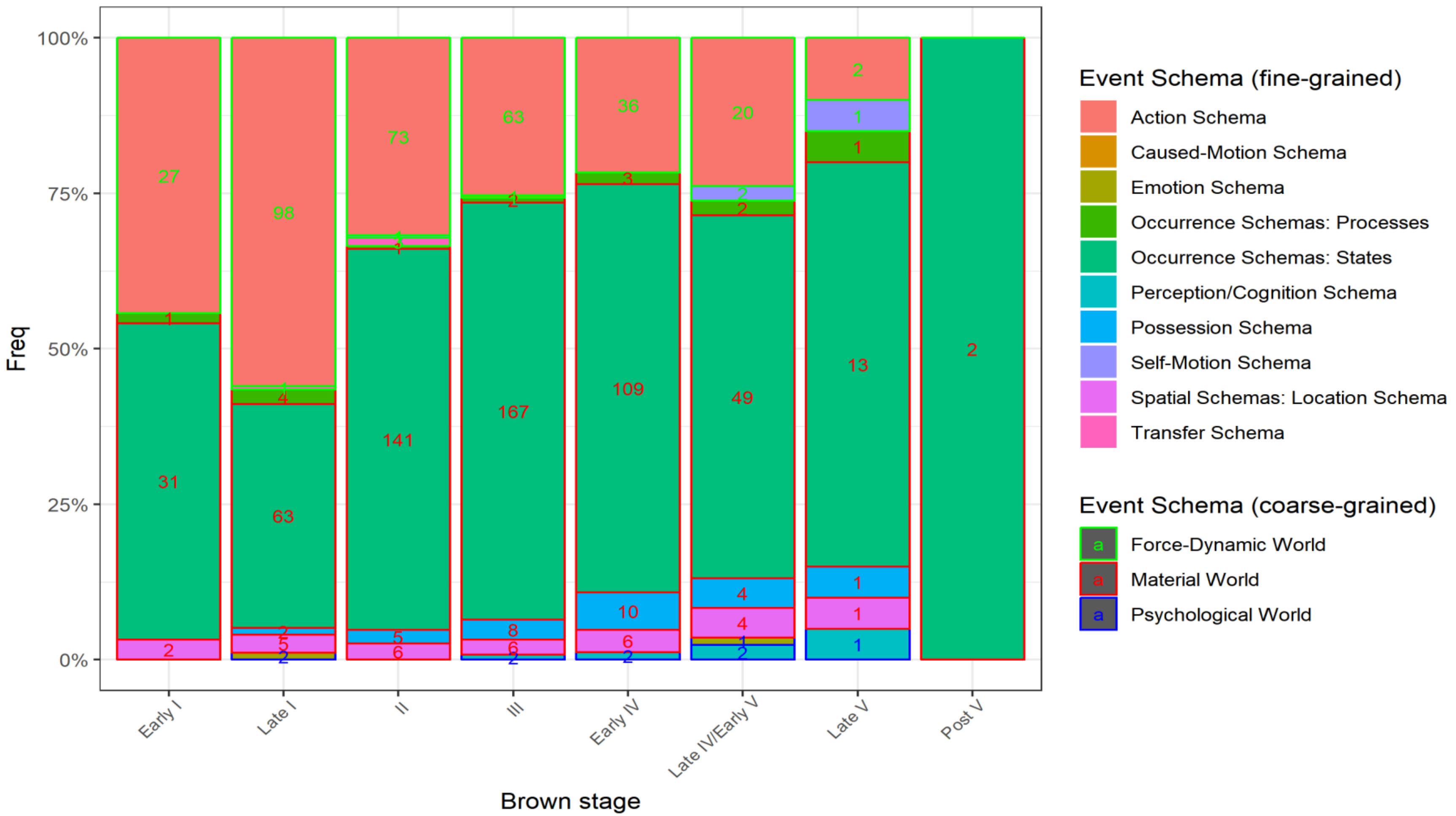


Figure 7.9: Event schemas by Brown's stages for the MOT dataset

In summary, for all corpora the material event world schema is by far the most frequent, with frequencies ranging from 57% (MC CHI) to 71% (TC MOT). We can therefore clearly state that most *pretend* utterances relate to event schemas involving material entities and their relations. The force-dynamic world is second most frequent in all corpora, with frequencies ranging from 28% (TC MOT) to 43% (MC CHI). So, *pretend* utterances also relate to a significant degree to actions and dynamic events. By far the least frequent world of experience is the psychological world, ranging from no occurrences at all (MC CHI) to a frequency of 11% (TC CHI).

In terms of development, the key observation is that for the TC CHI data, material world event schemas decrease in relative frequency over time, whereas references to the force-dynamic world and the psychological world increase. For the MC CHI data, no such changes are apparent. For the MOT data, there are also no clear changes when we look at development in general. However, when looking at linguistic complexity references to the material world seem to increase whereas references to the force-dynamic world seem to decrease in the MOT data. This is likely due to children taking a more active role in pretend play interactions when the overall linguistic complexity of their utterances is higher. This means that children with higher MLUs more actively instruct pretend actions and establish pretend scenarios, to which mothers respond by clarifying aspects of the material world that are part of the pretend play scenarios and actions established by their children.

We will now explore the distribution of *pretend* in the material world in more detail.

### 7.3 Distributions of *Pretend* in the Material World

The material world contains situations and events that relate to the occurrence of entities in states and processes, the location of entities and their possession. As described in Section 7.1, Radden and Dirven (2007: 272) divide the material world event schema into three subschemas: the *occurrence schema*, the *location schema*, and the *possession schema*. The occurrence schema describes states and processes that entities are in. These are coded here as occurrence schema: states (OS:S) and occurrence schema: processes (OS:P). Spatial schemas describing a locative relation are coded here as spatial schema: location schema (SS:LS). There are also spatial schemas referring to the relation of an entity and a trajectory as in *The ball rolled down the hill*. However, as this schema does not play a role in the corpus, it will be neglected here. Lastly, the relation between a possessor and an entity possessed by the possessor is captured by the possession schema (POSS).

Of course, complex utterances can also evoke more than one event schema, and these are also marked as such, for example, OS:S/SS:LS: *you were pretending that was a car and you were sitting in one box and you had the other one on your head didn't you?* (MOT, anne28.cha). In this example, the pretend event schema that is expressed features an occurrence schema expressing a pretend state of affairs with a copulative construction (*you were pretending that was a car*). But in addition, it also features a spatial location schema (*you were sitting in one box*).

If we investigate the overall relative distribution of the subschemas of the material event schema, we find the following: For the CHI data, OS:S is by far the most frequent material world event schema, with 85.7%. The second most frequent category is SS:LS, which accounts for 7.6% of all material world event schemas. In third place is the POSS schema, with 4.8%. The least frequent categories are OS:P with 1.4% and utterances that evoke both OS:S and SS:LS with <1%. Dividing the CHI data into MC CHI and TC CHI we see that the distributions look quite different. OS:S is the most frequent category for both, with 98% of all utterances in the MC CHI dataset, and 81.8% for the TC CHI data. However, in the MC CHI data, there is only one other category that occurs in the material event schema data, and that is OS:P with 2%. In the TC CHI data, in contrast, there are five categories in total. For the TC CHI data, SS:LS is the second most frequent category with 10.1%. POSS is third most frequent with 6.3%. As in the CHI data overall, OS:P (1.3%) and OS:S/SS:LS (<1%) are the least frequent. Overall, with 18% of the TC CHI data belonging to categories other than OS:S, the data beyond age 3;0 are therefore more complex in which aspects of the material world event schema they relate to.

For the MOT data, we find that these are in many respects quite similar to the CHI data. OS:S is the most frequent category with 88.3%. The combination of OS:S/SS:LS is the second most frequent category with 5.1%. It is followed closely by POSS (4.6%) and SS:LS (4.2%). OS:P belongs to the least frequent categories with 1.9%. The combinations of OS:S/OS:P and SS:LS/OS:P both account for <1% of the data, respectively. If we divide the MOT data into their MC MOT and TC MOT subparts, we find that they are more similar to each other than the MC CHI and TC CHI data. For both TC MOT and MC MOT, OS:S is by far the most frequent category, both with a distribution of 88.3%. In the TC MOT data, SS:LS is the second most frequent category with 4.9%, and the third most frequent category is POSS with 3.2%. In the MC MOT data, the order is reversed, with POSS being the second most frequent with 6.4%, and SS:LS being the third most frequent with 3.4%. OS:P is in fourth place for both datasets, with 1.3% for the MC MOT and 2.3% for the TC MOT. OS:S/SS:LS and OS:S/OS:P occur in both datasets with a frequency below 1%. Moreover, SS:LS/OS:P only occurs in the TC MOT with below 1% frequency. What we can also glean from this distribution is that there is quite a strong difference between the CHI and MOT data in some domains. However, this also holds when comparing TC CHI and TC MOT, and MC CHI and MC MOT with each other, respectively. The overall relative frequencies of material world event schemas can be found in Fig. 7.10.

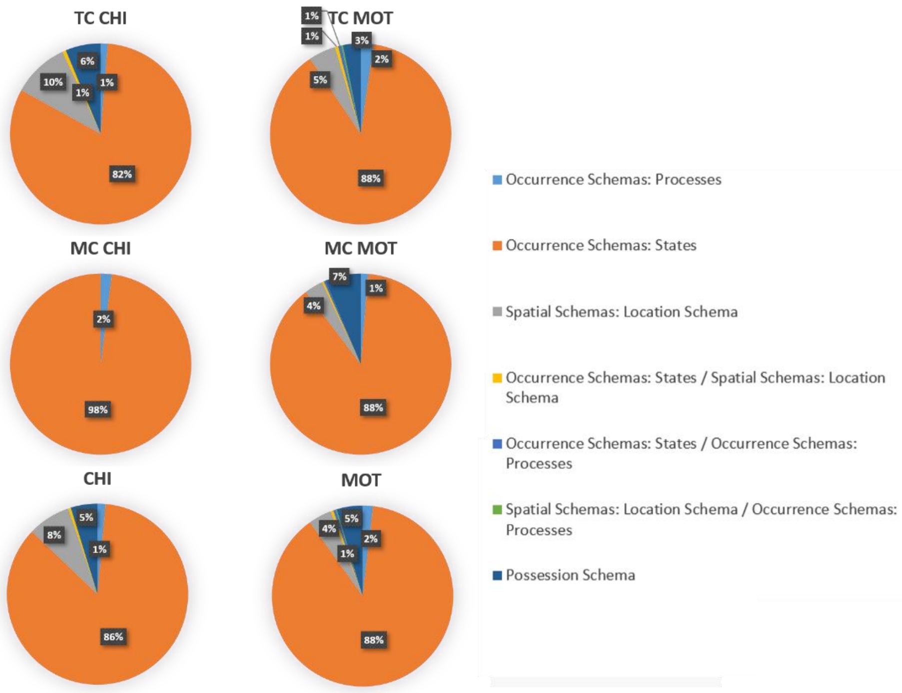


Figure 7.10: Comparison of the relative distributions of material world subschemas for TC CHI, TC MOT, MC CHI, MC MOT, CHI and MOT

Both mothers and children in the corpus data therefore overwhelmingly conceptualise static pretend situations when talking about the material world. Dynamic pretend situations occur much less frequently, and the same holds for other types of material world conceptualisations. In addition, Thomas' material world *pretend* utterances are conceptually more complex than the MC CHI utterances.

After discussing the overall distributions of *pretend* utterances in the material world, the next section will examine the distributions sorted by age and Brown's stages. In Section 7.3.2, I will then analyse the distribution of the subcategories of the occurrence schema: states (OS:S) event schema, which is the event schema with by far the most occurrences in the category of event schemas in the material world.

### 7.3.1 Distributions by Age and Brown's Stages

If we look at how the relative distribution of material world event schemas changes with age for children, the key observation is that the variety of subschemas increases with age, especially for the TC CHI data. That is, the material world event schemas become more diverse as children grow older. As all material event subschemas other than OS:S have a very low frequency it is difficult to make any meaningful comparisons about changes in their distribution. However, it is still interesting to note that age 3;3-3;5 is the first age range where three different subschemas of the material world appear, and that it is the last age range of the TC CHI data, 4;9-4;11, where this number increases to 4. This increasing complexity of material world subschemas is consistent with the hypothesis that children's pretend play utterances become more complex as they grow older. The distribution of the material world subschemas can be found in Fig. 7.11. If an utterance was coded as an instantiation of more than one target category, such as OS:S/SS:LS, the utterance was counted as an instance of each subschema.

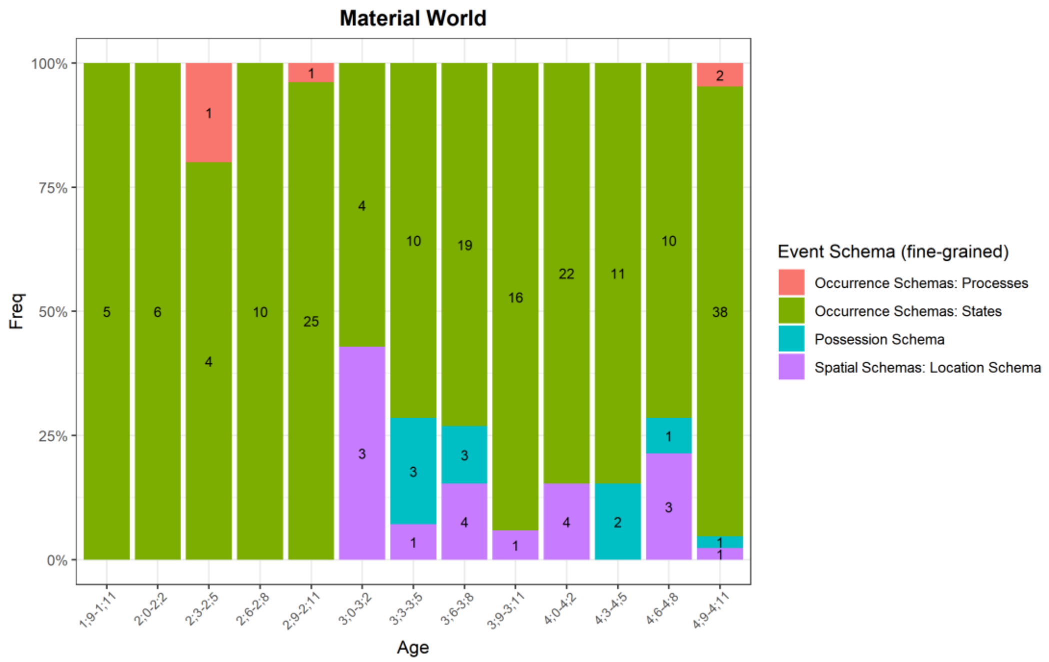

Figure 7.11: Pretend target event schemas in the material world for the CHI data sorted by age

No such developmental changes are apparent in the MOT data (Fig. 7.12). In terms of relative frequency, we do not find any consistent changes in how often the categories of the material world occur relative to each other across age. Moreover, in contrast to the CHI data, the number of different subschemas stays roughly the same as children grow older. In general, what we can glean from these data is that in terms of material event subschemas, the complexity of pretend play does not necessarily increase. However, what seems to become more complex is children’s linguistic contribution to the negotiation and coordination of pretend play situations evoking the material world event schema.

A similar picture emerges for the distribution of material world event schemas sorted by Brown’s stages. For the CHI data (Fig. 7.13), the first stages of linguistic development only have one type of event schema (OS:S) and build up to four different event schemas by stage Early IV. For the MOT data (Fig. 7.14), on the other hand, even in the earliest Stage of Early I, mothers use three different types of material world event schemas, reaching four different material world event schemas by Stage Late I. So as children’s utterances become more linguistically complex, they tend to use more types of material world event schemas. For the MOT data, on the other hand, the complexity of material event schema *pretend* utterances does not seem to change.

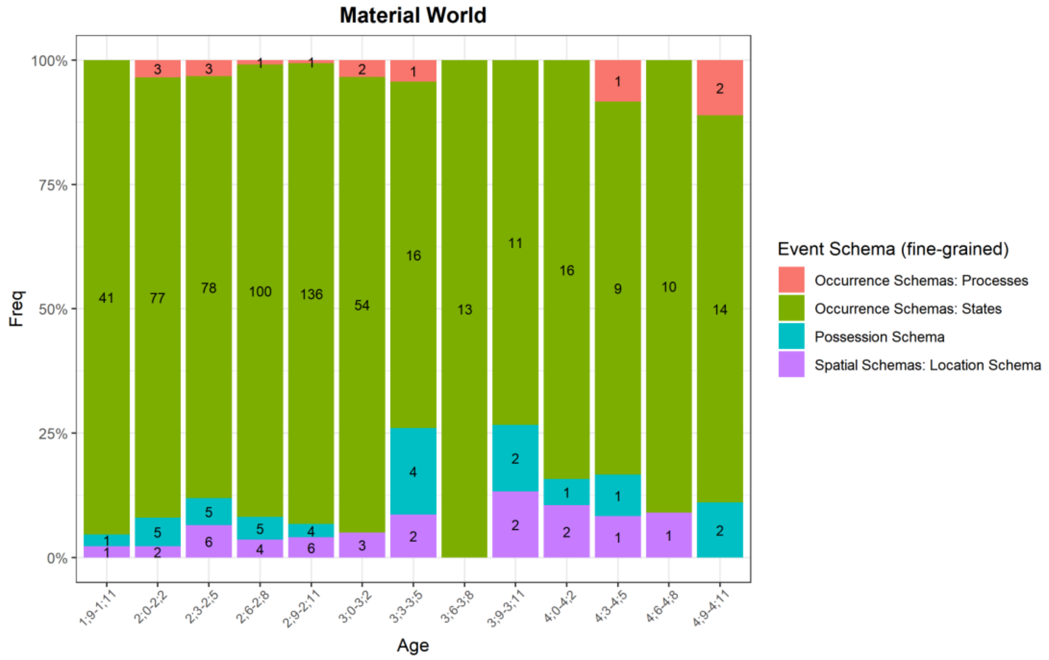


Figure 7.12: Pretend target event schemas in the material world for the MOT data sorted by age

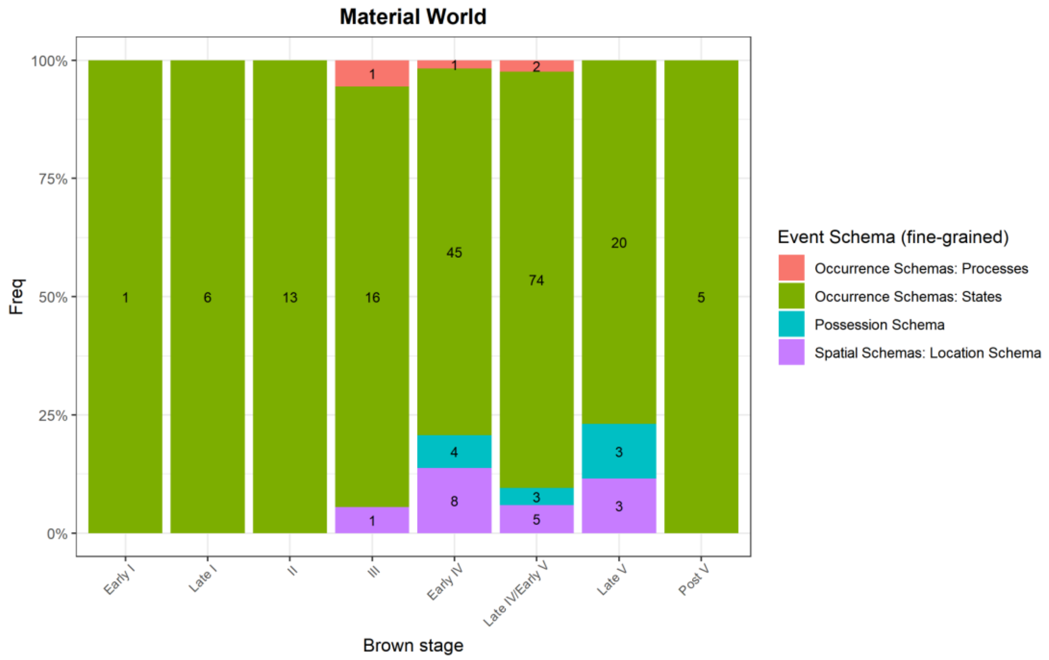


Figure 7.13: *Pretend* target event schemas in the material world for the CHI data sorted by MLU

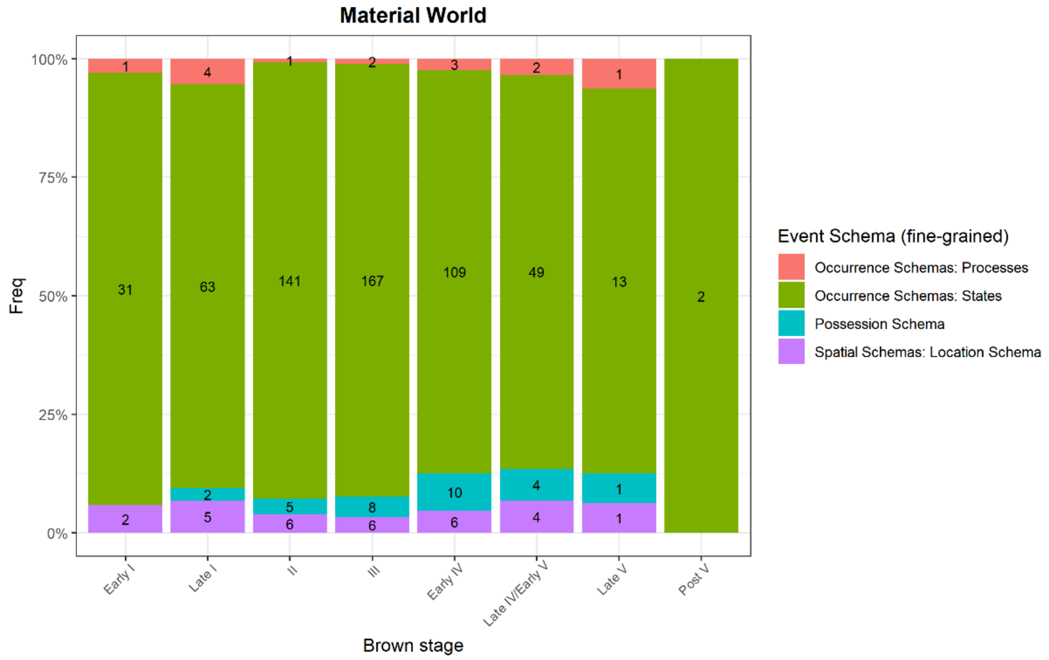


Figure 7.14: *Pretend* target event schemas in the material world for the MOT data sorted by MLU

Overall, then, in the material world of experience, OS:S is by far the most frequent subschema, ranging from 82% (TC CHI) to 98% (MC CHI). The relative frequency of the OS:P ranges from 2% (MC CHI) to 7% (MC MOT). The SS:LS ranges from no occurrences at all (MC CHI) to 10% (TC CHI). All other subschemas, such as POSS, or combinations of subschemas, occur with very low frequency.

Regarding development, the range of subschemas becomes more diverse in the CHI data both measured by age and linguistic complexity. For the MOT data there are no such changes in complexity.

In the following section, I will therefore explore the internal structure of this category in more detail.

### 7.3.2 Distribution of Occurrence Schema: States Subcategories

The occurrence schema: states (OS:S) event schema can be divided into five subcategories. It can express the following meanings: property attribution, category inclusion, identification, representation, and the existential function. The property attribution function can be found in utterances such as *The Burj Khalifa is one of the pinnacles of human technological and cultural advancement*. In these expressions, an entity is assigned a property. The category inclusion function is found in sentences such as *The Burj Khalifa is a skyscraper*. In these kinds of utterances, the

*Burj Khalifa* is included as being a member of a category, in this case, the category of *skyscraper*. *Pretend* utterance often make use of this function as it can be used to subsume a pretend entity under a category, as in *just (pre)tend that's a water* (3-07-01.cha). The identification function can be found in utterances that identify one entity with another thing, such as in *The Burj Khalifa is the tallest building in the world* (cf. Radden & Dirven 2007: 273). The identification function is also essential in pretend play scenarios, as it can be used to identify an entity as a pretend entity, as in *it pretend to be my doll* (Ruth31b.cha). These three cases can be seen as the most prototypical functions of the OS:S schema. However, there are also more peripheral instances of this schema. Two that are of interest in the present analysis are the existential function and the representation function. The existential function can be found in utterances that state the existence of some entity, such as *There is a skyscraper (in Dubai)*. This function can be of higher importance in pretend play situations than in other contexts. This is because in pretend play, the existence of some pretend entity can be evoked through the existential function of the OS:S schema, as in *just pretend there was a bell* (4-10-04.cha). Another function that can be important in pretend play situations is that of representation. The representation function of the OS:S schema expresses a stand-for relation, in that one entity stands for another. This is the case for many pretend play utterances that transform an everyday object into a pretend entity, as in *just pretending my tea is bananas cut up* (3-07-03.cha).

It has to be noted here, of course, that especially when it comes to pretend situations, it is sometimes difficult to interpret which function a particular *pretend* utterance belongs to. This is especially the case in the context of the question of when children understand pretence as representational as opposed to acting as if (cf. Section 3.1.7). Is a child identifying a particular entity as pretend, thereby making use of the identification function, or are they expressing a stand-for relation, thereby using the representational function? In the CHI data, most instances are implicit identifying utterances such as *it pretend to be my doll* (Ruth31b.cha). There are hardly any explicit expressions of pretence relationships, such as *just pretending my tea is bananas cut up* (3-07-03.cha). Although these could be seen as instances of the representation function, they were also subsumed under the identification function. This was done because the difference between the two poles of identification and representation for pretend utterances should be seen as a matter of degree and emphasis. Both categories have fuzzy boundaries with possible overlaps and only very few later utterances can be argued to be more on the representation end of the identification-representation continuum. In Sections 7.3.2.1 to 7.3.2.3 I will first give a general overview of the different distributions, before turning to what these distributions mean, and how they can be related to changing strategies of perspectivation and pretend play interactions in Section 7.3.2.4.

#### 7.3.2.1 Comparing MC CHI and TC CHI Data

Studying the overall relative distribution of these five occurrence schema: states subcategories in the MC and TC corpora yields the following results: First, if we analyse the CHI data, we find that property attribution is the most frequent function, with 51.7%. It is followed by the identification function with 24.7% and the category inclusion function with 18.4%. The three most prototypical functions of the OS:S schema are therefore also the ones that are most frequent in the CHI data. 5.2% of children's *pretend* utterances belong to the category of the existential function. If we divide the CHI data into TC CHI and MC CHI, we find that these data differ from each other in terms of which functions are more frequent. In both TC CHI and MC CHI the property attribution function of the OS:S schema is most frequent, but in the MC CHI data, it is much more frequent with 64% than in the TC CHI data with 46.8%. In the MC CHI data, category inclusion is the second most frequent category with 22%, and identification is the third most frequent category with 14%. In the TC CHI, this order is reversed, with the identification function being the second most frequent category with 29% and the category inclusion the third most frequent with 16.9%. The existential function is only found in the TC CHI data, with 7.3%.

In terms of perspectivation strategies, this distribution shows that assigning a property to a pretend entity seems to be especially prominent in coordinations and negotiations of pretend interactions. From this we can draw the conclusion that for certain pretend goals property assignment is interactionally and cognitively more useful than other strategies, a point I will look at in more detail when I discuss the development of these categories.

#### 7.3.2.2 Comparing MC MOT and TC MOT Data

Investigating the MOT data, we also find the same general distribution for the three prototypical OS:S functions. Property attribution is most frequent with 55.9% (compared with 51.7% in the CHI data), and identification is the second most frequent. However, with 38.7% it occurs at a much higher rate than in the CHI data (24.7%). Third most frequent is the category inclusion function, which with 19.7% occurs at a quite similar frequency as in the CHI data (18.4%). The representation function does occur in the MOT data, but with below 1%. The same holds for the existential function. This is especially interesting as the existential function occurs at a frequency of 5.2% in the CHI data. If we divide the MOT data into TC MOT and MC MOT we find that there are quite significant differences, however. Most interestingly, the frequencies of the three prototypical OS:S functions are almost reversed. In the MC MOT data, just like in the MOT data overall, property attribution is most frequent, with an even higher frequency of 64.6%. Category inclusion is second most frequent with 17.5%. The third most frequent is the identification function with 17.1%. The representation and existential function hardly occur at all, with 0.4%. In the TC MOT data, on the other hand, identification is actually the most frequent category, with 56.9%. Category inclusion is also second most frequent, and with 21.5% it is also the category that differs least from the MC MOT data. However, in the TC MOT data, with 19.6% property attribution is the least frequent of the three prototypical functions. The representation function occurs more often than in the MC MOT data, but still only reaches 1.3%. The existential function occurs with a frequency of 0.6%. Looking at the MOT data in total therefore masks the vast underlying difference in relative distribution in TC MOT and MC MOT.

#### 7.3.2.3 Comparing CHI and MOT Data

With this in mind, we can also compare how the CHI and MOT data relate to each other in their respective corpora. The data for the MC CHI and MC MOT are quite similar. Property attribution is most frequent in both and occurs at almost the same relative frequency (MC CHI: 64%; MC MOT: 64.6%). Category inclusion is the second most frequent category, with only a slightly higher relative frequency for the MC CHI data (MC CHI: 22%; MC MOT: 17.5%). Identification is the third most frequent function, this time with the MC MOT data exhibiting a slightly higher relative frequency (MC CHI: 14%; MC MOT: 17.1%). As already mentioned, representation and the existential function only occur in the MC MOT data, but at very low frequencies. Whereas the MC CHI and MC MOT data do not differ strongly from each other, the same is not the case when comparing the TC CHI and TC MOT data.

Property attribution is the most frequent prototypical category in the TC CHI data with 46.8%. In the TC MOT, in contrast, it is actually the least frequent prototypical category with only 19.6%. Identification is the most frequent category in the TC MOT data with 56.9%. In the TC CHI data, it is second most frequent with 29%. This again makes sense in light of the overall discourse strategies used in the TC data. As Thomas is often quite active in instructing and negotiating pretend scenarios, it stands to reason that his mother more often tries to clarify and identify the status of pretend entities that he includes in his pretend activities. So it is more frequent here than in the MC data, but still much less frequent than in the TC MOT data. Category inclusion is the category with the most similar relative frequencies. It has a relative frequency of 21.5% in the TC MOT, making it the second most frequent prototypical category. In the TC CHI data, it has a relative frequency of 16.9%, making it the third most frequent category. In the TC MOT, the representation function is present, as mentioned, whereas the few unclear cases in the TC CHI data were subsumed under the identification function. Regarding the existential function, however, TC CHI displays a much higher relative frequency than the TC MOT, with 7.3% vs. 0.6%. Overall, then, the TC CHI and TC MOT data might be more similar to each other than the MC CHI and MC MOT data, respectively. However, they still differ from each other quite significantly.

The relative frequencies of the individual datasets can be found in Fig. 7.15. One crucial question is whether some of these differences might be due to the fact that the individual datasets cover different time spans. To answer this question, we can compare the relative frequencies of the TC MOT data divided into two age groups, 2;0-3;0 and 3;0-4;11. However, we find that the TC MOT 2-3 data are not more similar to the MC MOT data, which cover the same time span. In the TC MOT 2-3 data, identification is still by far the most frequent function with 60.7% (vs. 17.1% MC MOT and 56.9% TC MOT). Category inclusion is the second most frequent in the TC MOT 2-3 data with 23.8% (vs. 17.5% MC MOT and 21.5% TC MOT) and property attribution the third most frequent with 14.3% (vs. 17.5% MC MOT and 19.6% TC MOT). Overall, then, in its relative frequency, the order does not differ significantly between TC MOT 2-3 and TC MOT, and is still quite different from the MC MOT data.

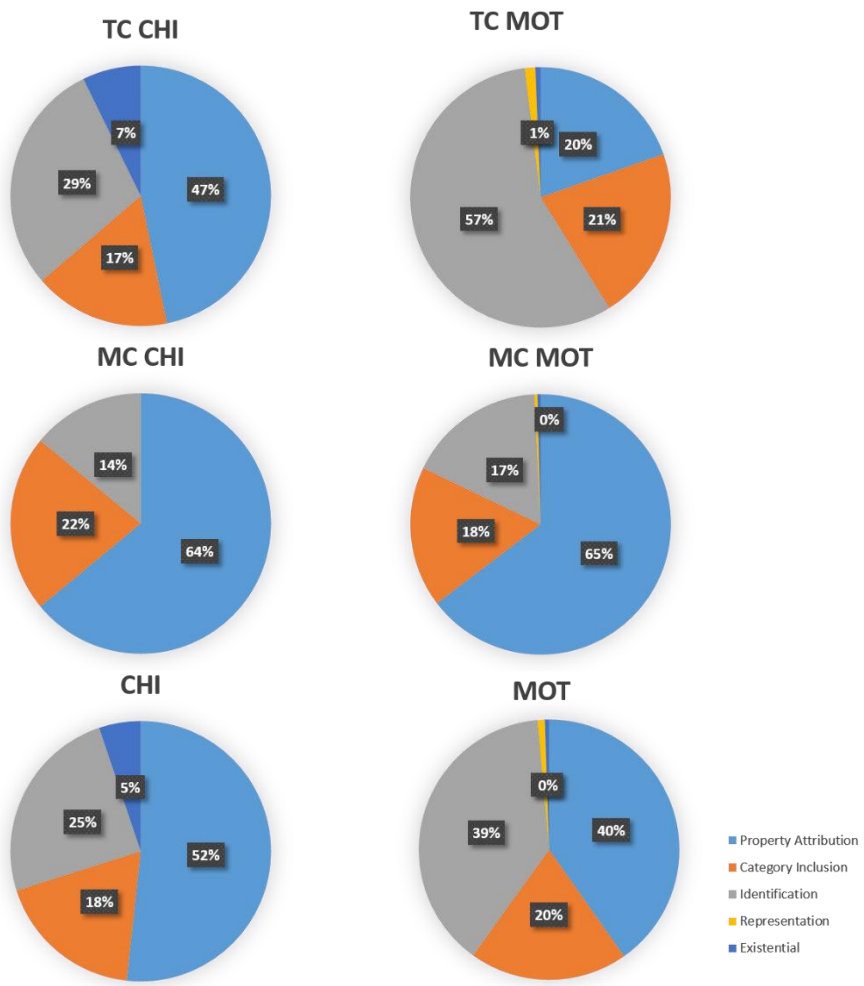


Figure 7.15: Comparison of occurrence schema: states subcategories property attribution, category inclusion, identification, representation and existential for the TC CHI, MC CHI, CHI, TC MOT, MC MOT and MOT datasets

When we consider the TC MOT 3-5 data, we find that the pattern differs slightly from the TC MOT 2-3 data. Identification is still the most frequent category, but with 52.1% it is lower than for the TC MOT 2-3 data. The overall higher frequency of the identification function might also be part of the explanation why the TC CHI data have a much higher frequency of it (29%) than the MC CHI data (14%). Property attribution is the second most frequent category for the TC MOT 3-5 data with 25%, as opposed to the TC MOT 2-3 data, where it is the third most frequent function with 14.3%. Thomas' mother therefore uses more property attribution when evoking the OS:S schema as Thomas grows older. Finally, the TC MOT 2-3 and 3-5 data do not differ very strongly in the category inclusion function, with 20.1% for the TC MOT 3-5 data and 23.8% for the TC MOT 2-3 data (vs. 16.9% for the TC CHI data). The relative frequencies for TC MOT 2-3, TC MOT 3-5, TC CHI and MC MOT can be found in Fig. 7.16 and Table 7.1.

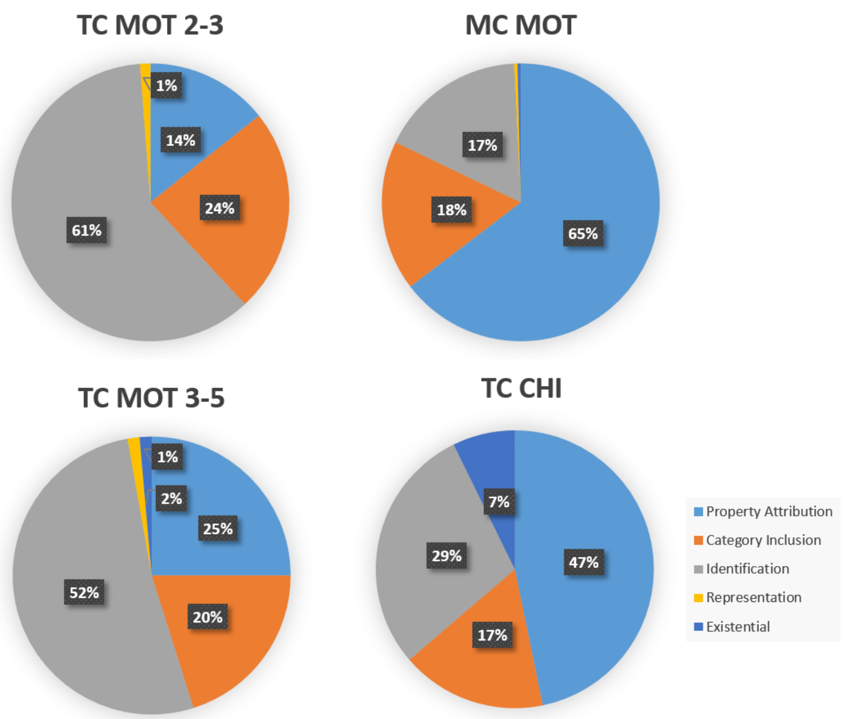


Figure 7.16: Comparing the relative frequencies of TC MOT 2-3, TC MOT 3-5, MC MOT and TC CHI for subschemas of the OS:S schema

| **Occurrence Schema: States Sub-schemas** | **TC MOT** | **TC MOT 2-3** | **TC MOT 3-5** | **TC CHI** | **MC MOT** | **MC CHI** | **MOT** | **CHI** |
|---|---|---|---|---|---|---|---|---|
| Property Attribution | 19.6% | 14.3% | 25% | 46.8% | 64.6% | 64% | 55.9% | 51.7% |
| Category Inclusion | 21.5% | 23.8% | 20.1% | 16.9% | 17.5% | 22% | 19.7% | 18.4% |
| Identification | 56.9% | 60.7% | 52.1% | 29% | 17.1% | 14% | 38.7% | 24.7% |
| Representation | 1.3% | 1.2% | 1.4% | / | 0.4% | / | 0.9% | / |
| Existential | 0.6% | / | 1.4% | 7.3% | 0.4% | / | 0.5% | 5.2% |

Table 7.1*:* Relative distributions of OS:S subschemas for TC MOT, TC MOT 2-3, TC MOT 3-5, TC CHI, MC MOT, MC CHI, MOT and CHI; the most frequent category is shaded grey

In the next section, we are going to discuss how the distributions of the occurrence schema: states subschemas change with age and MLU.

#### 7.3.2.4 Distributions by Age and Brown's Stages

Are there significant changes in the frequency of the OS:S subschemas across age? We will answer this question for the CHI data first and then turn to the MOT data. For the CHI data, the changes in relative frequency can be found in Fig. 7.17.

Two *prima facie* observations we can make is that as children grow older, the distribution of OS:S functions becomes more varied, and that the TC CHI data, starting at 3 years of age, are more varied than the MC CHI data from 1;9-2;11. The property attribution, category inclusion and identification functions can be found from 2;0-2;2 onwards, whereas the existential function only appears in the age range of 3;3-3;5. The existential function of OS:S *pretend* utterances therefore seems to be more cognitively complex than the other functions. This makes sense when considering the cognitive complexity involved in pretending the existence of an entity. On the one hand, these can relate to a state of affairs, such as *<&um (.) just (pre)tend> [<] [//] just (pre)tend there's a problem* (3-04-03.cha) or *Mummy [<] just pretend there's a fire* (3-09-01.cha).

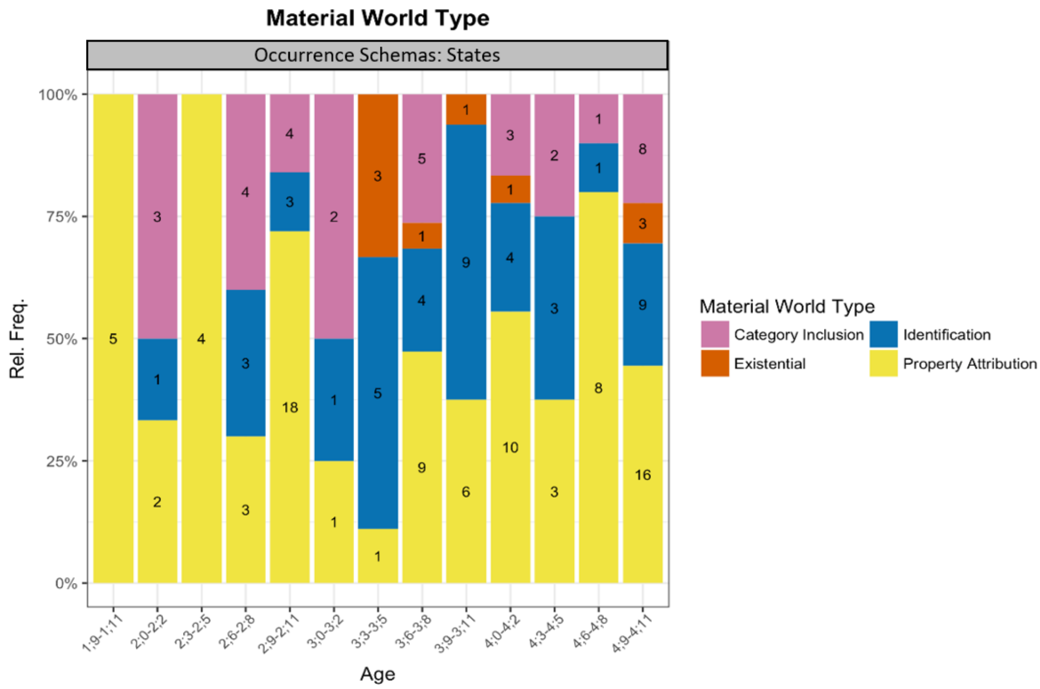


Figure 7.17: CHI occurrence schema: states distribution by age

But these utterances can also relate to pretending the existence of an object without having a direct 'stand-in' object that represents it, such as in *pretend there's a phone* (4-10-04.cha). As discussed in Section 3.2, younger children often still have problems with pretence situations in which there are no 'stand-in' objects. In fact, it is only around three years of age that children are increasingly showing pretend behaviours without the use of props (Sachet & Mottweiler 2013: 177), which is consistent with the TC CHI data on the emergence of the existential function. Of course, with only nine data points for the existential function, we are not in a position to make very reliable pronouncements.

Let us now turn to the functions of occurrence schema utterances as a whole. Fig. 7.18 combines the data for the functions of the OS:S event schema with the functions of other subschemas of the occurrence schema. There are not enough data points to draw any conclusions about changes in the relative frequency of individual functions. However, what we see is that for the corpus as a whole, the variety of different occurrence schemas seems to increase at a moderate level. The age range of 2:9-2;11 is the first one where we find four different occurrence schema functions, and it is only in the age range of 4;9-4;11 where this number increases to six.

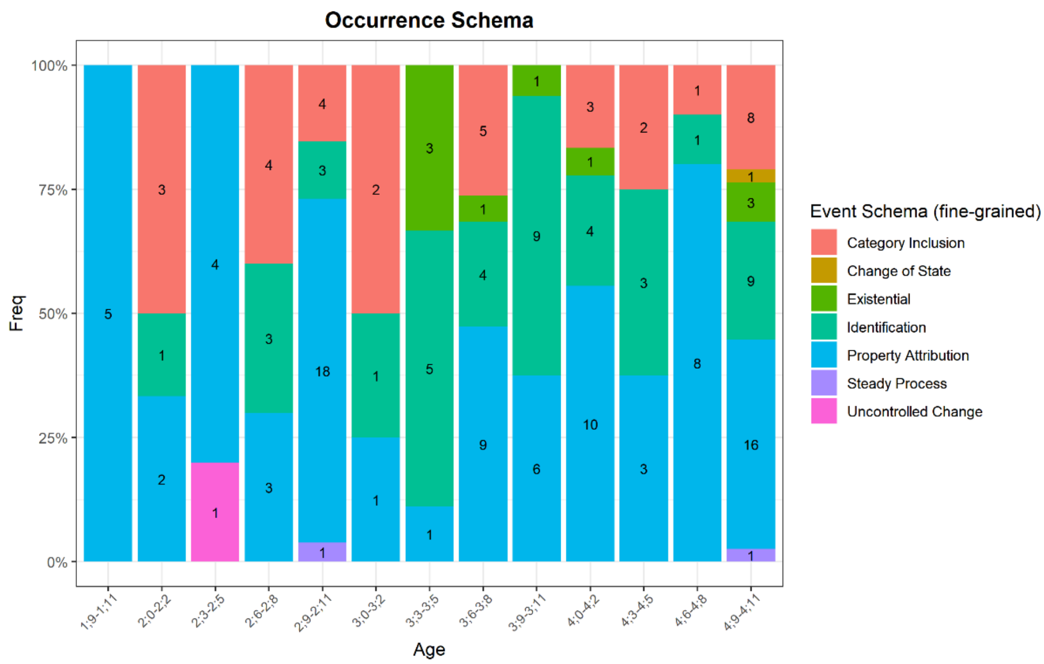


Figure 7.18: CHI occurrence schema: states and occurrence schema: processes functions by age

The MOT OS:S data in Fig. 7.19, on the other hand, do not seem to change in complexity, a result consistent with previous assessments of the MOT data. However, there are still some interesting trends to observe. For one, the relative frequency of the property attribution function seems to decrease consistently from age 1;9 to 3;2, whereas the identification function seems to increase in relative frequency overall. In terms of the complexity of pretend play, the identification function can be seen as more complex than the property attribution function, but it also points to different discourse functions. When coordinating a pretend play situation, the property attribution function will likely be more prominent as it concerns the properties of entities within a pretend play situation. This can relate to marking an entity as pretend such as in *it's just a pretend one* (MOT; becky02b.cha) when talking about a toy. But it can also relate to negotiating the properties of a pretend entity, as in *shall we pretend it's purple or do you want it to be yellow?* (MOT; becky25a.cha). The identification function, on the other hand, relates to what a particular pretend entity is to be conceptualised as, such as *that could be pretend tomato sauce* (MOT; Joel26b.cha) or *is that your pretend castle?* (MOT; ruth33b.cha). Such a conceptualisation involves more conceptual content and can therefore be seen as more complex, which can be seen as one of the reasons why its relative frequency rises with age. But it also reflects children becoming more active contributors to pretend play situations so that mothers more often have to use the identification function to ensure that they share a joint perspective on what is being pretended.

When looking at the occurrence schema by Brown's stages we can make the following observations. First of all, for the CHI data, the category occurrence schema: processes (OS:P) only occurs very infrequently. There is one instance of change of state *(&um just (pre)tend <I was> [//] then (.) I turned into a Daddy bird*; 4-10-06.cha; Late IV/Early V), two instances of a steady process (*it's pretend snowing yet*; becky28b.cha; *&uh [//] I [//] just pretend I was the sewage popping out*; 4-09-06.cha; III and Late IV/Early IV), and one instance of uncontrolled change (pretending that a boat has capsized, gail12a.cha; Early IV). The only inferences we can really draw from this limited dataset is that OS:P occurs relatively late in linguistic development, with no instances for Brown's stages Early I to II. In addition, focussing on static entities and assigning pretend status to them seems to be a much more frequent and practical perspectivation strategy for the establishment of pretend perspectives.

The pattern we do see is that the instances of the occurrence schema: states event schema become more varied. In Brown's Stage I, there is one instance of property attribution. For Brown's Stage II we have three OS:S categories, as for Brown's Stage III. Starting with Brown's Stage Early IV through Stage Late V, we find all four different OS:S categories. This only changes for Brown's Stage Post V, which is likely because there are only two transcripts for this stage. Thus, there is a clear increase in the variety of OS:S occurrences. So as the linguistic complexity of children's utterances increases, so does the number of different types of occurrence schemas they use to talk about pretend states. A graphic representation of the development of OS:S and OS:P pretend targets can be found in Fig. 7.20.

Looking at the MOT data, we find a different distribution. Again, we do not have many occurrences of OS:P for statistical judgements (change of state: 1; steady process: 2; uncontrolled change: 1). As opposed to the CHI data, there is no apparent change in the number and variation of different OS:S categories. This means that there is no apparent correlation between the complexity and distribution of OS:S categories for the MOT data.

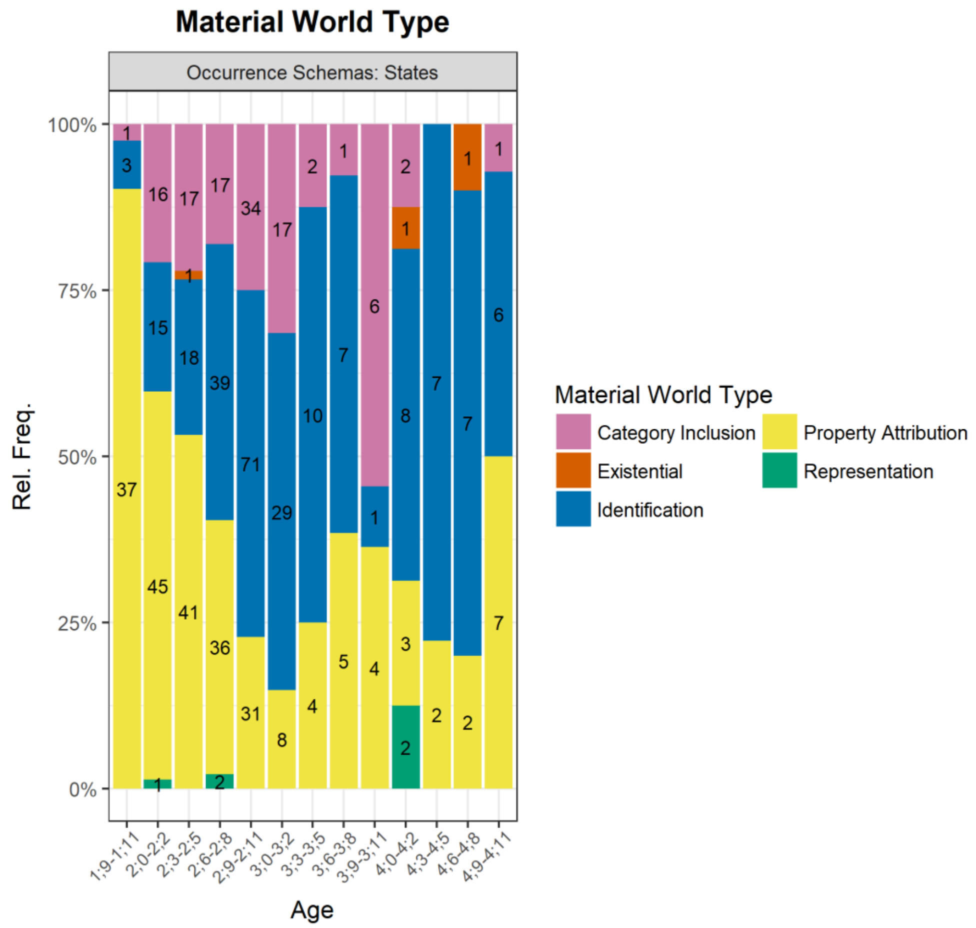


Figure 7.19: Distribution of function of occurrence schema: states utterances in the MOT data sorted by age

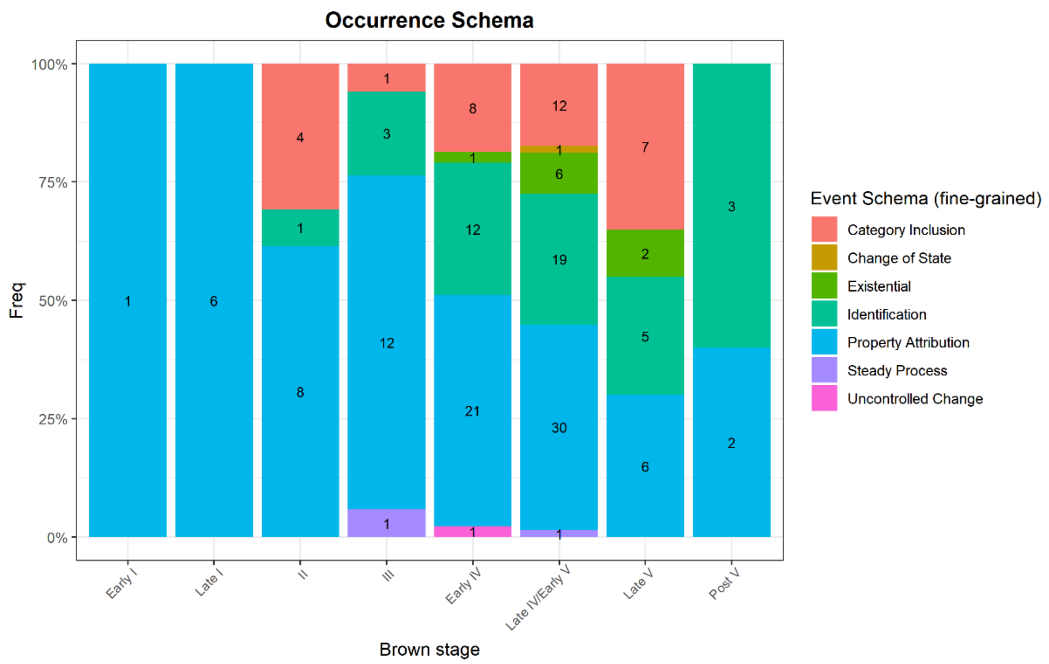


Figure 7.20: CHI occurrence schema: states and occurrence schema: processes functions sorted by MLU

If we see this in terms of child-directed speech, there is no evidence that mothers use less complex pretend language in the domain of OS:S that correlates with their children's linguistic development. Instead, mothers' linguistic pretend language complexity remains constant, and it is children's pretend language that develops (see also Section 6.2). The MOT OS:S and OS:P distribution can be found in Fig. 7.21 below.

In summary, the distribution of OS:S subcategories differs significantly between corpora. The MC CHI and MC MOT categories are very similar, with property attribution being the most frequent, category inclusion being second most frequent, and the identification function coming third. The same frequency rating can be found in the TC CHI data. However, the TC CHI data also contain instances of the existential function (7%), which does not occur in the MC CHI data and hardly occurs in the MC MOT data at all. The TC MOT data are quite different, with the identification function being most frequent, followed by the category inclusion function and the property attribution function.

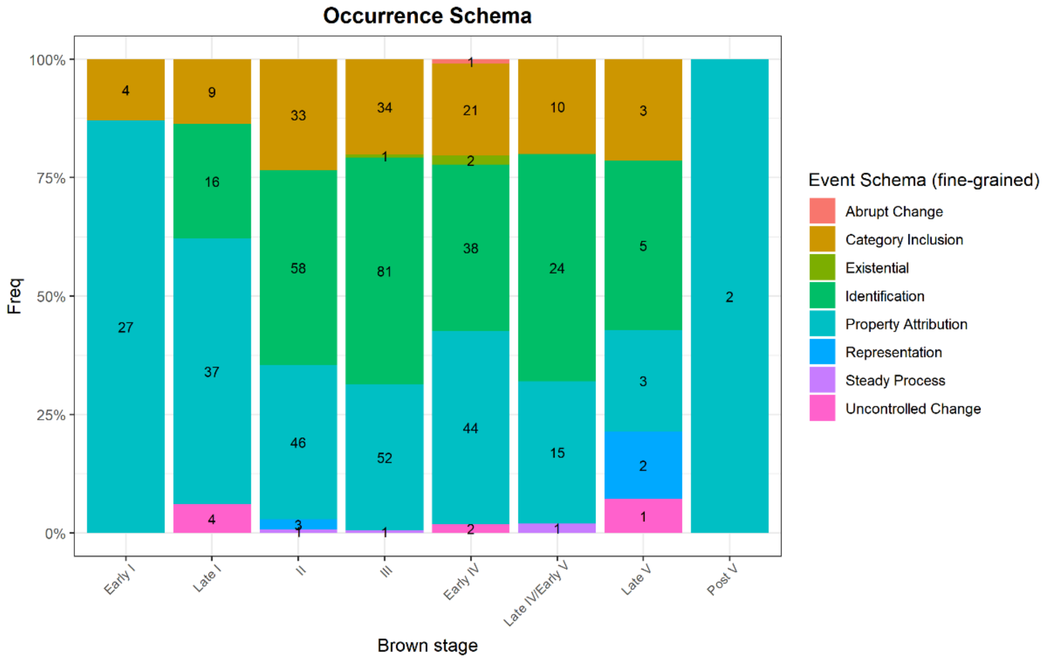


Figure 7.21: MOT occurrence schema: states and occurrcence schema: processes functions sorted by MLU

In terms of development, the TC CHI data are more varied than the MC CHI data, with the diversity of OS:S subcategories increasing with age and linguistic complexity. In addition, it can be argued that cognitively complex occurrence schema subcategories occur later in development. There is no such change in the MOT data, where the key difference is between the overall distribution of OS:S subcategories in the MC MOT and TC MOT data.

## 7.4 Distributions of *Pretend* in the Psychological World

Radden and Dirven (2007: 281) describe the psychological world event schema as a cognitive model that relates to people's experiences. On the one hand, these can relate to emotions, and on the other hand, they can relate to thoughts and perceptions. The psychological world event schema thus deals with an experiencer becoming and being cognitively aware of an entity or situation. Radden and Dirven (2007) divide the psychological world event schema into two subcategories. One is the emotion schema, which "describes the emotional state or process which a sentient human experiences" (Radden & Dirven 2007: 181). As outlined in Sections 2.3 and 7.1, children start understanding emotional states and desires from 18 months onwards (Repacholi & Gopknik 1997) and start talking about their own and others' emotions by 24 months of age (cf. Bartsch & Wellman 1995; Harris et al. 2016: 294; Widen 2016: 308). By 3 years of age, children show clear evidence in their spontaneous conversations that they understand emotions such as anger, sadness, being happy, or being scared, as internal states (Widen 2016: 308). They keep developing more complex and more differentiated emotion scripts as they get older (Widen 2016: 309-316).

The perception/cognition schema, on the other hand, "describes an experiencer's perceptual or mental awareness of a thing" (Radden & Dirven 2007: 299). By two years of age children not only understand simple emotions and desires, but also simple perceptions and attention, and they demonstrate this understanding in their language use (Bartsch & Wellman 1995: 156). But only as they grow older do children develop a more complex understanding of their own and other people's cognitive states (cf. Section 2.3.2.; see Wellman 2011 for a review). The emotion schema, but especially the perception/cognition schema relate strongly to children's developing sociocognitive and theory of mind capacities, and this also holds for their expression in pretend play situations (see also Section 3.1.7). Because of this close relation, these schemas are of special interest regarding children's sociocognitive development.

### 7.4.1 Development of *Pretend* in the Psychological World and Cognitive Development

What we can state from the outset is that *pretend* utterances evoking the psychological world do not occur very often, and only start to appear quite late in development. This is not particularly surprising, for two reasons: First, as we have seen, complex sociocognitive capacities develop quite late in childhood. Secondly, hypothetical statements, both in general and about mental states in particular, pose quite challenging for young children, although they perform better in pretence scenarios (Lillard et al. 2011: 292).

In total, there are only 40 *pretend* utterances evoking the psychological world event schema in the corpus data. 31 of these belong to the perception/cognition event schema, and 9 to the emotion schema. Most of these can be found in the TC CHI dataset (emotion schema: 2; perception/cognition schema: 28), some are in the TC MOT dataset (emotion schema: 1; perception/cognition schema: 5), and some in the MC MOT dataset (emotion schema 2; perception/cognition schema: 2). The MC CHI dataset does not contain any instances of the psychological world event schema. The two MC MOT emotion schema utterances can be found in the Anne corpus data at age 1;11.18 and relate to imperatives to pretend that Anne likes cakes, in one instance, and cheese, in the other (Anne04b.cha). In both cases, the situation is not addressed explicitly, but only with the imperative *pretend*, with the illocutionary force and event schema to be derived from the context. They therefore both relate to the schema of people liking or not liking particular kinds of food, a concept that young children understand by around 18 months of age (Repacholi & Gopnik 1997). One instance of the perception/cognition schema can be found in the Carl corpus, with his mother telling him to *just pretend* (carl31b.cha) at age 2;10.25. From the context, we can derive the interpretation that this imperative relates to the perception/cognition schema, more precisely, pretending to have an olfactory experience. His mother tells him to just pretend that he can smell chips. In the last example, at age 2;5.18, Gail's mother asks her *are you pretending?* (Gail17b.cha), inquiring whether she is pretending to read the newspaper.

It is important to stress here that from an adult perspective, these utterances refer to emotional states like liking, perceptual states like smelling, and cognitive processes such a reading. But as we have seen in our discussion of pretend play in Section 3.1.2, especially at this young age, it is not clear if children understand such pretend activities as truly cognitive, or more as acting as if. So in the case of reading, for example, Gail's mother might herself express a perception/cognition schema, but her daughter might simply interpret it as evoking an action schema, where pretending to read a newspaper is not necessarily bound to cognitive awareness and mental processing, but to certain behaviours, as in opening the newspaper and moving your eyes up and down. Evidence for this view comes from the fact that children have significant problems interpreting the mental states of people who are not actively engaged in an action. In fact, before age 6 to 8 they do not consistently judge people who are engaged in reading, listening and talking as also engaged in cognitive activity, or thinking, at the same time (Flavell et al. 1995: v; Wellman 2011: 269).

### 7.4.2 Development of *Pretend* in the Psychological World: TC CHI and TC MOT

So let us now investigate occurrences of the psychological world event schema in the TC. First of all, it is interesting to recall that the frequency of *pretend* utterances evoking the psychological world event schema is higher for the TC CHI data than the TC MOT data. Secondly, the timing of their occurrences is also quite interesting (Fig. 7.22). The perception/cognition schema does not occur in the TC CHI data before age 3;6-3;8 (3 instances), and then shows a drastic increase and peak around 4;0-4;2, the age in which theory of mind has been shown to properly take off conceptually (Wellman et al. 2001).

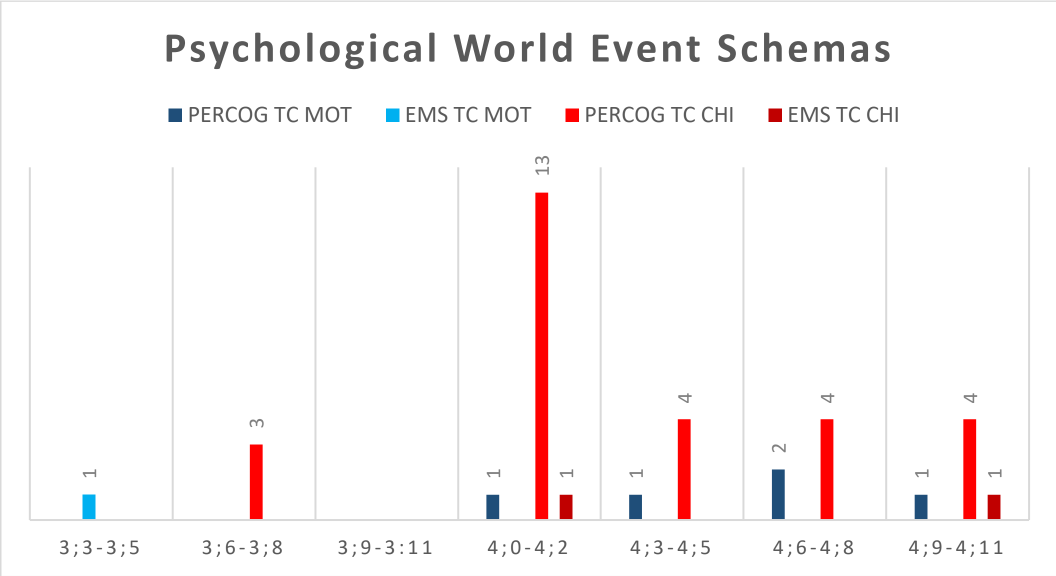


Figure 7.22: Instances and frequency of the emotion schema (EMS) and perception/cognition schema (PERCOG) for the TC MOT and TC CHI data

It is interesting to observe that there are no *pretend* utterances evoking the perception/cognition schema in the TC MOT data that precede the TC CHI utterances, suggesting that the association of *pretend* with perception and cognition is due to the child's cognitive conceptual changes, and not a direct result of his mother's previous *pretend* utterances.

Regarding the emotion schema, the first TC MOT utterance is a comment on Thomas' behaviour: *you needn't pretend you are* (3-05-02.cha), namely, pretend to be upset. Thomas' emotion schema utterances are imperative constructions instructing behaviour or states of affairs. In his first utterance (4-00-07.cha) he tells his mother *no, but just pretend you are very sad*. Also, in his second utterance (4-10.06.cha) he tells his mother to *just (pre)tend* that birds like particular kinds of food and ends his utterance with a tag ascertaining shared understanding and confirmation of this perspective: *okay?* As children do understand emotions and liking/not liking things around 18 months of age, respectively, these utterances are well within this timeframe.

A list of the perceptual and cognitive states evoked in the corpus data can be found in Table 7.2. below. This table also incorporates information on the first occurrence of these psychological schemas both in pretend play and in the corpus in general.

| Perceptual/ Cognitive State | Freq | Neg | FO (PP) | FO (C) | Example |
|---|---|---|---|---|---|
| being shocked | 1 | 0 | 4;1.5 | 4;1.5 | *just pretend you're shocked* (4-01-05.cha) |
| being tired | 1 | 0 | 4;8.6 | 2;00.18 | *I'm pretending* . (4-08-06.cha) |
| feeling sick | 1 | 0 | 4;1.1 | 2;04.28 | *I'm pretending* . (4-01-01.cha) |
| forgetting | 3 | 0 | 3;8.2 | 2;8.10 | *Mummy, just pretend you've forgotten your (>) little boy* (3-08-02.cha) |
| hearing | 3 | 3 | 4;0.7 | 2;05.28 | *just pretend I couldn't hear anything* .(4-00-07.cha) |
| hurting | 1 | 0 | 4;1.2 | 2;03.23 | *shall I pretend if it hurts my knee ?* (4-01-02.cha) |
| knowing | 5 | 2 | 4;1.1 | 2;01.17 | *now just pretend you know I was asleep* . (4-01-01.cha) |
| noticing | 1 | 0 | 4;4.5 | 3;1.2 | *now just pretend you notice Thomas was . running (?) to a double train* (4-04-05.cha) |
| remembering | 1 | 0 | 4;7.10 | 2;07.27 | *don't (/) don't just pretend you remembered* . (4-07-10.cha) |
| seeing | 8 | 4 | 3;6.0 | 2;0.12 | *just pretend &um (.) you didn't see me because I was in the wine shop* . (4-07-10.cha) |
| thinking | 1 | 0 | 4;11.8 | 2;4.15 | *you just pretend* . (4-11-08.cha) |
| wanting | 2 | 0 | 4;1.5 | 2;0.27 | *<just pretend you wanted to open> (>) the post box* . (4-01-05.cha) |

Table 7.2*:* Perceptual/cognitive states evoked by Thomas in the TC CHI data sorted by overall frequency (Freq), frequency of utterance featuring negation (Neg), first occurrence in the context of pretend play (FO (PP)) and first occurrence in the corpus generally (FO (C))

As this shows, for most perceptual/cognitive states, children begin to talk about these much earlier than when they first employ them in pretend play situations. Thomas therefore shows an awareness of perceptual/cognitive states before he talks about them in pretend play situations, indicating that talking about pretending to experience a perceptual/cognitive state is cognitively more complex. Indeed, adopting a pretend play frame involves a second-order metaperspective on a situation: “X pretends [cognitive/perceptual state 1] that Y experiences Z [cognitive/perceptual state 2].” Such second-order metaperspectives, or “thinking about thinking/perceiving” are a hallmark of theory of mind development (e.g. Wellman 2011). Table 7.2 also includes information on when Thomas pretends that a cognitive/perceptual state is not being experienced. This is relevant as negation also requires a complex metaperspective, as a complex mental space structure is first built up cognitively, and then an additional negative cognitive operation is performed which involves complex hypothetical thinking.

### 7.5 Distributions of *Pretend* in the Force-Dynamic World

As we have seen above, the force-dynamic world event schema is the second most frequent event schema category in the corpus data. However, pretend targets in the force-dynamic world are much less diverse than, for example, in the material world.

In general, and as we will see below in more detail, the action schema predominates by far. If we analyse the CHI data, we see that 92.3% of all CHI FDW event schema utterances belong to the action schema category. The transfer and caused-motion schemas make up for 0.85% each. Finally, the self-motion schema accounts for 6% of all CHI FDW utterances. However, this overall view of the CHI data masks an underlying stark difference between the MC CHI and the TC CHI. For the MC CHI, the AS, in fact, makes up 100% of event schemas, meaning that the TS, SMS and CMS percentages all ultimately derive from the TC CHI data alone. For the TC CHI data, the AS makes up for 88.6% of FDW utterances. Transfer and CMS make up for 1.3% each, and SMS makes up for 8.9% of the data.

This also means that in terms of relative frequency, the TC CHI data represent the most varied and complex FDW profile, as the MOT data are also predominated to a stronger degree by the AS, with 97.2%. For the MOT data, the Transfer schema and SMS occur with a frequency of 1.2% and the CMS has a frequency of 0.3%. The TC MOT and MC MOT data are more similar to each other than the MC CHI and TC CHI data are to each other. They are also more similar to each other than to either the TC CHI or MC CHI data. Of course, for both MC MOT and TC

MOT, the AS is by far the most frequent category with 96.3% and 97.9%, respectively. In the MC MOT data, Transfer occurs with a frequency of 0.7% and SMS with a frequency of 2.9%, whereas CMS does not occur at all. For the TC MOT, Transfer occurs with a frequency of 1.6%, CMS with a frequency of 0.5% and SMS does not occur at all. The overall frequencies of all datasets can be found in Fig. 7.23 below.

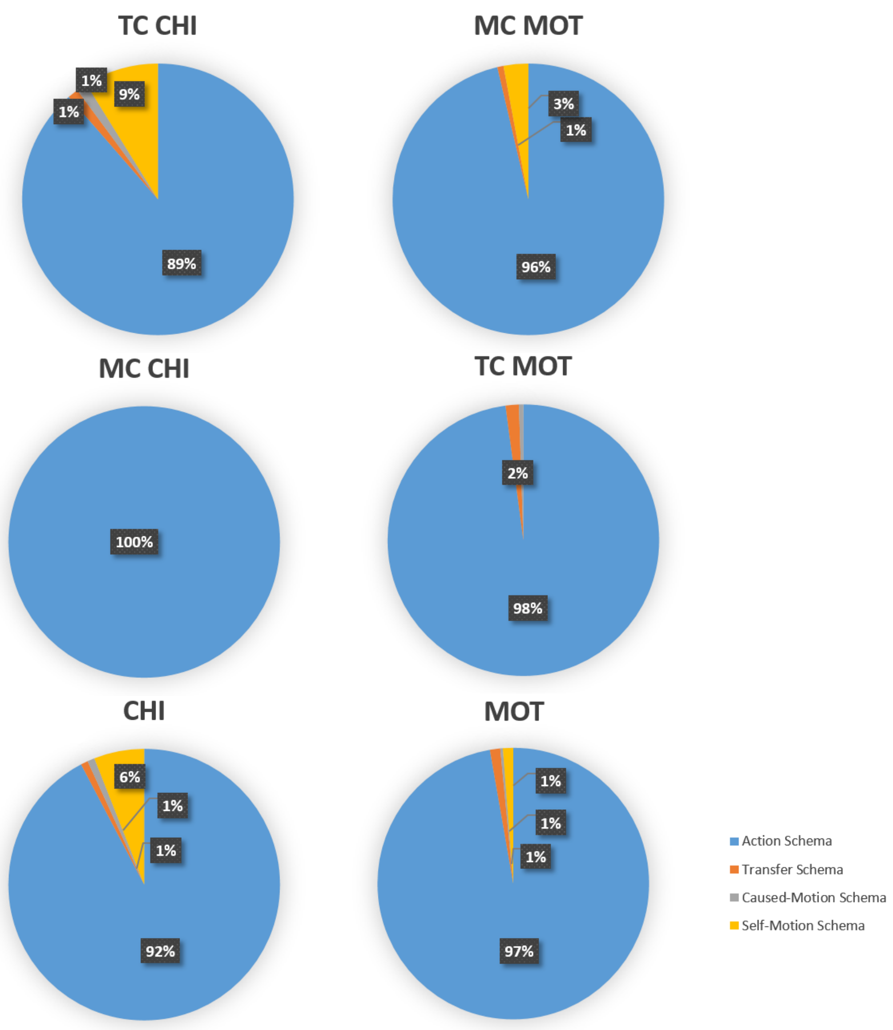


Figure 7.23: Comparing relative frequencies for subtypes of force-dynamic world event schemas for TC CHI, MC CHI, CHI, TC MOT, MC MOT and MOT

As stated above, the TS, CMS, and SMS hardly occur in the FDW data, if they occur at all. However, the fact that they occur at all indicates that it will be fruitful to investigate these instantiations in more detail.

Regarding developmental progression, for the MC CHI data, the AS is the only force-dynamic world schema used at all, so there is no change in the variety of types of FDW schemas. For the TC CHI, we also have instances of the transfer schema, the caused-motion schema and the self-motion schema. If we consider the data in total, this suggests that as children grow older, their use of the force-dynamic world event schema becomes more varied. The distribution of force-dynamic world event schemas can be found in Fig. 7.24.

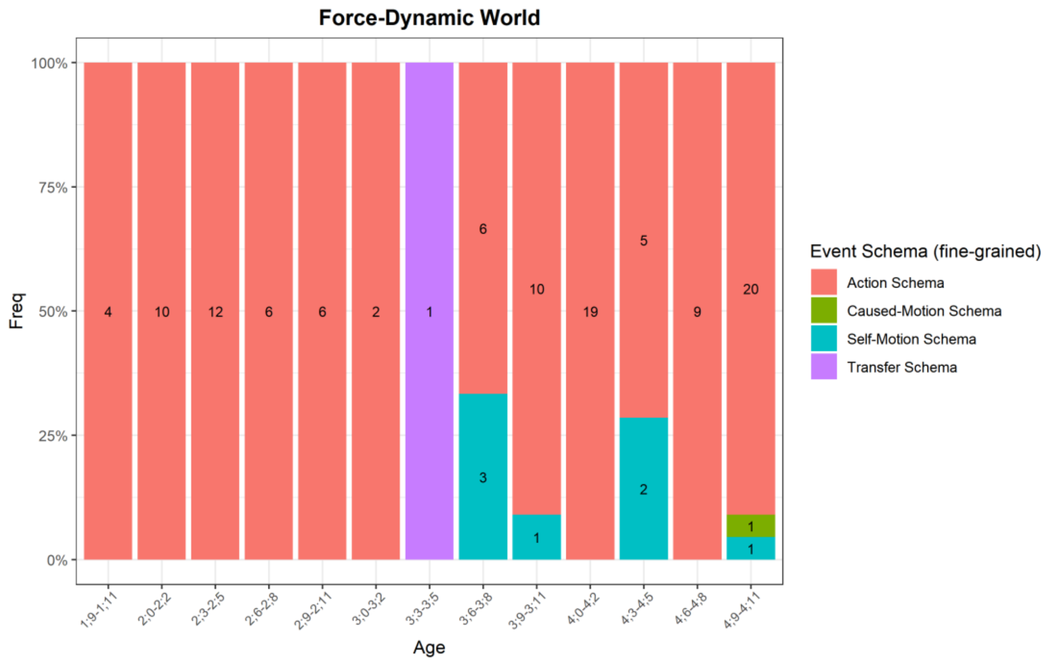


Figure 7.24: Pretend target event schemas in the force-dynamic world for the CHI data sorted by age

When looking at Brown's stages of development, we find that the number of different force-dynamic world event schemas increases with children's growing linguistic complexity. It is also interesting to note that event schema categories other than the AS do not occur before Stage Early IV. This development can be seen in Fig. 7.25.

Turning to the MOT data sorted by age, we again see that the AS is by far the most frequent event schema category. In fact, the other schemas only occur very infrequently (transfer schema: 4 instances; self-motion schema: 4 instance; caused-motion schema: 1 instance), and there is no developmental progression in the variety of force-dynamic world event schemas. This is evident when looking at the data sorted by age (Fig. 7.26) and Brown's stages (7.27).

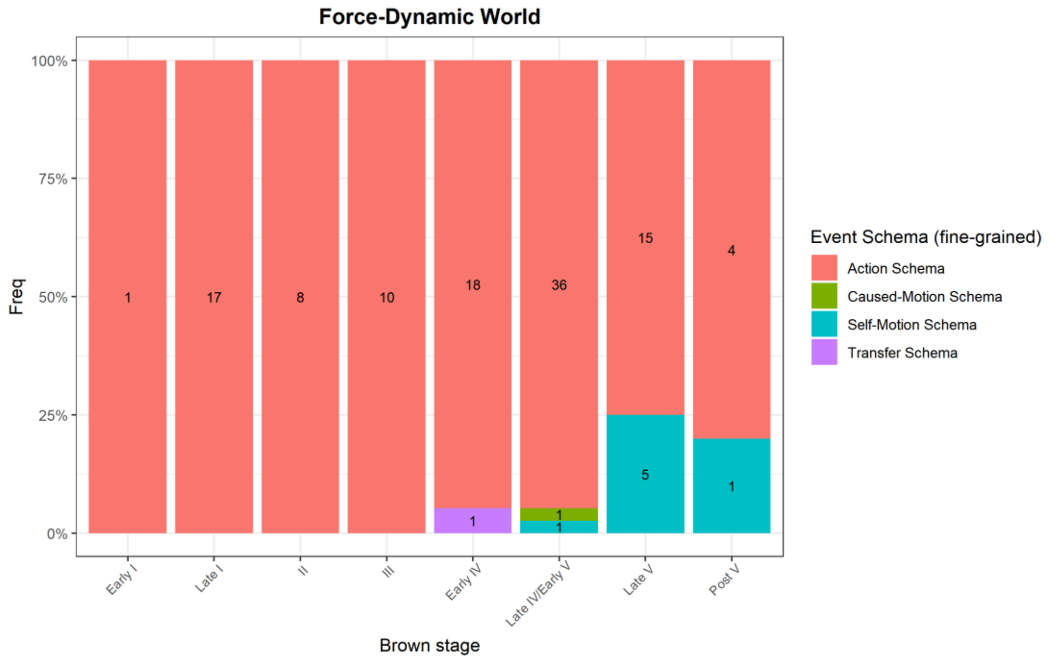


Figure 7.25: Pretend target event schemas in the force-dynamic world for the CHI data sorted by MLU

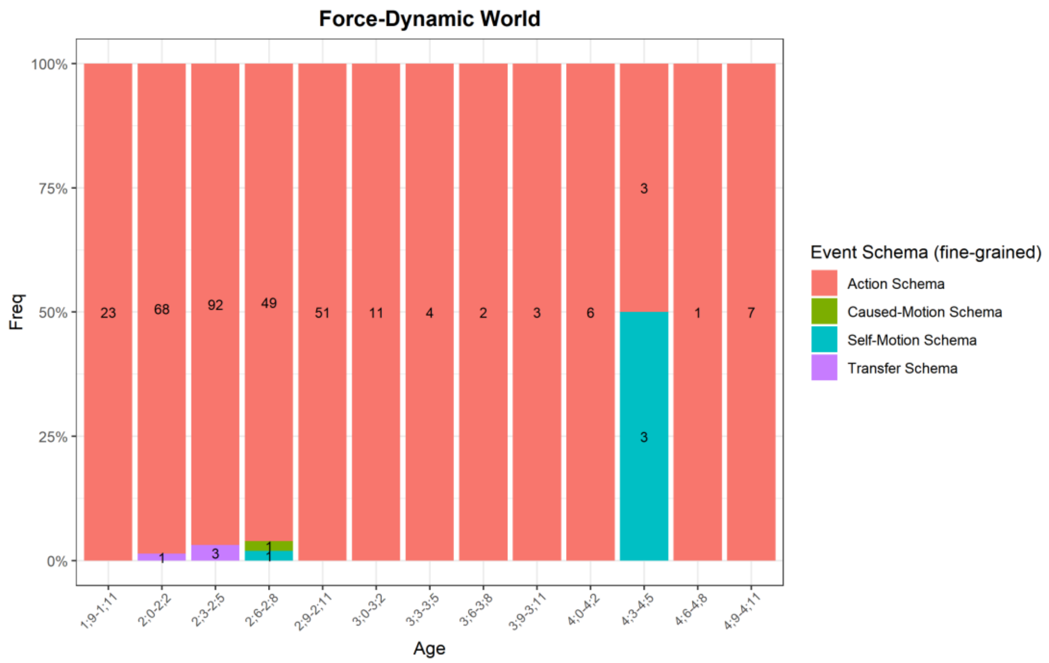


Figure 7.26: Pretend target event schemas in the force-dynamic world for the MOT data sorted by age

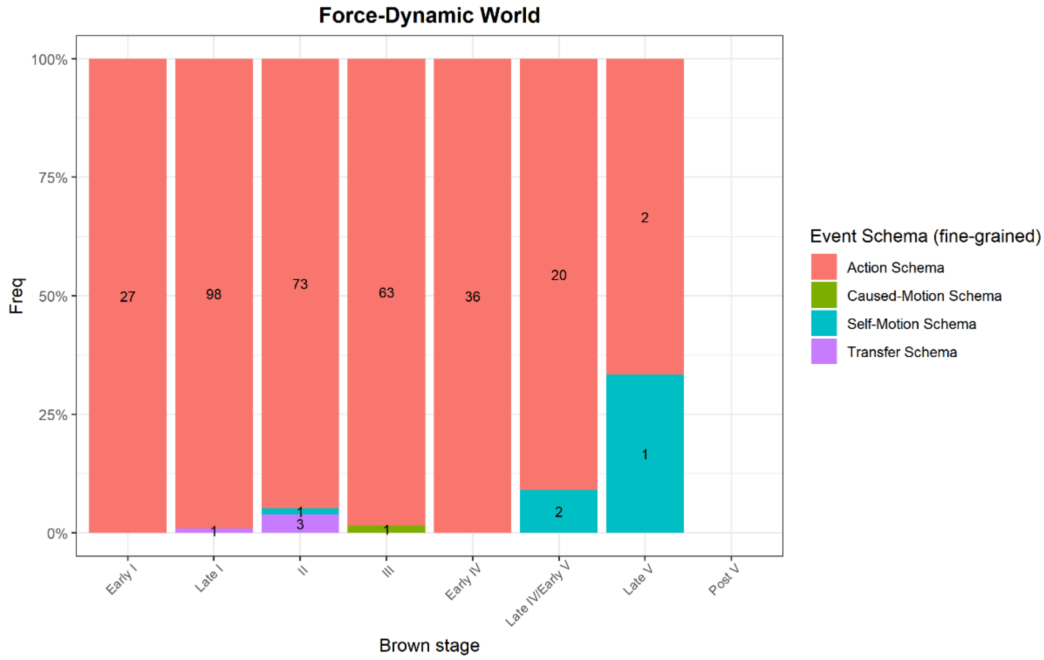


Figure 7.27: Pretend target event schemas in the force-dynamic world for the MOT data sorted by MLU

For the CHI data, we can therefore state that subschemas other than the action schema occur in later stages both in terms of age and linguistic complexity. For the MOT data, on the other hand, these subschemas appear from quite early on.

In summary, the force-dynamic world schemas are much less diverse in their underlying distribution of subcategories. The action schema is by far the most frequent, ranging from a relative frequency of 89% (TC CHI) to 100% (MC CHI). The self-motion schema makes up 9% of the TC CHI FDW data, but only makes up 3% of the MC MOT data, and does not occur in the TC MOT and MC CHI data. In terms of development, the only instances of the TS occurs at age 3;3-3;5, and the SMS starts occurring in the age range of 3;6-3;8. The CMS only occurs in the very last age range of 4;9-4;11. In terms of linguistic development, FDW subschemas other than the AS do not occur before Stage Early IV. For the MOT data, there are no such changes in the diversity of FDW subcategories. What can be concluded from this is that as children grow older, their verbalisations relate to more dynamic aspects of pretend play situations, and to the causal effects and relational structure of actions.

### 7.6 Summary

In this chapter I analysed the distribution and development of event schemas associated with children's and mothers' *pretend* utterances, adopting the framework of Radden and Dirven (2007). Specifically, I looked at event schemas in the material world, the psychological world, and the force-dynamic world, as well as their subschemas. For both MOT and CHI, pretend utterances associated with the material world were most frequent, with the force-dynamic world coming second and the psychological world a distant third. Most pretend play utterances, then, relate to physical entities and concrete objects, with actions, forces, and causes also playing a significant role. These event schema distributions were tied to different discourse strategies. Mothers and children either focussed on the pretend identity of objects involved in a pretend scenario in order to clarify what was being pretended, or they focussed on the pretend action and what it stands for.

In terms of development, for all but the TC CHI data, there are no clear patterns that are apparent. However, for the TC CHI data, as Thomas grows older, we begin to observe fewer *pretend* utterances about the material world. This was linked to developing mentalising and perspective-taking abilities, resulting in more complex pretend play scenarios. This coincides with a general decrease in the focus on objects in the material world in the TC CHI data. What this indicates is that Thomas' pretend play overall becomes more 'mentalistic.' In addition, it indicates that his *pretend* utterances more frequently become associated with dynamic actions with longer durations and pretend situations as a whole. This often replaces an exclusive focus on specific static objects involved in pretence. Interestingly, mothers' *pretend* utterances focussed more on the material world when their children's utterances were generally more linguistically complex, which was interpreted as a response to more complex and active perspectivation in children's pretend play. When children are more active in elaborating pretend scenarios, mothers more frequently clarify the pretend identity of individual material entities, or what is happening to these entities, within the general pretend frame or script established by their children.

I then looked at the distribution and development of the three worlds of experience and their subschemas in more detail. First, regarding the material world, references to static entities were by far most frequent, with one interesting observation being that Thomas' material world event schema utterances were conceptually more complex than the MC CHI utterances, as they were associated with a higher number of different subschemas. This was also true when looking at the most frequent material world subschema and its subfunctions, the occurrence schema: states. Here as well, the number of subfunctions increased with age, with the Thomas data being most diverse. Moreover, assigning properties to an entity seems to be the communicatively most common perspectivation strategy in pretend play. In general, different subfunctions were found to have different discourse functions. I then looked at the distributions of *pretend* in the psychological world, which was connected to children's sociocognitive development in the domain of perspective-taking. While the overall frequency of this world of experience was very low, it is still interesting to observe that most instances occurred later in development, coinciding with the time frame in which children begin to develop more complex mentalising and perspective-taking abilities.

Lastly, I looked at the force-dynamic world. Here, the data consisted almost exclusively of action schemas. For the Thomas dataset, there were some small trends indicating that as he grows older, and especially as his utterances become more complex, the number of force-dynamic world subschemas increases. However, we have to keep in mind that the token frequency here generally was too low to make strong statements.

Overall, then, children's *pretend* utterances become more diverse in terms of the event schemas and subschemas that they relate to as children grow older and as the complexity of their utterances increases. For mothers, on the other hand, no changes in complexity and diversity of event schemas and subschemas are apparent. This can be seen as one of the main conclusions of the analysis of pretend play in general, which show evidence of an increase in complexity and diversity of pretend play when analysing children's utterances, but not when analysing mothers' utterances.

# 8. Conclusion

In this chapter, I summarise the most important points from Chapters 2 to 7. I will also briefly outline additional areas of further research and approaches that could prove relevant to expanding on the research and conclusions of this study. I will then elaborate on how this research relates to broader issues of the study of perspectivation, pretend play, and language, cognition, interaction, evolution, and culture more generally.

This study has analysed the structure and development of particular aspects of perspectivation in language acquisition in the context of pretend play. Specifically, I have performed a corpus analysis of utterances containing the lexical item *pretend* within a Cognitive-Linguistic framework. In doing so, I have followed the commitments of CL and have drawn on research from language acquisition, developmental psychology, and other cognitive sciences. One goal of this study was to analyse how children abstract a *pretend* schema from instances of actual language use in interactions with their mothers. The other goal was to examine the cognitive categories and behaviours pretend play is associated with in language acquisition. That is, the study was interested in which conceptualisations and construals were evoked in child-caregiver pretend play interactions.

The two central concepts of this study, perspectivation and pretend play, were discussed in Chapters 2 and 3, respectively.

In Chapter 2, I introduced the concepts of perspective-taking, perspectivation, and construal, and then gave an overview of their relation to Cognitive Linguistics, language acquisition, and cognitive development. Cognitive Linguistics and constructionist, usage-based approaches see language as shaped by usage and are interested in how constructions express and evoke conceptualisations in interaction. From the point of view of "Developmental Cognitive Linguistics" (Ibbotson 2020), one of the central questions is how children acquire constructions that express particular perspectives, how they and caregivers use them in interaction, and what cognitive mechanisms the acquisition and use of these constructions is based on. Research on language acquisition also demonstrates that perspectivation and the acquisition of constructions are closely linked. From a developmental point of view, the development of linguistic perspectivation is based on and intertwined with children's rich sociocognitive abilities, including the shared intentionality infrastructure, as well as children's developing capacities for joint attention, common ground, perspective-taking, and theory of mind.

Chapter 3 gave a detailed overview of research on the development of pretend play and its linguistic and interactional expression. Pretend play – although there can be significant differences in its cultural expression – is a universal human behaviour related to a suite of cognitive abilities, most importantly those of perspective-taking and perspectivation. Children's pretend play becomes more complex as they grow older, and they also become more and more active in its initiation and negotiation. This is also reflected linguistically in that children and caregivers at first mostly use implicit ways of negotiating perspectives on pretend play. These become more explicit as they grow older and their sociocognitive abilities become more sophisticated. Overall, there is a strong connection between language development and the development of pretend play, which is likely due to a number of reasons. These include the fact that both language and pretend play heavily rely on symbolic cognition and the ability for perspectivation. In addition, pretend play has been argued to represent a context which fosters the use and acquisition of complex language and methods of linguistic perspectivation, due to its interactional and cognitive complexity. Here the lexical item *pretend* occupies as special role in children's developing pretend vocabulary: It is the lexical item most unambiguously and directly related to pretence activities, and also represents a cognitive, pretend frame-evoking lexical item that can serve as a window into the conceptualisations associated with children's and caregivers' pretend play.

Chapter 4 described the corpora used for the current study and described methodological issues surrounding the study. The corpora used for this analysis, the TC and MC, are part of the CHILDES database, and together represent data for 13 British, middle class, English-speaking children from the age of 2 to 5. They represent longitudinal, naturalistic data with high ecological validity. They also have a relatively high token frequency, which makes searching for relatively rare structures such as *pretend* more successful. However, as outlined in this chapter, questions of representativeness still have to be kept in mind. We have to acknowledge that the nature of the data we are dealing with limits the degree to which these findings can be seen as representative of other developmental contexts and other cultural, socioeconomic and language backgrounds. Chapter 4 then went on to describe the concrete methodology of this study. Instantiations of *pretend* in the TC and MC were annotated for the morphological constructions they contained, the conceptual categories associated with individual *pretend* utterances, and the event schemas and subschemas they were associated with. These data were then subjected to quantitative and qualitative analyses, including statistical measures. In particular, *pretend* utterances were analysed in terms of their absolute and relative distribution in the corpora, and in terms of their distribution by age and linguistic complexity. These analyses were the subject of Chapters 5 to 7.

In Chapter 5, I have shown that first instances of *pretend* occur quite early in development for many children, and that instances of *pretend* can be found more frequently in child language acquisition data than in other corpora. Moreover, the frequency of *pretend* indeed increases as children grow older and as they become more sophisticated language users. I have analysed the frequency of *pretend* and its word forms in the Thomas corpus and the Manchester corpus, looking at children's as well as mothers' *pretend* utterances. Not only was the distribution of *pretend* word forms analysed, but also the distribution of *pretend* morphological constructions and the speech act types used in *pretend* utterances.

For the CHI data, *pretend* is by far the most frequent word form, followed by *pretending*. The same goes for the MC MOT data. In the TC MOT data, on the other hand, the progressive form *pretending* is the most frequent category. This result was interpreted as showing that Thomas' mother often adopts a restricted viewing frame that focusses on the dynamic, processual nature of a pretend event or action. In doing so, Thomas' mother's *pretend* utterances often serve a narrating or commenting function. Most often, however, Thomas' mother uses progressive *pretend* utterances in order to negotiate or clarify a shared perspective on a pretend play situation. This is also supported by the high frequency of questions and question tags in her *pretend* utterances. Thomas, on the other hand, most often employs a maximal viewing frame and often uses imperative constructions to instruct and negotiate pretend play. In the MC CHI data, on the other hand, we find a very high frequency of constructions being used to explain or comment on an ongoing pretend play situation the child is involved in, with very few imperative acts and a significant amount of direct repetitions of their mothers' utterances. Conversely, in the MC MOT data, there is a higher degree of imperative constructions instructing pretend play. In both MOT datasets, mothers use questions and question tags to clarify and negotiate pretend play situations, but the mothers of younger children (2 to 3 years of age) seem to do so to a higher degree than those of older children. Overall, then, these data show that mothers linguistically scaffold pretend play interactions using a number of different strategies, and these change as children grow older and become more adept language users. In turn, children themselves become ever-more active contributors to the negotiation and coordination of perspectives in pretend play.

In Chapter 6, I analysed the semantic targets of *pretend* utterances. One of the most important results of this analysis was that for children, the diversity of pretend target categories increases with age and linguistic complexity. The growing complexity of children's pretend play can therefore be seen in the diversification of pretend targets. For the MC, OBJECT and ACTION are the most frequent categories. Other categories such as references to ENTITIES, BEING ENTITY and STATE OF AFFAIRS are much less frequent. For the TC, on the other hand, STATE OF AFFAIRS is the most frequent target category, followed by ACTION, OBJECT and BEING ENTITY. Moreover, references to MENTAL STATES and EXPERIENCES, as well as OBJECT PROPERTIES and POSSESSING OBJECTS only appear in the TC, which can be related to the emergence of theory of mind and complex perspective-taking skills around age 4. For both CHI and MOT, however, no clear-cut changes in the relative frequencies of pretend targets could be discerned. However, some slight trends did emerge. For one, mothers referred less to ACTION pretend targets as their children got older and their utterances became more complex, whereas references to STATE OF AFFAIRS increased both for MOT and CHI.

In addition, two pretend targets were explored in more detail. One was STATE OF AFFAIRS. In a qualitative analysis of an extended segment of a pretend play interaction, I showed that both mothers and children make use of the cognitive capacity for conceptual blending in order to negotiate perspectives on pretend play situations in discourse. The second pretend target category was that of BEING ENTITY, which was shown to become more diverse as children grow older and as the complexity of their utterances as well as their sociocognitive abilities increases.

Whereas Chapter 6 focussed on the distribution and development of individual pretend target categories, Chapter 7 presented a complementary approach in which the conceptualisations related to *pretend* utterances were analysed in terms of the event schemas that they belong to. Pretend utterances were analysed in terms of their association with the three worlds of experience underlying event schemas proposed by Radden and Dirven (2007). In line with the overall trend observed in the previous chapter, children were found to produce more complex pretend utterances in terms of the diversity of event schemas and subschemas that they were related to, whereas no such trend was found for mothers. It was found that *pretend* utterances associated with the material world were by far the most frequent category, with the force-dynamic world being second, and the psychological world being by far the least frequent category. In terms of cognitive development, these results can be interpreted as showing that *pretend* utterances relating to the static material world of the here and now occur first. Cognitively more complex event schemas involving dynamic relations, causes, effects, and emotional and mental states become more prominent as children grow older and the complexity of their utterances rises.

Overall, then, all three chapters analysing the structure of development of perspectivation in pretend play found an increase in complexity and diversity in the conceptualisations underlying pretence interactions. Children were shown to become more active in their contributions to the initiation, coordination and negotiation of perspectives in pretend play. That is, their growing ability for perspective-taking and -sharing was reflected in their *pretend* utterances.

As science is an open-ended, continuous process of discovery and refinement, the current study evokes a number of open questions and desiderata for further research. These can be grouped into two main areas of future inquiry: One is open questions and suggestions that could improve on and extend the current study on perspectivation and pretend play in language acquisition. That is, we can ask what kinds of questions and follow-up studies are suggested by this study. The second area concerns possible ways in that the interdisciplinary integration advocated for in this study could be used to gain further insight into the research questions of this study.

Regarding the first area of inquiry, Section 4.2 has outlined in detail the limitations and problems of the corpus study. One issue is representativeness and sample size. As we have seen repeatedly, for many of the categories that were analysed, there were not enough data points to draw adequate conclusions, let alone warrant the application of statistical methods. In a future study, therefore, the dataset could be extended, for example by adding further DDBs such as the MPI-EVA-Manchester Corpus (Lieven et al. 2009) or longitudinal corpora such as the Lara corpus (Rowland & Fletcher 2006).

One aspect that was not considered in the present study was to which degree *pretend* utterances evoke and relate to conceptualisations explicitly and to which degree they relate to *pretend* conceptualisations implicitly by virtue of their interactional context. As Veneziano (2002) has pointed out (cf. Section 3.2.4), in their pretend play children start out with a low-informative period in which they do not make explicit the elements their pretend utterance relates to. They then move on to a high-informative period, where they increasingly specify pretend elements in their utterance. The current study has provided insight into which pretend conceptualisations occur in child-caregiver interactions, but a future study could extend on these results by analysing how children learn to explicitly construe pretend play situations in their utterances. This also holds for the analysis of event schemas presented here, which did not take into consideration which participant roles of a given event schema were explicitly marked in an utterance (cf. Dirven & Verspoor 2004: 77-86; Radden & Dirven 2007: 298; Kleinke 2010: 3357-3361). A future study could therefore investigate the event schemas and semantic roles evoked by *pretend* utterances in more detail.

In addition, this study has only looked at utterances containing the lexical item *pretend*. However, as discussed in Sections 3.3 and 4.3.1, *pretend* is just one node in a complex network of constructions used by children and caregivers to verbalise, negotiate and coordinate pretend play. To investigate the pretence network that children acquire, it would be a fruitful enterprise to analyse pretend play situations in more detail and to extract frequent constructions used to negotiate perspectives in pretend play, especially those that do not feature the lexical item *pretend*. Future studies could also introduce interrater reliability ratings to put the coding of *pretend* utterances on a more reliable footing.

Moving beyond the examination of linguistic structures, the analysis of discourse strategies and speech acts involved in *pretend* utterances and utterances perspectivising *pretend* could also be extended. As noted by Cameron-Faulkner (2014: 36), "[w]hile the behaviours used by children to express intent are external and thus to some degree measurable, the underlying psychological characterisation of intent is much more elusive." This of course presents a general problem for cognitive analyses of child language, but a broader pragmatic coding of *pretend* utterances than the one performed in the present study could be based, for example, on the Inventory of Communicative Acts (INCA, Ninio & Wheeler 1986), which represents the most comprehensive taxonomy for coding the pragmatic dimension of utterances to date (Cameron-Faulkner 2014: 41), or its abridged version, INCA-A (Snow et al. 1996).

This study has also only discussed relatively few areas related to construal, such as viewing frames, pretend target domains, and event schemas. However, research in CL has proposed a wealth of taxonomies for construal operations (e.g., Langacker 1987; Talmy 2000; Croft & Cruse 2004: 40-73; Radden & Dirven 2007: 21-31; Verhagen 2007; Hart 2014). A future, much more expansive study could follow up on the analysis presented here and investigate these construal operations in pretend play interactions.

Furthermore, this study has analysed perspectivation in pretend play in English, but it would be a very promising endeavour to extend this analysis to other languages to see to which degree the results obtained also can be found when studying children acquiring other languages.

The second key area for future research that follows from the current analysis concerns interdisciplinary integration to yield a more complete picture of the development of perspectivation and pretend play. This study has mainly integrated research on perspectivation and pretend play from CL, and usage-based, constructionist approaches, language acquisition research and developmental psychology. References to other relevant research in the cognitive sciences, such as psycholinguistics, comparative psychology and language evolution research have been made throughout this study, but these could be extended upon. In addition, research from dialogic syntax (e.g., Du Bois 2014; Köymen & Kyratzis 2014; Kyratzis 2017), emergent grammar (e.g., Hopper 2015), second language acquisition (e.g., Littlemore 2009; Niemeier 2017), conversation and discourse analysis (e.g., Hart 2015; Kyratzis & Cook-Gumperz 2015; Kyratzis 2017) and the study of talk-in-interaction (e.g., Graumann & Kallmeyer 2002) could also be integrated into this approach, as these approaches stress the interactive, dynamic nature of perspectivation. All these areas of research, and many others present a wealth of relevant research whose integration and synthesis into the current approach would prove highly profitable (cf. Pleyer 2014b: 255-256).

One further avenue in which the current study could profit from interdisciplinary integration is in explicating its theoretical foundations and in spelling out in more detail a framework underlying investigations of the development of perspectivation and pretend play that is in line with current theorising in cognitive science and developmental psychology. In cognitive science, action-based, constructivist, relational, embodied, enactive, and interactive theories have increasingly become more prominent (Carpendale et al. 2018: 7). These approaches include, for example, dynamic systems theory (e.g., Thelen & Smith 1996; Mascolo & Fischer 2015), developmental systems theory (e.g., Lerner 2015; Mascolo & Fischer 2015), and neuroconstructivism (e.g., Mareschal et al. 2007; Carpendale et al. 2018: 29-31). In these approaches, development is understood as a dynamic developmental system in which a multitude of factors interact in the emergence of human cognitive, linguistic, and interactive behaviours. In future studies, then, explorations of the emergence of perspectivation and pretend play could be couched more explicitly in the study of complex adaptive systems (Beckner et al. 2009) and within new emerging frameworks which have been referred to by unwieldy descriptive titles such as evolutionary developmental comparative cognitive science (Ploeger & Galis 2016) or embodied evolutionary-developmental computational cognitive neuroscience (Poirier et al. 2017).

Most importantly, future studies could be more explicit in relating analyses of the emergence of perspectivation and pretend play in a process-relational framework and a relational developmental systems perspective. As Lerner (2015: xviii; see also Overton 2015) summarises,

> relational developmental systems posit the organism as an inherently active, self-creating, self-organizing, and self-regulating nonlinear complex adaptive system, which develops through embodied activities and actions, as they co-act with a lived world of physical and sociocultural objects.

Central to any analysis within such a framework is the view that the emergence of behaviours such as perspectivation and pretend play is fundamentally a co-constructive process in which children and caregivers increasingly coordinate their shared activities within a dynamic, emergent developmental system influenced by each interaction, and in which the biological and social dimension are interwoven and cannot be separated (Carpendale et al. 2018: 6-7).

In summary, this study has shed light on perspectivation and pretend play in language acquisition in a Cognitive-Linguistic framework. As such, this study has not only contributed to illuminating the acquisition of *pretend,* but to the interactive processes of the dynamic emergence of pretend play in interaction, on the basis of children's developing skills for interactive perspectivation and their mothers' strategies for interactive scaffolding.

What this study has shown is that, just as we have the capacity to construct impressive and technologically sophisticated buildings such as the Burj Khalifa, we are able to construct complex situations and communicate structured conceptualisations using language. In fact, our ability to construct and convey such conceptualisations can be seen as one of the most fundamental preconditions enabling us not only to build skyscrapers but to participate and actively contribute to complex human culture more generally.

Language and other cultural artefacts make human culture cumulative (Tomasello 1999; cf. Whiten et al. 2009). Humans are born into a world of symbols, artefacts, as well as cultural and cognitive technologies. But with the aid of language, they can go beyond simply internalising these cultural artefacts. Instead, they can build on and improve on the accumulated cultural advancements of previous generations, and the same goes for generations after them. This cumulative nature of human culture, which in large parts is enabled by linguistic interaction, seems to be a uniquely human attribute.

Other animals learn and internalise complex cultural behaviours such as tool-use, potato washing, and complex communicative behaviours, but they do not seem to build on previous cultural technologies in a piecemeal, incremental fashion (Tomasello 1999: 26-40). In addition, they are not ‘taught’ these behaviours in the same way humans are (Csibra & Gergely 2009: 149). The development of scaffolds for the emergence of human cognition and culture through interaction in a myriad of scenarios, timescales and domains seems to be a fundamentally human phenomenon (Carporael et al. 2014).

Both in the introduction and above I have phrased our ability for complex cultural creations as “advancements.” It has to be noted, of course, that from a biological point of view, it is extremely difficult to establish criteria for vague terms such as advancement and evolutionary progress (Carpendale et al. 2018: 2; see Nee 2005; Rosslenbroich 2006 for discussion). However, what we can say is that language and our capacity for perspectivation to our current knowledge represent uniquely human cognitive specialisations that distinguish us even from our closest relatives, or, in the terminology of evolutionary biology, they represent “human cognitive autapomorphies” (Suddendorf 2008: 147). As this study has shown, these specialisations not only enable us to engage in complex cultural behaviours such as building skyscrapers, they are also already evident in young children’s pretend play with their caregivers.

Evidence from comparative psychology and developmental psychology suggests that the cognitive specialisations such as language, perspective-taking and pretence are based on our evolved biological capacities. However, this study has stressed the importance of interaction and culture in the development of these specialisations. This point is made even more explicit by Heyes (2018), who argues that capacities such as language and perspective-taking are not “cognitive instincts” (Pinker 1994), but “cognitive gadgets.” These

> are distinctively human neurocognitive mechanisms – such as imitation, mindreading, and language – that have been shaped by cultural rather than genetic evolution. New gadgets

> emerge, not by genetic mutation, but by innovations in cognitive development; they are specialised cognitive mechanisms built by general cognitive mechanisms using information from the sociocultural environment (Heyes 2018).

On this view, perspectivation and pretend play are biologically grounded, but they are shaped and brought into existence through processes of cultural evolution, ontogenetic development, and interaction. Such a view underlines the fundamental influence of environmental and cultural factors as well as of developmental processes in the emergence of human cognitive specialisations and human cognition more generally (Heyes 2018).

In one of his last writings, published when he was 98 years old, Bruner (2014: 221) phrases the dual embeddedness of humans in biology and culture in the following way:

> the human condition is shaped both by the biological constraints inherent in our nature as a species living in a physical environment, and at the same time by the symbolically rich cultures that we humans construct and in terms of which we live our lives communally.

Humans have constructed 'symbolic niches' through processes of cultural transmission over multiple generations that fundamentally influence human development. These are established by our interactions with cultural and symbolic artefacts and with each other. That is, humans have adapted to these symbolic niches and at the same time they continuously shape and co-construct these niches from ontogeny onwards (Deacon 2012: 33-34), a fact also emphasised by niche construction theory and evolutionary developmental biology (evo devo) (Laland et al. 2008). As Bruner (2014: 221) stresses, the cultures we humans create are based on our ability to imagine, and also create possible worlds. The capacity to talk about, and create, these possible worlds in turn is based on the capacities that are evident in young children's abilities for pretence and for sharing and negotiating perspectives in pretend play. As such, this study has contributed to the endeavour of uncovering some of the most fundamental factors involved in the cognitive and interactional processes underlying the emergence of human cultures and human cognition.

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